

# **Integrative Network Analysis to Accelerate Drug Discovery**

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## Introduction

Sarcopenia, a term derived from the Greek words "sarx" (flesh) and "penia" (loss), is a condition characterized by the age-associated progressive loss of skeletal muscle mass, quality, and strength [1, 2]. This phenomenon results in decreased strength, aerobic capacity, and functional capacity [2]. Lean muscle mass contributes a substantial proportion of total body weight in young adults, accounting for up to 50%, but this proportion declines with age, reaching approximately 25% at 80 years old [3]. After the age of 50, an annual loss of 1% to 2% of muscle mass is expected, with muscle strength decreasing at an even more rapid rate [4]. The underlying mechanisms of sarcopenia involve atrophy of type II muscle fibers and a reduction in muscle fiber satellite cells, which are responsible for muscle regeneration and repair [5].

According to Baumgartner et al. in 1998, sarcopenia was defined as a condition where an individual's appendicular skeletal muscle mass (ASM), measured in kilograms, divided by their height squared (in meters squared), is less than two standard deviations below the mean value observed in a young reference population [6]. The European Working Group on Sarcopenia in Older People (EWGSOP) proposed a more comprehensive definition of sarcopenia, characterizing it as the concurrent presence of both low muscle mass and low muscle strength or impaired physical performance[7]

Obesity, characterized by excessive body fat with a BMI of 30 kg/m<sup>2</sup> or above, is a major public health issue and a known risk factor for cardiovascular diseases and mortality in adults. The prevalence of obesity among middle-aged and older adults has increased worldwide, doubling since 1980 [8,9].

The coexistence of high body fat and low muscle mass has been termed "sarcopenic obesity." From a pathogenic perspective, visceral fat and muscle mass are known to have an interrelated relationship. These two factors are reported to share common inflammatory pathways, suggesting that the mechanisms underlying their dysregulation may be interconnected and potentially influence each other[10]. Sarcopenia reduces physical activity, which decreases energy expenditure, leading to an increased risk of obesity[10]. Baumgartner first introduced the term "sarcopenic obesity," which is defined as the combination of sarcopenia (low muscle mass and strength) and obesity (excessive body fat) [11].

DisGeNET is a comprehensive platform that aims to explore and understand the genetic factors behind human diseases. DisGeNET is a comprehensive resource that aims to cover a wide spectrum of disease areas, including Mendelian disorders, complex diseases, and environmentally influenced conditions. It places a strong emphasis on the integration and standardization of data from various sources. Furthermore, DisGeNET provides open access to the knowledge base of genes associated with human diseases, facilitating research and understanding in this domain [14]. The DisGeNET toolkit is designed to cater to different types of users. As scientific literature is a valuable and up-to-date source of knowledge on disease-related genes, the database also includes gene-disease associations (GDAs) extracted from MEDLINE (a comprehensive database of biomedical literature) using natural language processing (NLP) techniques [14]. The 'DisGeNET discovery platform' facilitates seamless

exploration and retrieval of curated knowledge pertaining to human diseases and their corresponding genetic associations.

Database URL: <http://www.disgenet.org/>

IMPPAT 2.0 represents an enhanced and expanded phytochemical atlas of Indian medicinal plants. Building upon the published data from its previous version, IMPPAT 2.0 has significantly expanded its coverage, compiling information on 4010 Indian medicinal plants, 17,967 phytochemicals, and 1095 therapeutic uses. IMPPAT 2.0 now provides comprehensive information on the phytochemical composition and therapeutic uses of specific plant parts, such as stems, roots, or leaves, offering a more granular level of detail. IMPPAT 2.0 provides a FAIR24-compliant non-redundant in silico stereo-aware library of 17,967 phytochemicals with 2D and 3D chemical structures through extensive manual curation and standardization. The molecular complexity and molecular scaffold-based structural diversity of the phytochemical space in IMPPAT 2.0 have been characterized and compared with other chemical libraries. A subset of 1,335 drug-like phytochemicals has been filtered using multiple drug-likeness rules. Furthermore, the phytochemicals in IMPPAT 2.0 have been compared with phytochemicals from Chinese medicinal plants [16,17].

Database URL: <https://cb.imsc.res.in/imppat/>

The SWISS-PROT protein knowledgebase is a comprehensive resource that connects amino acid sequences with current knowledge in the life sciences. Each protein entry serves as an interdisciplinary overview, combining experimental results, computed features, and sometimes even contradictory conclusions. The knowledgebase provides annotated entries for all species, with a particular focus on annotations for human proteins (through the HPI project) and other model organisms, ensuring high-quality annotation for representative members of all protein families. Beyond the scope of SWISS-PROT, direct links are available to specialized databases, offering more detailed expertise. This knowledgebase aims to bring together relevant information from various disciplines, facilitating a deeper understanding of protein structure and function [18].

Database URL: <http://www.swisstargetprediction.ch/>

The UniProt databases are a comprehensive resource for exploring protein sequences and functions across diverse organisms. The UniProt Knowledgebase (UniProtKB) contains expertly curated protein entries (Swiss-Prot) and computationally annotated entries (TrEMBL). Complementary databases provide sequence clustering (UniRef) and a complete set of unique sequences (UniParc). Data integration from various resources, community annotation, and manual curation of protein features like functional domains, variants, and modifications enhance the knowledge base. In 2022, structural predictions from AlphaFold's machine learning system were added, providing 3D structures for over 214 million entries. UniProt serves as a central hub, enabling researchers to gain insights into protein function, disease mechanisms, and the diversity of life [19].

Database URL: <https://www.uniprot.org/>

Cytoscape is a software platform designed for visualizing and analyzing biological network data, such as metabolic pathways and gene regulatory networks. It enables the integration of experimental data like gene annotations, pathways, and expression profiles onto network visualizations. Cytoscape's key strength lies in its support for third-party apps that provide specialized functionality for biological network analysis, including data import, functional annotation, module detection, and network layout algorithms. These apps, available through the Cytoscape App Store, cater to the unique needs of biologists exploring complex biological networks [20].

## Rationale

Sarcopenic obesity, the coexistence of sarcopenia (muscle loss) and obesity, is a complex health condition requiring new treatment approaches. In this context, Ayurveda, the traditional Indian medicine system, offers potential solutions based on natural products derived from medicinal plants.

Ayurveda has been practiced in India for thousands of years and is documented in ancient texts like the Charaka Samhita. These texts serve as comprehensive sources of knowledge on the therapeutic properties and applications of medicinal plants in treating various diseases, including metabolic disorders, musculoskeletal conditions, and age-related ailments.

India has a vast diversity of medicinal plants, many of which have been used in Ayurvedic practices for centuries by traditional practitioners (Vaidyas). The long-standing use of these plants and anecdotal evidence of their efficacy provide proof of concept for their therapeutic potential.

However, modern scientific studies are needed to validate these traditional practices, understand the underlying mechanisms, and identify the specific bioactive compounds (phytochemicals) responsible for the observed effects.

This research aims to bridge the gap between ancient Ayurvedic wisdom and modern scientific inquiry by combining the knowledge of medicinal plants with contemporary computational approaches like network pharmacology, virtual screening, and *in silico* tools for target prediction and phytochemical drug development.

The identification of phytochemicals from Indian medicinal plants that can target shared mechanisms involved in sarcopenia and obesity could lead to the development of multi-targeted therapies. This approach aligns with sustainable resource utilization and biodiversity conservation principles while leveraging India's rich medicinal plant diversity.

By employing state-of-the-art computational tools and databases like DisGeNET, IMPPAT, SwissProt, and Cytoscape, this study contributes to the scientific validation of traditional Ayurvedic practices. These resources enable the exploration of gene-disease associations, identification of therapeutic targets, and visualization of interactions between phytochemicals and their target proteins.

The integration of ancient wisdom and modern scientific methodologies aims to uncover novel therapeutic leads and interventions for sarcopenic obesity, ultimately leading to the development of effective and potentially safer treatment strategies. The scientific validation of traditional practices and the exploration of plant-derived natural products align with the growing interest in alternative and complementary medicine, promoting a more holistic approach to healthcare.

## **Aim-**

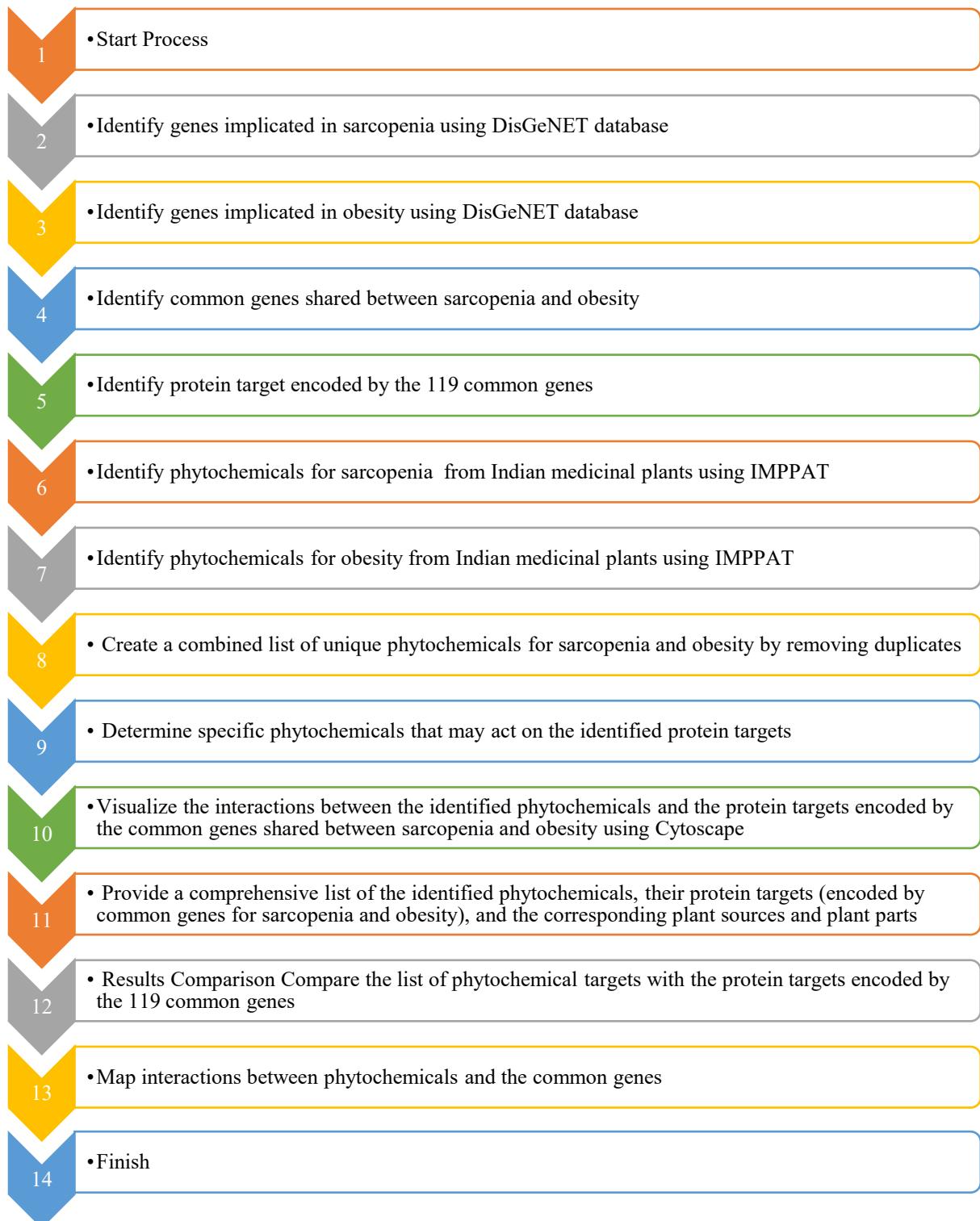
Using databases and network pharmacology tools to identify and enlist phytochemical from Indian medicinal plants with potential use in sarcopenia and obesity.

## **Objectives-**

- 1) To identify targets involved in sarcopenia and obesity using network pharmacology.
- 2) To identify and mine phytochemicals from Indian medicinal plants acting on targets of sarcopenia and obesity using IMPPAT and SwissProt.
- 3) To perform data analysis to elucidate the specific Indian medicinal plants and their respective parts (roots, leaves, stems, etc.) that contain phytochemicals acting on the identified targets implicated in sarcopenia and obesity.
- 4) To construct an interaction network using Cytoscape software, integrating the identified targets, phytochemicals from Indian medicinal plants, and their respective interactions.
- 5) To prioritize the most promising phytochemicals and their medicinal plant sources for further experimental studies, based on the computational analyses.

## Method:

The methodological approach employed to execute this research project consisted of the following sequential procedures:



## **Step 1:**

To identify the genes implicated in sarcopenia, the DisGeNET database (<http://www.disgenet.org/>) was utilized, which is a comprehensive platform for exploring gene-disease associations. The following steps were taken:

- 1: Access the DisGeNET web interface and enter the term "sarcopenia" (Disease ID: C0872084) in the search field to query for genes associated with this condition.
- 2: From the search results, select the "Summary of gene-disease associations" option to access a detailed summary of the identified gene-disease associations.
- 3: Analyze the summary and compile a list of genes reported to be associated with sarcopenia. The search yielded a total of 164 genes associated with sarcopenia.
- 4: Download the gene list in a suitable format (e.g., CSV, Excel) for further analysis and record-keeping.

Gene	Gene_id	UniProt	Gene_Full_Name
SUPV3L1	6832	Q8IYB8	Suv3 like RNA helicase
FOXO4	4303	P98177	forkhead box O4
AR	367	P10275	androgen receptor
BAX	581	Q07812	BCL2 associated X, apoptosis regulator
MFN2	9927	O95140	mitofusin 2
EIF2B5	8893	Q13144	eukaryotic translation initiation factor 2B subunit epsilon
AK1	203	P00568	adenylate kinase 1
BCL2	596	P10415	BCL2 apoptosis regulator
EIF2S1	1965	P05198	eukaryotic translation initiation factor 2 subunit alpha
AIFM1	9131	O95831	apoptosis inducing factor mitochondria associated 1
FIS1	51024	Q9Y3D6	fission, mitochondrial 1
NFKBIA	4792	P25963	NFKB inhibitor alpha
PPARGC1A	10891	Q9UBK2	PPARG coactivator 1 alpha
OPA1	4976	O60313	OPA1 mitochondrial dynamin like GTPase
ATP5F1A	498	P25705	ATP synthase F1 subunit alpha
ALB	213	P02768	albumin
MSTN	2660	O14793	myostatin
CRP	1401	P02741	C-reactive protein
CST3	1471	P01034	cystatin C
IGF1	3479	P05019	insulin like growth factor 1
PTH	5741	P01270	parathyroid hormone
COPD	260431		Pulmonary disease, chronic obstructive, severe early-onset
IL6	3569	P05231	interleukin 6
TNF	7124	P01375	tumor necrosis factor
VDR	7421	P11473	vitamin D receptor
HGS	9146	O14964	hepatocyte growth factor-regulated tyrosine kinase substrate
GH1	2688	P01241	growth hormone 1
GPT	2875	P24298	glutamic--pyruvic transaminase
ADIPOQ	9370	Q15848	adiponectin, C1Q and collagen domain containing
REN	5972	P00797	renin
TTR	7276	P02766	transthyretin
MTOR	2475	P42345	mechanistic target of rapamycin kinase
PRKAA1	5562	Q13131	protein kinase AMP-activated catalytic subunit alpha 1
IL2	3558	P60568	interleukin 2
TP53	7157	P04637	tumor protein p53
MIP	4284	P30301	major intrinsic protein of lens fiber
LEP	3952	P41159	leptin
SOD1	6647	P00441	superoxide dismutase 1
CXCL8	3576	P10145	C-X-C motif chemokine ligand 8
IL15	3600	P40933	interleukin 15
ESR1	2099	P03372	estrogen receptor 1
AGT	183	P01019	angiotensinogen
AFP	174	P02771	alpha fetoprotein
NLRP3	114548	Q96P20	NLR family pyrin domain containing 3
CALCR	799	P30988	calcitonin receptor

DMD	1756	P11532	dystrophin
ACE	1636	P12821	angiotensin I converting enzyme
ZMYM2	7750	Q9UBW7	zinc finger MYM-type containing 2
BEST1	7439	O76090	bestrophin 1
FBXO32	114907	Q969P5	F-box protein 32
CD6	923	P30203	CD6 molecule
BCHE	590	P06276	butyrylcholinesterase
SQSTM1	8878	Q13501	sequestosome 1
PIK3CG	5294	P48736	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit gamma
ACE2	59272	Q9BYF1	angiotensin I converting enzyme 2
APLN	8862	Q9ULZ1	apelin
RENBP	5973	P51606	renin binding protein
RPS6	6194	P62753	ribosomal protein S6
ACTN3	89	Q08043	actinin alpha 3 (gene/pseudogene)
NLN	57486	Q9BYT8	neurolysin
PLAT	5327	P00750	plasminogen activator, tissue type
TLR9	54106	Q9NR96	toll like receptor 9
YIPF1	54432	Q9Y548	Yip1 domain family member 1
PDP1	54704	Q9P0J1	pyruvate dehydrogenase phosphatase catalytic subunit 1
SMN1	6606	Q16637	survival of motor neuron 1, telomeric
CD38	952	P28907	CD38 molecule
PRKAA2	5563	P54646	protein kinase AMP-activated catalytic subunit alpha 2
HACD1	9200	B0YJ81	3-hydroxyacyl-CoA dehydratase 1
PRKAB1	5564	Q9Y478	protein kinase AMP-activated non-catalytic subunit beta 1
CMAS	55907	Q8NFW8	cytidine monophosphate N-acetylneuraminate acid synthetase
FAM20C	56975	Q8IXL6	FAM20C golgi associated secretory pathway kinase
S100B	6285	P04271	S100 calcium binding protein B
CCK	885	P06307	cholecystokinin
BUB1B	701	O60566	BUB1 mitotic checkpoint serine/threonine kinase B
TGFB1	7040	P01137	transforming growth factor beta 1
THAS	7055		thoracoabdominal syndrome
CALR	811	P27797	calreticulin
PNPLA3	80339	Q9NST1	patatin like phospholipase domain containing 3
TPI1	7167	P60174	triosephosphate isomerase 1
ATP6AP2	10159	O75787	ATPase H <sup>+</sup> transporting accessory protein 2
ASPSCR1	79058	Q9BZE9	ASPSCR1 tether for SLC2A4, UBX domain containing
FZD5	7855	Q13467	frizzled class receptor 5
TPMT	7172	P51580	thiopurine S-methyltransferase
TWIST1	7291	Q15672	twist family bHLH transcription factor 1
FZD1	8321	Q9UP38	frizzled class receptor 1
TRIM63	84676	Q969Q1	tripartite motif containing 63
BMP2	650	P12643	bone morphogenetic protein 2
SLC12A2	6558	P55011	solute carrier family 12 member 2
WNK1	65125	Q9H4A3	WNK lysine deficient protein kinase 1
SLC5A2	6524	P31639	solute carrier family 5 member 2
SLC6A8	6535	P48029	solute carrier family 6 member 8

RUNX1	861	Q01196	RUNX family transcription factor 1
CAV1	857	Q03135	caveolin 1
PRSS12	8492	P56730	serine protease 12
ORAI1	84876	Q96D31	ORAI calcium release-activated calcium modulator 1
SMN2	6607	Q16637	survival of motor neuron 2, centromeric
SNAP25	6616	P60880	synaptosome associated protein 25
VEGFA	7422	P15692	vascular endothelial growth factor A
GDF11	10220	O95390	growth differentiation factor 11
EIF4EBP2	1979	Q13542	eukaryotic translation initiation factor 4E binding protein 2
EPO	2056	P01588	erythropoietin
FABP4	2167	P15090	fatty acid binding protein 4
DKK1	22943	O94907	dickkopf WNT signaling pathway inhibitor 1
FOXO1	2308	Q12778	forkhead box O1
SIRT1	23411	Q96EB6	sirtuin 1
ANGPTL2	23452	Q9UKU9	angiopoietin like 2
BRD4	23476	O60885	bromodomain containing 4
SMUG1	23583	Q53HV7	single-strand-selective monofunctional uracil-DNA glycosylase 1
NUP62	23636	P37198	nucleoporin 62
GABPA	2551	Q06546	GA binding protein transcription factor subunit alpha
TPSG1	25823	Q9NRR2	tryptase gamma 1
DKK3	27122	Q9UBP4	dickkopf WNT signaling pathway inhibitor 3
EIF3K	27335	Q9UBQ5	eukaryotic translation initiation factor 3 subunit K
EIF4EBP1	1978	Q13541	eukaryotic translation initiation factor 4E binding protein 1
AHSG	197	P02765	alpha 2-HS glycoprotein
METTL21C	196541	Q5VZV1	methyltransferase like 21C
CEACAM5	1048	P06731	CEA cell adhesion molecule 5
CAP1	10487	Q01518	cyclase associated actin cytoskeleton regulatory protein 1
SORBS1	10580	Q9BX66	sorbin and SH3 domain containing 1
KHDRBS1	10657	Q07666	KH RNA binding domain containing, signal transduction associated 1
CLU	1191	P10909	clusterin
PLIN2	123	Q99541	perilipin 2
PTRH1	138428	Q86Y79	peptidyl-tRNA hydrolase 1 homolog
CTAA1	1483		cataract, anterior polar 1
CTNNB1	1499	P35222	catenin beta 1
CTSL	1514	P07711	cathepsin L
GADD45A	1647	P24522	growth arrest and DNA damage inducible alpha
DNAH8	1769	Q96JB1	dynein axonemal heavy chain 8
EBM	1881		epidermolysis bullosa, macular type
EGFR	1956	P00533	epidermal growth factor receptor
NR3C1	2908	P04150	nuclear receptor subfamily 3 group C member 1
CD274	29126	Q9NZQ7	CD274 molecule
MFGE8	4240	Q08431	milk fat globule-EGF factor 8 protein
MMP3	4314	P08254	matrix metallopeptidase 3
MSRA	4482	Q9UJ68	methionine sulfoxide reductase A
MTHFR	4524	P42898	methylenetetrahydrofolate reductase
NCAM1	4684	P13591	neural cell adhesion molecule 1

ACLY	47	P53396	ATP citrate lyase
NFE2L2	4780	Q16236	nuclear factor, erythroid 2 like 2
NM	4827		neutrophil migration
OSM	5008	P13725	oncostatin M
DCTN4	51164	Q9UJW0	dynactin subunit 4
PFKFB3	5209	Q16875	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 3
SERPINB6	5269	P35237	serpin family B member 6
PIK3CA	5290	P42336	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit alpha
PIK3CB	5291	P42338	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit beta
ARSA	410	P15289	arylsulfatase A
MIR21	406991		microRNA 21
ARNTL	406	O00327	aryl hydrocarbon receptor nuclear translocator like
GTF2H1	2965	P32780	general transcription factor IIH subunit 1
HFE	3077	Q30201	homeostatic iron regulator
HLA-DQA1	3117	P01909	major histocompatibility complex, class II, DQ alpha 1
HSD11B1	3290	P28845	hydroxysteroid 11-beta dehydrogenase 1
HSPA1A	3303	P0DMV8;P0DMV9	heat shock protein family A (Hsp70) member 1A
IFNG	3458	P01579	interferon gamma
IL1A	3552	P01583	interleukin 1 alpha
IL4	3565	P05112	interleukin 4
IL10	3586	P22301	interleukin 10
ILK	3611	Q13418	integrin linked kinase
INSRR	3645	P14616	insulin receptor related receptor
KRT19	3880	P08727	keratin 19
LMNA	4000	P02545	lamin A/C
LNPEP	4012	Q9UIQ6	leucyl and cysteinyl aminopeptidase
PIK3CD	5293	O00329	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit delta

## **Step 2:**

To identify the genes implicated in obesity, the same DisGeNET database (<http://www.disgenet.org/>) was used, which is a comprehensive platform for exploring gene-disease associations. The following steps were taken:

Step 1: Access the DisGeNET web interface and enter the term "obesity" (Disease ID: C0028754) in the search field to query for genes associated with this condition.

Step 2: From the search results, select the "Summary of gene-disease associations" option to access a detailed summary of the identified gene-disease associations.

Step 3: Analyze the summary and compile a list of genes reported to be associated with obesity. It is important to note that the database did not provide a specific gene list for metabolic obesity, which is a distinct condition characterized by the coexistence of sarcopenia and obesity. Consequently, the decision was made to utilize the gene list obtained for generalized obesity (Disease ID: C0028754) as a proxy. The search yielded a total of 2,822 genes associated with generalized obesity.

Gene	Gene_id	UniProt	Gene_Full_Name
MC4R	4160	P32245	melanocortin 4 receptor
PPARG	5468	P37231	peroxisome proliferator activated receptor gamma
POMC	5443	P01189	proopiomelanocortin
CPE	1363	P16870	carboxypeptidase E
AGRP	181	O00253	agouti related neuropeptide
SH2B1	25970	Q9NRF2	SH2B adaptor protein 1
LEP	3952	P41159	leptin
LEPR	3953	P48357	leptin receptor
PCSK1	5122	P29120	proprotein convertase subtilisin/kexin type 1
ENPP1	5167	P22413	ectonucleotide pyrophosphatase/phosphodiesterase 1
SIM1	6492	P81133	SIM bHLH transcription factor 1
UCP3	7352	P55916	uncoupling protein 3
NR0B2	8431	Q15466	nuclear receptor subfamily 0 group B member 2
BBS4	585	Q96RK4	Bardet-Biedl syndrome 4
MKKS	8195	Q9NPJ1	McKusick-Kaufman syndrome
BBS1	582	Q8NFJ9	Bardet-Biedl syndrome 1
CNR1	1268	P21554	cannabinoid receptor 1
CRP	1401	P02741	C-reactive protein
ESR1	2099	P03372	estrogen receptor 1
SIRT3	23410	Q9NTG7	sirtuin 3
SIRT1	23411	Q96EB6	sirtuin 1
HSD11B1	3290	P28845	hydroxysteroid 11-beta dehydrogenase 1
IL6	3569	P05231	interleukin 6
IRS1	3667	P35568	insulin receptor substrate 1
LBP	3929	P18428	lipopolysaccharide binding protein
LPL	4023	P06858	lipoprotein lipase
CCL2	6347	P13500	C-C motif chemokine ligand 2
ADIPOQ	9370	Q15848	adiponectin, C1Q and collagen domain containing
ICAM1	3383	P05362	intercellular adhesion molecule 1
CYP2E1	1571	P05181	cytochrome P450 family 2 subfamily E member 1
F2	2147	P00734	coagulation factor II, thrombin
PMCH	5367	P20382	pro-melanin concentrating hormone
ACSL1	2180	P33121	acyl-CoA synthetase long chain family member 1
FOXO3	2309	O43524	forkhead box O3
GPX3	2878	P22352	glutathione peroxidase 3
HK2	3099	P52789	hexokinase 2
NPY5R	4889	Q15761	neuropeptide Y receptor Y5
CD40	958	P25942	CD40 molecule
HADH	3033	Q16836	hydroxyacyl-CoA dehydrogenase
ADRB2	154	P07550	adrenoceptor beta 2
ADRB3	155	P13945	adrenoceptor beta 3
GLUL	2752	P15104	glutamate-ammonia ligase
APOE	348	P02649	apolipoprotein E
INS	3630	P01308	insulin
NPY1R	4886	P25929	neuropeptide Y receptor Y1
GHRL	51738	Q9UBU3	ghrelin and obestatin prepropeptide
INPP5E	56623	Q9NRR6	inositol polyphosphate-5-phosphatase E
TF	7018	P02787	transferrin
FTO	79068	Q9C0B1	FTO alpha-ketoglutarate dependent dioxygenase
NEIL1	79661	Q96FI4	nei like DNA glycosylase 1

CARTPT	9607	Q16568	CART prepropeptide
ADCY3	109	O60266	adenylate cyclase 3
GNAS	2778	O95467;P63092;P84996;Q5JWF2	GNAS complex locus
NPC1	4864	O15118	NPC intracellular cholesterol transporter 1
PRKAR1A	5573	P10644	protein kinase cAMP-dependent type I regulatory subunit alpha
AHR	196	P35869	aryl hydrocarbon receptor
SDCCAG8	10806	Q86SQ7	serologically defined colon cancer antigen 8
MYT1L	23040	Q9UL68	myelin transcription factor 1 like
NTRK2	4915	Q16620	neurotrophic receptor tyrosine kinase 2
SDC3	9672	O75056	syndecan 3
KCNMA1	3778	Q12791	potassium calcium-activated channel subfamily M alpha 1
RAI1	10743	Q7Z5J4	retinoic acid induced 1
MRAP2	112609	Q96G30	melanocortin 2 receptor accessory protein 2
BBS9	27241	Q3SYG4	Bardet-Biedl syndrome 9
BBS2	583	Q9BXC9	Bardet-Biedl syndrome 2
VPS13B	157680	Q7Z7G8	vacuolar protein sorting 13 homolog B
AFF4	27125	Q9UHB7	AF4/FMR2 family member 4
HOXB5	3215	P09067	homeobox B5
PACS1	55690	Q6VY07	phosphofuran acidic cluster sorting protein 1
BBS10	79738	Q8TAM1	Bardet-Biedl syndrome 10
PHF6	84295	Q8IWS0	PHD finger protein 6
NAMPT	10135	P43490	nicotinamide phosphoribosyltransferase
TTC8	123016	Q8TAM2	tetratricopeptide repeat domain 8
TMEM18	129787	Q96B42	transmembrane protein 18
BBS5	129880	Q8N3I7	Bardet-Biedl syndrome 5
GNPDA2	132789	Q8TDQ7	glucosamine-6-phosphate deaminase 2
BBS12	166379	Q6ZW61	Bardet-Biedl syndrome 12
DPYD	1806	Q12882	dihydropyrimidine dehydrogenase
RMST	196475		rhabdomyosarcoma 2 associated transcript
AKT1	207	P31749	AKT serine/threonine kinase 1
FAAH	2166	O00519	fatty acid amide hydrolase
FASN	2194	P49327	fatty acid synthase
NEGR1	257194	Q7Z3B1	neuronal growth regulator 1
FGF21	26291	Q9NSA1	fibroblast growth factor 21
GCG	2641	P01275	glucagon
GH1	2688	P01241	growth hormone 1
GNB3	2784	P16520	G protein subunit beta 3
HCRT	3060	O43612	hypocretin neuropeptide precursor
HTR2C	3358	P28335	5-hydroxytryptamine receptor 2C
IGF2	3481	P01344	insulin like growth factor 2
AQP7	364	O14520	aquaporin 7
LDLR	3949	P01130	low density lipoprotein receptor
MC3R	4159	P41968	melanocortin 3 receptor
MMP9	4318	P14780	matrix metallopeptidase 9
SERPINE1	5054	P05121	serpin family E member 1
ANGPTL4	51129	Q9BY76	angiopoietin like 4

PLIN1	5346	O60240	perilipin 1
PPARA	5465	Q07869	peroxisome proliferator activated receptor alpha
PPARD	5467	Q03181	peroxisome proliferator activated receptor delta
MKS1	54903	Q9NXB0	MKS transition zone complex subunit 1
BBS7	55212	Q8IWZ6	Bardet-Biedl syndrome 7
PRKCH	5583	P24723	protein kinase C eta
PYY	5697	P10082	peptide YY
PTPN1	5770	P18031	protein tyrosine phosphatase non-receptor type 1
TNF	7124	P01375	tumor necrosis factor
UCP1	7350	P25874	uncoupling protein 1
UCP2	7351	P55851	uncoupling protein 2
PNPLA3	80339	Q9NST1	patatin like phospholipase domain containing 3
ARL6	84100	Q9H0F7	ADP ribosylation factor like GTPase 6
TBC1D1	23216	Q86TI0	TBC1 domain family member 1
HTR2A	3356	P28223	5-hydroxytryptamine receptor 2A
BCHE	590	P06276	butyrylcholinesterase
TUB	7275	P50607	TUB bipartite transcription factor
KCTD15	79047	Q96SI1	potassium channel tetramerization domain containing 15
HSPA5	3309	P11021	heat shock protein family A (Hsp70) member 5
MIR21	406991		microRNA 21
CIDEA	1149	O60543	cell death inducing DFFA like effector a
PPARGC1B	133522	Q86YN6	PPARG coactivator 1 beta
ADRB1	153	P08588	adrenoceptor beta 1
MTCH2	23788	Q9Y6C9	mitochondrial carrier 2
GCK	2645	P35557	glucokinase
PTGS2	5743	P35354	prostaglandin-endoperoxide synthase 2
SREBF1	6720	P36956	sterol regulatory element binding transcription factor 1
ALMS1	7840	Q8TCU4	ALMS1 centrosome and basal body associated protein
FGFR1	2260	P11362	fibroblast growth factor receptor 1
SAT1	6303	P21673	spermidine/spermine N1-acetyltransferase 1
TNFRSF1B	7133	P20333	TNF receptor superfamily member 1B
NR1I3	9970	Q14994	nuclear receptor subfamily 1 group I member 3
CTSS	1520	P25774	cathepsin S
CYP1B1	1545	Q16678	cytochrome P450 family 1 subfamily B member 1
HMOX1	3162	P09601	heme oxygenase 1
MIR34A	407040		microRNA 34a
STS	412	P08842	steroid sulfatase
SOD1	6647	P00441	superoxide dismutase 1
TRPV1	7442	Q8NER1	transient receptor potential cation channel subfamily V member 1
NR1I2	8856	O75469	nuclear receptor subfamily 1 group I member 2
CD163	9332	Q86VB7	CD163 molecule
CD68	968	P34810	CD68 molecule
CES1	1066	P23141	carboxylesterase 1
KSR2	283455	Q6VAB6	kinase suppressor of ras 2
ACACB	32	O00763	acetyl-CoA carboxylase beta
IGFBP2	3485	P18065	insulin like growth factor binding protein 2

NHLH2	4808	Q02577	nescient helix-loop-helix 2
SOD2	6648	P04179	superoxide dismutase 2
CTF1	1489	Q16619	cardiotrophin 1
OGG1	4968	O15527	8-oxoguanine DNA glycosylase
PCK1	5105	P35558	phosphoenolpyruvate carboxykinase 1
RAPGEF3	10411	O95398	Rap guanine nucleotide exchange factor 3
GPX1	2876	P07203	glutathione peroxidase 1
ITGAM	3684	P11215	integrin subunit alpha M
ACHE	43	P22303	acetylcholinesterase (Cartwright blood group)
SLC22A1	6580	O15245	solute carrier family 22 member 1
VLDLR	7436	P98155	very low density lipoprotein receptor
CEBPA	1050	P49715	CCAAT enhancer binding protein alpha
ADH1B	125	P00325	alcohol dehydrogenase 1B (class I), beta polypeptide
PARP1	142	P09874	poly(ADP-ribose) polymerase 1
CS	1431	O75390	citrate synthase
DDIT3	1649	P35638	DNA damage inducible transcript 3
ZNF169	169841	Q14929	zinc finger protein 169
FCGR3B	2215	O75015	Fc fragment of IgG receptor IIIb
FTL	2512	P02792	ferritin light chain
IDO1	3620	P14902	indoleamine 2,3-dioxygenase 1
MIR130B	406920		microRNA 130b
MRC1	4360	P22897	mannose receptor C-type 1
PFKFB3	5209	Q16875	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 3
PRKAR2B	5577	P31323	protein kinase cAMP-dependent type II regulatory subunit beta
TFRC	7037	P02786	transferrin receptor
CA3	761	P07451	carbonic anhydrase 3
AKR1C3	8644	P42330	aldo-keto reductase family 1 member C3
ALDH1L1	10840	O75891	aldehyde dehydrogenase 1 family member L1
PPARGC1A	10891	Q9UBK2	PPARG coactivator 1 alpha
LACTB	114294	P83111	lactamase beta
COX7C	1350	P15954	cytochrome c oxidase subunit 7C
CPB2	1361	Q96IY4	carboxypeptidase B2
APCDD1	147495	Q8J025	APC down-regulated 1
PPM1L	151742	Q5SGD2	protein phosphatase, Mg <sup>2+</sup> /Mn <sup>2+</sup> dependent 1L
CYB5A	1528	P00167	cytochrome b5 type A
ACE	1636	P12821	angiotensin I converting enzyme
NQO1	1728	P15559	NAD(P)H quinone dehydrogenase 1
DRD2	1813	P14416	dopamine receptor D2
ECHS1	1892	P30084	enoyl-CoA hydratase, short chain 1
ABCA1	19	O95477	ATP binding cassette subfamily A member 1
EFNB1	1947	P98172	ephrin B1
EP300	2033	Q09472	E1A binding protein p300
ESR2	2100	Q92731	estrogen receptor 2
ETFDH	2110	Q16134	electron transfer flavoprotein dehydrogenase
RAB21	23011	Q9UL25	RAB21, member RAS oncogene family
ZFR2	23217	Q9UPR6	zinc finger RNA binding protein 2

MTOR	2475	P42345	mechanistic target of rapamycin kinase
GFPT1	2673	Q06210	glutamine--fructose-6-phosphate transaminase 1
GIP	2695	P09681	gastric inhibitory polypeptide
GLP1R	2740	P43220	glucagon like peptide 1 receptor
MCHR1	2847	Q99705	melanin concentrating hormone receptor 1
NR3C1	2908	P04150	nuclear receptor subfamily 3 group C member 1
HMGB2	3148	P26583	high mobility group box 2
ACADM	34	P11310	acyl-CoA dehydrogenase medium chain
IFNG	3458	P01579	interferon gamma
IL1B	3553	P01584	interleukin 1 beta
IL10	3586	P22301	interleukin 10
IL18	3606	Q14116	interleukin 18
LCN2	3934	P80188	lipocalin 2
LIPE	3991	Q05469	lipase E, hormone sensitive type
MIR130A	406919		microRNA 130a
MIR184	406960		microRNA 184
ME1	4199	P48163	malic enzyme 1
ALDH6A1	4329	Q02252	aldehyde dehydrogenase 6 family member A1
MMUT	4594	P22033	methylmalonyl-CoA mutase
ZFHX3	463	Q15911;Q6ZP98	zinc finger homeobox 3
ACLY	47	P53396	ATP citrate lyase
NOS3	4846	P29474	nitric oxide synthase 3
NPY	4852	P01303	neuropeptide Y
NPY2R	4887	P49146	neuropeptide Y receptor Y2
NUCB2	4925	P80303	nucleobindin 2
ZBTB7B	51043	O15156	zinc finger and BTB domain containing 7B
ADIPOR1	51094	Q96A54	adiponectin receptor 1
DCXR	51181	Q7Z4W1	dicarbonyl and L-xylulose reductase
ACP5	54	P13686	acid phosphatase 5, tartrate resistant
CYCS	54205	P99999	cytochrome c, somatic
FGGY	55277	Q96C11	FGGY carbohydrate kinase domain containing
CYP26B1	56603	Q9NR63	cytochrome P450 family 26 subfamily B member 1
RARRES2	5919	Q99969	retinoic acid receptor responder 2
RBP4	5950	P02753	retinol binding protein 4
SCD	6319	O00767	stearoyl-CoA desaturase
ATPAF1	64756	Q5TC12	ATP synthase mitochondrial F1 complex assembly factor 1
SLC22A3	6581	O75751	solute carrier family 22 member 3
SLC22A2	6582	O15244	solute carrier family 22 member 2
STAT3	6774	P40763	signal transducer and activator of transcription 3
TGFB1	7040	P01137	transforming growth factor beta 1
TLR4	7099	O00206	toll like receptor 4
UQCRC2	7385	P22695	ubiquinol-cytochrome c reductase core protein 2
ADIPOR2	79602	Q86V24	adiponectin receptor 2
AKAP1	8165	Q92667	A-kinase anchoring protein 1
CASP1	834	P29466	caspase 1
GAS7	8522	O60861	growth arrest specific 7

PEX11A	8800	O75192	peroxisomal biogenesis factor 11 alpha
SUCLG2	8801	Q96I99	succinate-CoA ligase GDP-forming subunit beta
SUCLA2	8803	Q9P2R7	succinate-CoA ligase ADP-forming subunit beta
APLN	8862	Q9ULZ1	apelin
WNT3A	89780	P56704	Wnt family member 3A
SOCS3	9021	O14543	suppressor of cytokine signaling 3
SLC16A7	9194	O60669	solute carrier family 16 member 7
CD36	948	P16671	CD36 molecule
ENTPD6	955	O75354	ectonucleoside triphosphate diphosphohydrolase 6
SIRT6	51548	Q8N6T7	sirtuin 6
SERPINF1	5176	P36955	serpin family F member 1
CPT1A	1374	P50416	carnitine palmitoyltransferase 1A
SERPINA12	145264	Q8IW75	serpin family A member 12
DRD4	1815	P21917	dopamine receptor D4
STK11	6794	Q15831	serine/threonine kinase 11
CCKAR	886	P32238	cholecystokinin A receptor
NR1H4	9971	Q96RI1	nuclear receptor subfamily 1 group H member 4
HP	3240	P00738	haptoglobin
RPS6KB1	6198	P23443	ribosomal protein S6 kinase B1
NMU	10874	P48645	neuromedin U
GOT2	2806	P00505	glutamic-oxaloacetic transaminase 2
LIPC	3990	P11150	lipase C, hepatic type
PRKCB	5579	P05771	protein kinase C beta
C3	718	P01024	complement C3
CDKN2A	1029	P42771;Q8N726	cyclin dependent kinase inhibitor 2A
CST3	1471	P01034	cystatin C
AKT2	208	P31751	AKT serine/threonine kinase 2
IGFBP3	3486	P17936	insulin like growth factor binding protein 3
AR	367	P10275	androgen receptor
NMB	4828	P08949	neuromedin B
PNLIP	5406	P16233	pancreatic lipase
CCL5	6352	P13501	C-C motif chemokine ligand 5
ANGPTL6	83854	Q8NI99	angiopoietin like 6
CAV1	857	Q03135	caveolin 1
MFN2	9927	O95140	mitofusin 2
NR1H3	10062	Q13133	nuclear receptor subfamily 1 group H member 3
HRH3	11255	Q9Y5N1	histamine receptor H3
CRH	1392	P06850	corticotropin releasing hormone
ANKRD26	22852	Q9UPS8	ankyrin repeat domain 26
NNT	23530	Q13423	nicotinamide nucleotide transhydrogenase
GUCY2C	2984	P25092	guanylate cyclase 2C
JAK2	3717	O60674	Janus kinase 2
ASIP	434	P42127	agouti signaling protein
NPPB	4879	P16860	natriuretic peptide B
PRLH	51052	P81277	prolactin releasing hormone
BCL2	596	P10415	BCL2 apoptosis regulator

SNAP25	6616	P60880	synaptosome associated protein 25
TSC1	7248	Q92574	TSC complex subunit 1
AOC3	8639	Q16853	amine oxidase copper containing 3
SOCS1	8651	O15524	suppressor of cytokine signaling 1
ALOX12	239	P18054	arachidonate 12-lipoxygenase, 12S type
GAPDH	2597	P04406	glyceraldehyde-3-phosphate dehydrogenase
GLRX	2745	P35754	glutaredoxin
HK1	3098	P19367	hexokinase 1
IGF1R	3480	P08069	insulin like growth factor 1 receptor
SLC27A1	376497	Q6PCB7	solute carrier family 27 member 1
FADS1	3992	O60427	fatty acid desaturase 1
NOS1	4842	P29475	nitric oxide synthase 1
PON2	5445	Q15165	paraoxonase 2
PRKG1	5592	Q13976	protein kinase cGMP-dependent 1
SREBF2	6721	Q12772	sterol regulatory element binding transcription factor 2
NR1H2	7376	P55055	nuclear receptor subfamily 1 group H member 2
XDH	7498	P47989	xanthine dehydrogenase
CRHBP	1393	P24387	corticotropin releasing hormone binding protein
DCN	1634	P07585	decorin
CFD	1675	P00746	complement factor D
DRD1	1812	P21728	dopamine receptor D1
GABRA6	2559	Q16445	gamma-aminobutyric acid type A receptor subunit alpha6
PRLHR	2834	P49683	prolactin releasing hormone receptor
HSD11B2	3291	P80365	hydroxysteroid 11-beta dehydrogenase 2
ATP5F1B	506	P06576	ATP synthase F1 subunit beta
KDM3A	55818	Q9Y4C1	lysine demethylase 3A
PROX1	5629	Q92786	prospero homeobox 1
BAD	572	Q92934	BCL2 associated agonist of cell death
PTPRF	5792	P10586	protein tyrosine phosphatase receptor type F
CCL4	6351	P13236;Q8NHW4	C-C motif chemokine ligand 4
SDC1	6382	P18827	syndecan 1
TYK2	7297	P29597	tyrosine kinase 2
GALP	85569	Q9UBC7	galanin like peptide
NCOA1	8648	Q15788	nuclear receptor coactivator 1
CDKN1B	1027	P46527	cyclin dependent kinase inhibitor 1B
ADARB1	104	P78563	adenosine deaminase RNA specific B1
CTSC	1075	P53634	cathepsin C
EHD1	10938	Q9H4M9	EH domain containing 1
CPS1	1373	P31327	carbamoyl-phosphate synthase 1
CYP19A1	1588	P11511	cytochrome P450 family 19 subfamily A member 1
DEFB1	1672	P60022	defensin beta 1
ALB	213	P02768	albumin
FGG	2266	P02679	fibrinogen gamma chain
G6PD	2539	P11413	glucose-6-phosphate dehydrogenase
GIPR	2696	P48546	gastric inhibitory polypeptide receptor
GJA5	2702	P36382	gap junction protein alpha 5

PCSK1N	27344	Q9UHG2	proprotein convertase subtilisin/kexin type 1 inhibitor
GPR12	2835	P47775	G protein-coupled receptor 12
GSTT1	2952	P30711	glutathione S-transferase theta 1
HMGCS1	3157	Q01581	3-hydroxy-3-methylglutaryl-CoA synthase 1
HTR1B	3351	P28222	5-hydroxytryptamine receptor 1B
APOBEC1	339	P41238	apolipoprotein B mRNA editing enzyme catalytic subunit 1
RHOA	387	P61586	ras homolog family member A
MAPT	4137	P10636	microtubule associated protein tau
KITLG	4254	P21583	KIT ligand
MYC	4609	P01106	MYC proto-oncogene, bHLH transcription factor
MYOD1	4654	P15172	myogenic differentiation 1
MYOG	4656	P15173	myogenin
NCF2	4688	P19878	neutrophil cytosolic factor 2
NDUFB6	4712	O95139	NADH:ubiquinone oxidoreductase subunit B6
ATP4B	496	P51164	ATPase H <sup>+</sup> /K <sup>+</sup> transporting subunit beta
OTC	5009	P00480	ornithine carbamoyltransferase
OXCT1	5019	P55809	3-oxoacid CoA-transferase 1
ATP5F1D	513	P30049	ATP synthase F1 subunit delta
PDE3A	5139	Q14432	phosphodiesterase 3A
PIK3R1	5295	P27986	phosphoinositide-3-kinase regulatory subunit 1
PRKCD	5580	Q05655	protein kinase C delta
PRKCI	5584	P41743	protein kinase C iota
PLSCR3	57048	Q9NRY6	phospholipid scramblase 3
GPAM	57678	Q9HCL2	glycerol-3-phosphate acyltransferase, mitochondrial
RSC1A1	6248	Q92681	regulator of solute carriers 1
BDNF	627	P23560	brain derived neurotrophic factor
ABCG5	64240	Q9H222	ATP binding cassette subfamily G member 5
SFTPB	6439	P07988	surfactant protein B
SFTPA1	653509	Q8IWL2	surfactant protein A1
SLC9A3	6550	P48764	solute carrier family 9 member A3
SLC10A1	6554	Q14973	solute carrier family 10 member 1
AACS	65985	Q86V21	acetoacetyl-CoA synthetase
BNIP3	664	Q12983	BCL2 interacting protein 3
SRD5A1	6715	P18405	steroid 5 alpha-reductase 1
STAT4	6775	Q14765	signal transducer and activator of transcription 4
C5AR1	728	P21730	complement C5a receptor 1
EHMT1	79813	Q9H9B1	euchromatic histone lysine methyltransferase 1
CAV2	858	P51636	caveolin 2
FADD	8772	Q13158	Fas associated via death domain
FAIM2	23017	Q9BWQ8	Fas apoptotic inhibitory molecule 2
DMD	1756	P11532	dystrophin
BEST1	7439	O76090	bestrophin 1
CTNNB1	1499	P35222	catenin beta 1
LMNA	4000	P02545	lamin A/C
SEC16B	89866	Q96JE7	SEC16 homolog B, endoplasmic reticulum export factor
COMT	1312	P21964	catechol-O-methyltransferase

ETV5	2119	P41161	ETS variant transcription factor 5
APPL1	26060	Q9UKG1	adaptor protein, phosphotyrosine interacting with PH domain and leucine zipper 1
PTEN	5728	P60484	phosphatase and tensin homolog
HNF1A	6927	P20823	HNF1 homeobox A
TFAP2B	7021	Q92481	transcription factor AP-2 beta
EGF	1950	P01133	epidermal growth factor
ARG1	383	P05089	arginase 1
PRDM16	63976	Q9HAZ2	PR/SET domain 16
NRXN3	9369	Q9HDB5;Q9Y4C0	neurexin 3
ATP6AP2	10159	O75787	ATPase H <sup>+</sup> transporting accessory protein 2
DUSP6	1848	Q16828	dual specificity phosphatase 6
CADM2	253559	Q8N3J6	cell adhesion molecule 2
HNF4A	3172	P41235	hepatocyte nuclear factor 4 alpha
MLXIPL	51085	Q9NP71	MLX interacting protein like
MAGEL2	54551	Q9UJ55	MAGE family member L2
MAP2K5	5607	Q13163	mitogen-activated protein kinase kinase 5
RAP1A	5906	P62834	RAP1A, member of RAS oncogene family
KISS1R	84634	Q969F8	KISS1 receptor
H6PD	9563	O95479	hexose-6-phosphate dehydrogenase/glucose 1-dehydrogenase
ABCA4	24	P78363	ATP binding cassette subfamily A member 4
SETD2	29072	Q9BYW2	SET domain containing 2, histone lysine methyltransferase
HLA-DRB1	3123	P01911	major histocompatibility complex, class II, DR beta 1
SOX6	55553	P35712	SRY-box transcription factor 6
MTMR9	66036	Q96QG7	myotubularin related protein 9
TBX1	6899	O43435	T-box transcription factor 1
UBE3A	7337	Q05086	ubiquitin protein ligase E3A
HDAC4	9759	P56524	histone deacetylase 4
CEL	1056	P19835	carboxyl ester lipase
LINGO2	158038	Q7L985	leucine rich repeat and Ig domain containing 2
EMD	2010	P50402	emerin
PDX1	3651	P52945	pancreatic and duodenal homeobox 1
ANOS1	3730	P23352	anosmin 1
MECP2	4204	P51608	methyl-CpG binding protein 2
NF2	4771	P35240	neurofibromin 2
PAX6	5080	P26367	paired box 6
WWOX	51741	Q9NZC7	WW domain containing oxidoreductase
WNT4	54361	P56705	Wnt family member 4
LZTFL1	54585	Q9NQ48	leucine zipper transcription factor like 1
AHI1	54806	Q8N157	Abelson helper integration site 1
PROK2	60675	Q9HC23	prokineticin 2
ABCC8	6833	Q09428	ATP binding cassette subfamily C member 8
TULP1	7287	O00294	TUB like protein 1
KMT2D	8085	O14686	lysine methyltransferase 2D
CUL4B	8450	Q13620	cullin 4B
CEP19	84984	Q96LK0	centrosomal protein 19
EIF2S3	1968	P41091	eukaryotic translation initiation factor 2 subunit gamma

ELN	2006	P15502	elastin
ARL13B	200894	Q3SXY8	ADP ribosylation factor like GTPase 13B
FGFR3	2261	P22607	fibroblast growth factor receptor 3
TRIM32	22954	Q13049	tripartite motif containing 32
FTSJ1	24140	Q9UET6	FtsJ RNA 2'-O-methyltransferase 1
GATA4	2626	P43694	GATA binding protein 4
GLDC	2731	P23378	glycine decarboxylase
KCNJ11	3767	Q14654	potassium inwardly rectifying channel subfamily J member 11
NEUROD1	4760	Q13562	neuronal differentiation 1
PAK3	5063	O75914	p21 (RAC1) activated kinase 3
TNNI3K	51086	Q59H18	TNNI3 interacting kinase
RAB23	51715	Q9ULC3	RAB23, member RAS oncogene family
KIDINS220	57498	Q9ULH0	kinase D interacting substrate 220
RPTOR	57521	Q8N122	regulatory associated protein of MTOR complex 1
RFC2	5982	P35250	replication factor C subunit 2
BLK	640	P51451	BLK proto-oncogene, Src family tyrosine kinase
SOX2	6657	P48431	SRY-box transcription factor 2
SOX3	6658	P41225	SRY-box transcription factor 3
WT1	7490	P19544	WT1 transcription factor
HESX1	8820	Q9UBX0	HESX homeobox 1
ARNT2	9915	Q9HBZ2	aryl hydrocarbon receptor nuclear translocator 2
MED12	9968	Q93074	mediator complex subunit 12
NR2E3	10002	Q9Y5X4	nuclear receptor subfamily 2 group E member 3
ZGLP1	1E+08	P0C6A0	zinc finger GATA like protein 1
GHRLOS	1E+08		ghrelin opposite strand/antisense RNA
KCNJ18	1E+08	B7U540	potassium inwardly rectifying channel subfamily J member 18
BCDIN3D-AS1	1E+08		BCDIN3D antisense RNA 1
FPGT-TNNI3K	1.01E+08	Q59H18	FPGT-TNNI3K readthrough
HUWE1	10075	Q7Z6Z7	HECT, UBA and WWE domain containing E3 ubiquitin protein ligase 1
LINC01524	1.02E+08		long intergenic non-protein coding RNA 1524
SCN1A-AS1	1.02E+08		SCN1A and SCN9A antisense RNA 1
TOPORS	10210	Q9NS56	TOP1 binding arginine/serine rich protein
APC2	10297	O95996	APC regulator of WNT signaling pathway 2
SEMA3A	10371	Q14563	semaphorin 3A
MERTK	10461	Q12866	MER proto-oncogene, tyrosine kinase
DEAF1	10522	O75398	DEAF1 transcription factor
LRRC53	1.05E+08	A6NM62	leucine rich repeat containing 53
PRPF8	10594	Q6P2Q9	pre-mRNA processing factor 8
FARS2	10667	O95363	phenylalanyl-tRNA synthetase 2, mitochondrial
CETP	1071	P11597	cholesteryl ester transfer protein
LINC02465	1.08E+08		long intergenic non-protein coding RNA 2465
LINC02055	1.08E+08		long intergenic non-protein coding RNA 2055
PNPLA6	10908	Q8IY17	patatin like phospholipase domain containing 6
IFT27	11020	Q9BW83	intraflagellar transport 27
MID2	11043	Q9UJV3	midline 2
CRYZL2P-SEC16B	1.11E+08		CRYZL2P-SEC16B readthrough

IL1RAPL1	11141	Q9NZN1	interleukin 1 receptor accessory protein like 1
PNKP	11284	Q96T60	polynucleotide kinase 3'-phosphatase
NLRP3	114548	Q96P20	NLR family pyrin domain containing 3
ADCY9	115	O60503	adenylate cyclase 9
RAB39B	116442	Q96DA2	RAB39B, member RAS oncogene family
APOA5	116519	Q6Q788	apolipoprotein A5
CLCN4	1183	P51793	chloride voltage-gated channel 4
CANT1	124583	Q8WVQ1	calcium activated nucleotidase 1
CNGB1	1258	Q14028	cyclic nucleotide gated channel subunit beta 1
CNGA1	1259	P29973	cyclic nucleotide gated channel subunit alpha 1
PROKR2	128674	Q8NFJ6	prokineticin receptor 2
ZNF513	130557	Q8N8E2	zinc finger protein 513
POC5	134359	Q8NA72	POC5 centriolar protein
HGSNAT	138050	Q68CP4	heparan-alpha-glucosaminide N-acetyltransferase
PTCHD1	139411	Q96NR3	patched domain containing 1
CRX	1406	O43186	cone-rod homeobox
SOCS2-AS1	144481		SOCS2 antisense RNA 1
RDH12	145226	Q96NR8	retinol dehydrogenase 12
CTSH	1512	P09668	cathepsin H
KLB	152831	Q86Z14	klotho beta
C8orf37	157657	Q96NL8	chromosome 8 open reading frame 37
CYP7A1	1581	P22680	cytochrome P450 family 7 subfamily A member 1
DGKG	1608	P49619	diacylglycerol kinase gamma
DCC	1630	P43146	DCC netrin 1 receptor
LRRN4	164312	Q8WUT4	leucine rich repeat neuronal 4
ARX	170302	Q96QS3	aristaless related homeobox
DLG3	1741	Q92796	discs large MAGUK scaffold protein 3
AGER	177	Q15109	advanced glycosylation end-product specific receptor
DNMT3A	1788	Q9Y6K1	DNA methyltransferase 3 alpha
DPP4	1803	P27487	dipeptidyl peptidase 4
AGT	183	P01019	angiotensinogen
AGTR2	186	P50052	angiotensin II receptor type 2
EDN1	1906	P05305	endothelin 1
MEGF8	1954	Q7Z7M0	multiple EGF like domains 8
AHSG	197	P02765	alpha 2-HS glycoprotein
ERBB2	2064	P04626	erb-b2 receptor tyrosine kinase 2
FABP4	2167	P15090	fatty acid binding protein 4
FABP2	2169	P12104	fatty acid binding protein 2
ACSL4	2182	O60488	acyl-CoA synthetase long chain family member 4
FAT1	2195	Q14517	FAT atypical cadherin 1
JMJD1C	221037	Q15652	jumonji domain containing 1C
FGF8	2253	P55075	fibroblast growth factor 8
FHL1	2273	Q13642	four and a half LIM domains 1
CNKSР2	22866	Q8WXI2	connector enhancer of kinase suppressor of Ras 2
ZNF365	22891	Q70YC4;Q70YC5	zinc finger protein 365
SNRNP200	23020	O75643	small nuclear ribonucleoprotein U5 subunit 200

FOXO1	2308	Q12778	forkhead box O1
IQSEC2	23096	Q5JU85	IQ motif and Sec7 domain ArfGEF 2
POGZ	23126	Q7Z3K3	pogo transposable element derived with ZNF domain
FLII	2314	Q13045	FLII actin remodeling protein
SYNE2	23224	Q8WXH0	spectrin repeat containing nuclear envelope protein 2
DDHD2	23259	O94830	DDHD domain containing 2
RPGRIPL	23322	Q68CZ1	RPGRIPL like
TTC28	23331	Q96AY4	tetratricopeptide repeat domain 28
SYNE1	23345	Q8NF91	spectrin repeat containing nuclear envelope protein 1
ARHGEF18	23370	Q6ZSZ5	Rho/Rac guanine nucleotide exchange factor 18
ADNP	23394	Q9H2P0	activity dependent neuroprotector homeobox
CRB1	23418	P82279	crumbs cell polarity complex component 1
ARL2BP	23568	Q9Y2Y0	ADP ribosylation factor like GTPase 2 binding protein
PDSS1	23590	Q5T2R2	decaprenyl diphosphate synthase subunit 1
FLRT3	23767	Q9NZU0	fibronectin leucine rich transmembrane protein 3
PRPF6	24148	O94906	pre-mRNA processing factor 6
FNDC5	252995	Q8NAU1	fibronectin type III domain containing 5
GABPA	2551	Q06546	GA binding protein transcription factor subunit alpha
GABRA3	2556	P34903	gamma-aminobutyric acid type A receptor subunit alpha3
GABRD	2563	O14764	gamma-aminobutyric acid type A receptor subunit delta
FSCN2	25794	O14926	fascin actin-bundling protein 2, retinal
SIN3A	25942	Q96ST3	SIN3 transcription regulator family member A
NSMF	26012	Q6X4W1	NMDA receptor synaptonuclear signaling and neuronal migration factor
COPD	260431		Pulmonary disease, chronic obstructive, severe early-onset
PRPF31	26121	Q8WWY3	pre-mRNA processing factor 31
IFT172	26160	Q9UG01	intraflagellar transport 172
MYCBP	26292	Q99417	MYC binding protein
TBL2	26608	Q9Y4P3	transducin beta like 2
GDI1	2664	P31150	GDP dissociation inhibitor 1
HS6ST3	266722	Q8IZP7	heparan sulfate 6-O-sulfotransferase 3
RNU1-1	26871		RNA, U1 small nuclear 1
GHR	2690	P10912	growth hormone receptor
GHSR	2693	Q92847	growth hormone secretagogue receptor
RBMX	27316	P38159	RNA binding motif protein X-linked
AMY1A	276	P04745	amylase alpha 1A
AMY1B	277	P04745	amylase alpha 1B
AMY1C	278	P04745	amylase alpha 1C
GNAT2	2780	P19087	G protein subunit alpha transducin 2
GP1BB	2812	P13224	glycoprotein Ib platelet subunit beta
TTC28-AS1	284900		TTC28 antisense RNA 1
CCDC141	285025	Q6ZP82	coiled-coil domain containing 141
GPT	2875	P24298	glutamic--pyruvic transaminase
GRN	2896	P28799	granulin precursor
GTF2I	2969	P78347	general transcription factor IIi
GUCA1B	2979	Q9UMX6	guanylate cyclase activator 1B
SH3KBP1	30011	Q96B97	SH3 domain containing kinase binding protein 1

HCFC1	3054	P51610	host cell factor C1
HIF1A	3091	Q16665	hypoxia inducible factor 1 subunit alpha
HLA-DQB1	3119	P01920	major histocompatibility complex, class II, DQ beta 1
HOXB3	3213	P14651	homeobox B3
APOA1	335	P02647	apolipoprotein A1
IAPP	3375	P10997	islet amyloid polypeptide
APOB	338	P04114	apolipoprotein B
FFAR4	338557	Q5NUL3	free fatty acid receptor 4
IDH3A	3419	P50213	isocitrate dehydrogenase (NAD(+)) 3 catalytic subunit alpha
IDH3B	3420	O43837	isocitrate dehydrogenase (NAD(+)) 3 non-catalytic subunit beta
EYS	346007	Q5T1H1	eyes shut homolog
ZNF81	347344	P51508	zinc finger protein 81
IGF1	3479	P05019	insulin like growth factor 1
APP	351	P05067	amyloid beta precursor protein
APRT	353	P07741	adenine phosphoribosyltransferase
KLK3	354	P07288	kallikrein related peptidase 3
IL1A	3552	P01583	interleukin 1 alpha
IL1RN	3557	P18510	interleukin 1 receptor antagonist
IL6R	3570	P08887	interleukin 6 receptor
CXCL8	3576	P10145	C-X-C motif chemokine ligand 8
IL17A	3605	Q16552	interleukin 17A
IMPDH1	3614	P20839	inosine monophosphate dehydrogenase 1
INSR	3643	P06213	insulin receptor
ACADVL	37	P49748	acyl-CoA dehydrogenase very long chain
ITPR3	3710	Q14573	inositol 1,4,5-trisphosphate receptor type 3
KIF7	374654	Q2M1P5	kinesin family member 7
CERKL	375298	Q49MI3	ceramide kinase like
LHFPL3	375612	Q86UP9	LHFPL tetraspan subfamily member 3
KCNH2	3757	Q12809	potassium voltage-gated channel subfamily H member 2
PCARE	388939	A6NGG8	photoreceptor cilium actin regulator
FEZF1	389549	A0PJY2	FEZ family zinc finger 1
USP27X	389856	A6NNY8	ubiquitin specific peptidase 27 X-linked
LIMK1	3984	P53667	LIM domain kinase 1
EML6	400954	Q6ZMW3	EMAP like 6
LINC01122	400955		long intergenic non-protein coding RNA 1122
CASC15	401237		cancer susceptibility 15
ARL3	403	P36405	ADP ribosylation factor like GTPase 3
HOXB-AS3	404266		HOXB cluster antisense RNA 3
SMAD4	4089	Q13485	SMAD family member 4
MAK	4117	P20794	male germ cell associated kinase
ARVCF	421	O00192	ARVCF delta catenin family member
MFAP1	4236	P55081	microfibril associated protein 1
NR3C2	4306	P08235	nuclear receptor subfamily 3 group C member 2
MOG	4340	Q16653	myelin oligodendrocyte glycoprotein
MTHFR	4524	P42898	methylenetetrahydrofolate reductase
MYH9	4627	P35579	myosin heavy chain 9

NCAM2	4685	O15394	neural cell adhesion molecule 2
RERE	473	Q9P2R6	arginine-glutamic acid dipeptide repeats
NEK2	4751	P51955	NIMA related kinase 2
NFE2L2	4780	Q16236	nuclear factor, erythroid 2 like 2
NINJ1	4814	Q92982	ninjurin 1
NPHP1	4867	O15259	nephrocystin 1
NRL	4901	P54845	neural retina leucine zipper
BDNF-AS	497258		BDNF antisense RNA
SCAPER	49855	Q9BY12	S-phase cyclin A associated protein in the ER
OTX2	5015	P32243	orthodenticle homeobox 2
P2RY11	5032	Q96G91	purinergic receptor P2Y11
PAX4	5078	O43316	paired box 4
PAX5	5079	Q02548	paired box 5
IMPG2	50939	Q9BZV3	interphotoreceptor matrix proteoglycan 2
PCDH9	5101	Q9HC56	protocadherin 9
WDPCP	51057	O95876	WD repeat containing planar cell polarity effector
INSIG2	51141	Q9Y5U4	insulin induced gene 2
NIN	51199	Q8N4C6	ninein
PDE4D	5144	Q08499	phosphodiesterase 4D
PDE6A	5145	P16499	phosphodiesterase 6A
PDE6G	5148	P18545	phosphodiesterase 6G
PDGFB	5155	P01127	platelet derived growth factor subunit B
PDE6B	5158	P35913	phosphodiesterase 6B
SUFU	51684	Q9UMX1	SUFU negative regulator of hedgehog signaling
PIK3CA	5290	P42336	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit alpha
PIK3CB	5291	P42338	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit beta
PIK3CD	5293	O00329	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit delta
PIK3CG	5294	P48736	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit gamma
PLG	5340	P00747	plasminogen
POLG	5428	P54098	DNA polymerase gamma, catalytic subunit
PON1	5444	P27169	paraoxonase 1
PRMT7	54496	Q9NVM4	protein arginine methyltransferase 7
POU3F4	5456	P49335	POU class 3 homeobox 4
UGT1A10	54575	Q9HAW8	UDP glucuronosyltransferase family 1 member A10
UGT1A8	54576	Q9HAW9	UDP glucuronosyltransferase family 1 member A8
UGT1A7	54577	Q9HAW7	UDP glucuronosyltransferase family 1 member A7
UGT1A6	54578	P19224	UDP glucuronosyltransferase family 1 member A6
UGT1A5	54579	P35504	UDP glucuronosyltransferase family 1 member A5
ATRX	546	P46100	ATRX chromatin remodeler
UGT1A9	54600	O60656	UDP glucuronosyltransferase family 1 member A9
UGT1A4	54657	P22310	UDP glucuronosyltransferase family 1 member A4
UGT1A1	54658	P22309	UDP glucuronosyltransferase family 1 member A1
UGT1A3	54659	P35503	UDP glucuronosyltransferase family 1 member A3
IL17RD	54756	Q8NFM7	interleukin 17 receptor D
CNNM2	54805	Q9H8M5	cyclin and CBS domain divalent metal cation transport mediator 2
PHIP	55023	Q8WWQ0	pleckstrin homology domain interacting protein

PRKAA1	5562	Q13131	protein kinase AMP-activated catalytic subunit alpha 1
POMGNT1	55624	Q8WZA1	protein O-linked mannose N-acetylglucosaminyltransferase 1 (beta 1,2-)
PRKAA2	5563	P54646	protein kinase AMP-activated catalytic subunit alpha 2
CHD7	55636	Q9P2D1	chromodomain helicase DNA binding protein 7
PRKAB1	5564	Q9Y478	protein kinase AMP-activated non-catalytic subunit beta 1
WDR11	55717	Q9BZH6	WD repeat domain 11
ERMARD	55780	Q5T6L9	ER membrane associated RNA degradation
SPATA7	55812	Q9P0W8	spermatogenesis associated 7
KIZ	55857	Q2M2Z5	kizuna centrosomal protein
ANGPTL8	55908	Q6UXH0	angiopoietin like 8
MAPK1	5594	P28482	mitogen-activated protein kinase 1
KLHL7	55975	Q8IXQ5	kelch like family member 7
MAPK8	5599	P45983	mitogen-activated protein kinase 8
PRL	5617	P01236	prolactin
RETN	56729	Q9HD89	resistin
MRPS22	56945	P82650	mitochondrial ribosomal protein S22
PNPLA2	57104	Q96AD5	patatin like phospholipase domain containing 2
PTH	5741	P01270	parathyroid hormone
HACE1	57531	Q8IYU2	HECT domain and ankyrin repeat containing E3 ubiquitin protein ligase 1
KIAA1549	57670	Q9HCM3	KIAA1549
SLC7A14	57709	Q8TBB6	solute carrier family 7 member 14
SUGP1	57794	Q8IWZ8	SURP and G-patch domain containing 1
HAMP	57817	P81172	hepcidin antimicrobial peptide
PTX3	5806	P26022	pentraxin 3
RAP1B	5908	P61224	RAP1B, member of RAS oncogene family
RBP3	5949	P10745	retinol binding protein 3
PRPH2	5961	P23942	peripherin 2
REN	5972	P00797	renin
RGR	5995	P47804	retinal G protein coupled receptor
RHO	6010	P08100	rhodopsin
RLBP1	6017	P12271	retinaldehyde binding protein 1
AGBL5	60509	Q8NDL9	ATP/GTP binding protein like 5
ROM1	6094	Q03395	retinal outer segment membrane protein 1
RP9	6100	Q8TA86	RP9 pre-mRNA splicing factor
RP1	6101	P56715	RP1 axonemal microtubule associated
RP2	6102	O75695	RP2 activator of ARL3 GTPase
RPGR	6103	Q92834	retinitis pigmentosa GTPase regulator
RPE65	6121	Q16518	retinoid isomerohydrolase RPE65
RPS6KA3	6197	P51812	ribosomal protein S6 kinase A3
RREB1	6239	Q92766	ras responsive element binding protein 1
SAG	6295	P10523	S-antigen visual arrestin
BGLAP	632	P02818	bone gamma-carboxyglutamate protein
SCN1A	6323	P35498	sodium voltage-gated channel alpha subunit 1
CXorf56	63932	Q9H5V9	chromosome X open reading frame 56
SEMA4A	64218	Q9H3S1	semaphorin 4A
NSD1	64324	Q96L73	nuclear receptor binding SET domain protein 1

SHBG	6462	P04278	sex hormone binding globulin
SHOX	6473	O15266	short stature homeobox
SKI	6497	P12755	SKI proto-oncogene
UPF3B	65109	Q9BZI7	UPF3B regulator of nonsense mediated mRNA decay
RSRC2	65117	Q7L4I2	arginine and serine rich coiled-coil 2
SLC2A4	6517	P14672	solute carrier family 2 member 4
SLC5A2	6524	P31639	solute carrier family 5 member 2
SLC6A4	6532	P31645	solute carrier family 6 member 4
SLC8A1	6546	P32418	solute carrier family 8 member A1
SMARCB1	6598	Q12824	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily b, member 1
SOX10	6663	P56693	SRY-box transcription factor 10
SPP1	6696	P10451	secreted phosphoprotein 1
BRAF	673	P15056	B-Raf proto-oncogene, serine/threonine kinase
SRY	6736	Q05066	sex determining region Y
BRCA2	675	P51587	BRCA2 DNA repair associated
BRS3	680	P32247	bombesin receptor subtype 3
SYP	6855	P08247	synaptophysin
TACR3	6870	P29371	tachykinin receptor 3
TAF1	6872	P21675	TATA-box binding protein associated factor 1
TBCE	6905	Q15813	tubulin folding cofactor E
TBX3	6926	O15119	T-box transcription factor 3
TCF7L2	6934	Q9NQB0	transcription factor 7 like 2
TCOF1	6949	Q13428	treacle ribosome biogenesis factor 1
TSPAN7	7102	P41732	tetraspanin 7
TP53	7157	P04637	tumor protein p53
HIRA	7290	P54198	histone cell cycle regulator
TNFSF4	7292	P23510	TNF superfamily member 4
UFD1	7353	Q92890	ubiquitin recognition factor in ER associated degradation 1
USH2A	7399	O75445	usherin
CLRN1	7401	P58418	clarin 1
KDM6A	7403	O15550	lysine demethylase 6A
VDR	7421	P11473	vitamin D receptor
VEGFA	7422	P15692	vascular endothelial growth factor A
CLIP2	7461	Q9UDT6	CAP-Gly domain containing linker protein 2
ZNF711	7552	Q9Y462	zinc finger protein 711
ZNF41	7592	P51814	zinc finger protein 41
CA4	762	P22748	carbonic anhydrase 4
PRCD	768206	Q00LT1	photoreceptor disc component
CACNA1S	779	Q13698	calcium voltage-gated channel subunit alpha1 S
CCDC28B	79140	Q9BUN5	coiled-coil domain containing 28B
TMEM43	79188	Q9BTM4	transmembrane protein 43
IRX3	79191	P78415	iroquois homeobox 3
STEAP4	79689	Q687X5	STEAP4 metalloreductase
ZNF408	79797	Q9H9D4	zinc finger protein 408
ALG13	79868	Q9NP73	ALG13 UDP-N-acetylglucosaminyltransferase subunit
RABEP2	79874	Q9H5N1	rabaptin, RAB GTPase binding effector protein 2

DHDDS	79947	Q86SQ9	dehydrodolichyl diphosphate synthase subunit
GLRA3	8001	O75311	glycine receptor alpha 3
IFT74	80173	Q96LB3	intraflagellar transport 74
CEP290	80184	O15078	centrosomal protein 290
SPG11	80208	Q96JI7	SPG11 vesicle trafficking associated, spatacsin
ALPK1	80216	Q96QP1	alpha kinase 1
IFT88	8100	Q13099	intraflagellar transport 88
SPRY4	81848	Q9C004	sprouty RTK signaling antagonist 4
LAS1L	81887	Q9Y4W2	LAS1 like ribosome biogenesis factor
USP9X	8239	Q93008	ubiquitin specific peptidase 9 X-linked
TRAPPC9	83696	Q96Q05	trafficking protein particle complex 9
FAM161A	84140	Q3B820	FAM161 centrosomal protein A
CCDC77	84318	Q9BR77	coiled-coil domain containing 77
KLF11	8462	O14901	Kruppel like factor 11
SLC9A7	84679	Q96T83	solute carrier family 9 member A7
OFD1	8481	O75665	OFD1 centriole and centriolar satellite protein
KCNAB2	8514	Q13303	potassium voltage-gated channel subfamily A regulatory beta subunit 2
SHANK3	85358	Q9BYB0	SH3 and multiple ankyrin repeat domains 3
IRS2	8660	Q9Y4H2	insulin receptor substrate 2
DGAT1	8694	O75907	diacylglycerol O-acyltransferase 1
FGF17	8822	O60258	fibroblast growth factor 17
PROM1	8842	O43490	prominin 1
CCK	885	P06307	cholecystokinin
BAZ1B	9031	Q9UIG0	bromodomain adjacent to zinc finger domain 1B
AIP	9049	O00170	aryl hydrocarbon receptor interacting protein
USP8	9101	P40818	ubiquitin specific peptidase 8
TMEM67	91147	Q5HYA8	transmembrane protein 67
PRPF4	9128	O43172	pre-mRNA processing factor 4
PRPF3	9129	O43395	pre-mRNA processing factor 3
CDHR1	92211	Q96JP9	cadherin related family member 1
LRAT	9227	O95237	lecithin retinol acyltransferase
BBIP1	92482	A8MTZ0	BBSome interacting protein 1
REEP6	92840	Q96HR9	receptor accessory protein 6
NRXN1	9378	P58400;Q9ULB1	neurexin 1
HS6ST1	9394	O60243	heparan sulfate 6-O-sulfotransferase 1
ARHGEF6	9459	Q15052	Rac/Cdc42 guanine nucleotide exchange factor 6
GDF15	9518	Q99988	growth differentiation factor 15
GTF2IRD1	9569	Q9UHL9	GTF2I repeat domain containing 1
CLOCK	9575	O15516	clock circadian regulator
SEC24C	9632	P53992	SEC24 homolog C, COPII coat complex component
IFT140	9742	Q96RY7	intraflagellar transport 140
FRMPD4	9758	Q14CM0	FERM and PDZ domain containing 4
DHX38	9785	Q92620	DEAH-box helicase 38
TRIM66	9866	O15016	tripartite motif containing 66
FGF19	9965	O95750	fibroblast growth factor 19
ZBTB7C	201501	A1YPR0	zinc finger and BTB domain containing 7C

GCKR	2646	Q14397	glucokinase regulator
MSTN	2660	O14793	myostatin
LPA	4018	P08519	lipoprotein(a)
ARSA	410	P15289	arylsulfatase A
MPO	4353	P05164	myeloperoxidase
NNMT	4837	P40261	nicotinamide N-methyltransferase
BAAT	570	Q14032	bile acid-CoA:amino acid N-acyltransferase
SORT1	6272	Q99523	sortilin 1
CIDEC	63924	Q96AQ7	cell death inducing DFFA like effector c
SPARC	6678	P09486	secreted protein acidic and cysteine rich
SPX	80763	Q9BT56	spexin hormone
IL33	90865	O95760	interleukin 33
CMKLR1	1240	Q99788	chemerin chemokine-like receptor 1
GPBAR1	151306	Q8TDU6	G protein-coupled bile acid receptor 1
GRK2	156	P25098	G protein-coupled receptor kinase 2
EDNRA	1909	P25101	endothelin receptor type A
LPIN1	23175	Q14693	lipin 1
GAD2	2572	Q05329	glutamate decarboxylase 2
GCGR	2642	P47871	glucagon receptor
APOA2	336	P02652	apolipoprotein A2
APOC3	345	P02656	apolipoprotein C3
MIR122	406906		microRNA 122
MIR155	406947		microRNA 155
MAOA	4128	P21397	monoamine oxidase A
PHB	5245	P35232	prohibitin
CHDH	55349	Q8NE62	choline dehydrogenase
AZGP1	563	P25311	alpha-2-glycoprotein 1, zinc-binding
ACKR3	57007	P25106	atypical chemokine receptor 3
SFRP5	6425	Q5T4F7	secreted frizzled related protein 5
SI	6476	P14410	sucrase-isomaltase
CASR	846	P41180	calcium sensing receptor
MGAM	8972	O43451	maltase-glucoamylase
CD59	966	P13987	CD59 molecule (CD59 blood group)
CXCR6	10663	O00574	C-X-C motif chemokine receptor 6
GPR151	134391	Q8TDV0	G protein-coupled receptor 151
CPT2	1376	P23786	carnitine palmitoyltransferase 2
NRG4	145957	Q8WWG1	neuregulin 4
ADRA1A	148	P35348	adrenoceptor alpha 1A
ADRA2B	151	P18089	adrenoceptor alpha 2B
AGTR1	185	P30556	angiotensin II receptor type 1
EPO	2056	P01588	erythropoietin
FBN1	2200	P35555	fibrillin 1
SIRT2	22933	Q8IXJ6	sirtuin 2
PCSK9	255738	Q8NBP7	proprotein convertase subtilisin/kexin type 9
AMH	268	P03971	anti-Mullerian hormone
GPR42	2866	O15529	G protein-coupled receptor 42 (gene/pseudogene)

IL15	3600	P40933	interleukin 15
ENHO	375704	Q6UWT2	energy homeostasis associated
LGALS3	3958	P17931	galectin 3
MIR146A	406938		microRNA 146a
MME	4311	P08473	membrane metalloendopeptidase
MMP2	4313	P08253	matrix metallopeptidase 2
CDKAL1	54901	Q5VV42	CDK5 regulatory subunit associated protein 1 like 1
LGR6	59352	Q9HBX8	leucine rich repeat containing G protein-coupled receptor 6
MBOAT4	619373	Q96T53	membrane bound O-acyltransferase domain containing 4
TNMD	64102	Q9H2S6	tenomodulin
SSTR4	6754	P31391	somatostatin receptor 4
THBS1	7057	P07996	thrombospondin 1
TNFRSF1A	7132	P19438	TNF receptor superfamily member 1A
CAT	847	P04040	catalase
LPAR2	9170	Q9HBW0	lysophosphatidic acid receptor 2
KHDRBS1	10657	Q07666	KH RNA binding domain containing, signal transduction associated 1
ADAMTS13	11093	Q76LX8	ADAM metallopeptidase with thrombospondin type 1 motif 13
CAPN10	11132	Q9HC96	calpain 10
NISCH	11188	Q9Y2I1	nischarin
MGLL	11343	Q99685	monoglyceride lipase
C1QTNF5	114902	Q9BXJ0	C1q and TNF related 5
MRGPRX3	117195	Q96LB0	MAS related GPR family member X3
MRGPRX4	117196	Q96LA9	MAS related GPR family member X4
MAPK14	1432	Q16539	mitogen-activated protein kinase 14
CXADR	1525	P78310	CXADR Ig-like cell adhesion molecule
OXER1	165140	Q8TDS5	oxoeicosanoid receptor 1
DIO2	1734	Q92813	iodothyronine deiodinase 2
EGFR	1956	P00533	epidermal growth factor receptor
F5	2153	P12259	coagulation factor V
GPRC6A	222545	Q5T6X5	G protein-coupled receptor class C group 6 member A
ANGPTL2	23452	Q9UKU9	angiopoietin like 2
LPAR3	23566	Q9UBY5	lysophosphatidic acid receptor 3
MRGPRX1	259249	Q96LB2	MAS related GPR family member X1
IL37	27178	Q9NZH6	interleukin 37
ANPEP	290	P15144	alanyl aminopeptidase, membrane
GOLGA6A	342096	Q9NYA3	golgin A6 family member A
ITGAX	3687	P20702	integrin subunit alpha X
LECT2	3950	O14960	leukocyte cell derived chemotaxin 2
MIR221	407006		microRNA 221
MIR27A	407018		microRNA 27a
VN1R17P	441931	Q8TDU5	vomeronasal 1 receptor 17 pseudogene
GPR166P	442206		G protein-coupled receptor 166 pseudogene
NTS	4922	P30990	neurotensin
TNFRSF11B	4982	O00300	TNF receptor superfamily member 11b
GAL	51083	P22466	galanin and GMAP prepropeptide
PDK4	5166	Q16654	pyruvate dehydrogenase kinase 4

AVP	551	P01185	arginine vasopressin
RCBTB1	55213	Q8NDN9	RCC1 and BTB domain containing protein 1
CHPT1	56994	Q8WUD6	choline phosphotransferase 1
TRIB3	57761	Q96RU7	tribbles pseudokinase 3
CCND1	595	P24385	cyclin D1
BRD2	6046	P25440	bromodomain containing 2
ATXN2	6311	Q99700	ataxin 2
SGK1	6446	O00141	serum/glucocorticoid regulated kinase 1
SLC2A1	6513	P11166	solute carrier family 2 member 1
WNT5A	7474	P41221	Wnt family member 5A
CNBP	7555	P62633	CCHC-type zinc finger nucleic acid binding protein
CAD	790	P27708	carbamoyl-phosphate synthetase 2, aspartate transcarbamylase, and dihydroorotate
FGF23	8074	Q9GZV9	fibroblast growth factor 23
FZD4	8322	Q9ULV1	frizzled class receptor 4
MBD2	8932	Q9UBB5	methyl-CpG binding domain protein 2
GRAP2	9402	O75791	GRB2 related adaptor protein 2
TRIM13	10206	O60858	tripartite motif containing 13
AHSA1	10598	O95433	activator of HSP90 ATPase activity 1
PLIN2	123	Q99541	perilipin 2
ADM	133	P35318	adrenomedullin
GPR119	139760	Q8TDV5	G protein-coupled receptor 119
CRK	1398	P46108	CRK proto-oncogene, adaptor protein
F2RL1	2150	P55085	F2R like trypsin receptor 1
F3	2152	P13726	coagulation factor III, tissue factor
FKBP5	2289	Q13451	FKBP prolyl isomerase 5
NUP62	23636	P37198	nucleoporin 62
RNF19A	25897	Q9NV58	ring finger protein 19A, RBR E3 ubiquitin protein ligase
POLDIP2	26073	Q9Y2S7	DNA polymerase delta interacting protein 2
SLC17A5	26503	Q9NRA2	solute carrier family 17 member 5
ANGPT1	284	Q15389	angiopoietin 1
GTF2H1	2965	P32780	general transcription factor IIH subunit 1
HGF	3082	P14210	hepatocyte growth factor
NR4A1	3164	P22736	nuclear receptor subfamily 4 group A member 1
HSPA1A	3303	P0DMV8;P0DMV9	heat shock protein family A (Hsp70) member 1A
HSPA1B	3304	P0DMV8;P0DMV9	heat shock protein family A (Hsp70) member 1B
KRT16	3868	P08779	keratin 16
LCT	3938	P09848	lactase
ARNTL	406	O00327	aryl hydrocarbon receptor nuclear translocator like
MIR143	406935		microRNA 143
ARR3	407	P36575	arrestin 3
MIR33A	407039		microRNA 33a
MGAT1	4245	P26572	alpha-1,3-mannosyl-glycoprotein 2-beta-N-acetylglucosaminyltransferase
MIF	4282	P14174	macrophage migration inhibitory factor
MSRA	4482	Q9UJ68	methionine sulfoxide reductase A
MTNR1B	4544	P49286	melatonin receptor 1B
MTRR	4552	Q9UBK8	5-methyltetrahydrofolate-homocysteine methyltransferase reductase

MYD88	4615	Q99836	MYD88 innate immune signal transduction adaptor
OPRM1	4988	P35372	opioid receptor mu 1
OSM	5008	P13725	oncostatin M
OXTR	5021	P30559	oxytocin receptor
DCTN4	51164	Q9UJW0	dynactin subunit 4
BFAR	51283	Q9NZS9	bifunctional apoptosis regulator
ACP1	52	P24666	acid phosphatase 1
PGR	5241	P06401	progesterone receptor
CCHCR1	54535	Q8TD31	coiled-coil alpha-helical rod protein 1
ITLN1	55600	Q8WWA0	intelectin 1
APOM	55937	O95445	apolipoprotein M
MAPK3	5595	P27361	mitogen-activated protein kinase 3
NMUR2	56923	Q9GZQ4	neuromedin U receptor 2
MOK	5891	Q9UQ07	MOK protein kinase
ACE2	59272	Q9BYF1	angiotensin I converting enzyme 2
BCL2A1	597	Q16548	BCL2 related protein A1
RENBP	5973	P51606	renin binding protein
RORC	6097	P51449	RAR related orphan receptor C
ROS1	6098	P08922	ROS proto-oncogene 1, receptor tyrosine kinase
SAA1	6288	P0DJ18	serum amyloid A1
CEACAM1	634	P13688	CEA cell adhesion molecule 1
BMP4	652	P12644	bone morphogenetic protein 4
SLC5A1	6523	P13866	solute carrier family 5 member 1
CXADRP1	653108		CXADR pseudogene 1
SPG7	6687	Q9UQ90	SPG7 matrix AAA peptidase subunit, paraplegin
TLR2	7097	O60603	toll like receptor 2
TLR3	7098	O15455	toll like receptor 3
TM7SF2	7108	O76062	transmembrane 7 superfamily member 2
VCAM1	7412	P19320	vascular cell adhesion molecule 1
WNT1	7471	P04628	Wnt family member 1
WNT10B	7480	O00744	Wnt family member 10B
XBP1	7494	P17861	X-box binding protein 1
AIMP2	7965	Q13155	aminoacyl tRNA synthetase complex interacting multifunctional protein 2
MFRP	83552	Q9BY79	membrane frizzled-related protein
SERPINA6	866	P08185	serpin family A member 6
CCN4	8840	O95388	cellular communication network factor 4
SQSTM1	8878	Q13501	sequestosome 1
SELENBP1	8991	Q13228	selenium binding protein 1
XPR1	9213	Q9UBH6	xenotropic and polytropic retrovirus receptor 1
IL32	9235	P24001	interleukin 32
CD14	929	P08571	CD14 molecule
GPR55	9290	Q9Y2T6	G protein-coupled receptor 55
CDH13	1012	P55290	cadherin 13
FST	10468	P19883	follistatin
IGF2BP2	10644	Q9Y6M1	insulin like growth factor 2 mRNA binding protein 2
METAP2	10988	P50579	methionyl aminopeptidase 2

LOC110806262	1.11E+08		solute carrier family 6 member 4 gene promoter
CHI3L1	1116	P36222	chitinase 3 like 1
CNTF	1270	P26441	ciliary neurotrophic factor
LYPLAL1	127018	Q5VWZ2	lysophospholipase like 1
MAP3K8	1326	P41279	mitogen-activated protein kinase kinase kinase 8
COX8A	1351	P10176	cytochrome c oxidase subunit 8A
CTLA4	1493	P16410	cytotoxic T-lymphocyte associated protein 4
ADRA2A	150	P08913	adrenoceptor alpha 2A
DBP	1628	Q10586	D-box binding PAR bZIP transcription factor
DECRR1	1666	Q16698	2,4-dienoyl-CoA reductase 1
SLC30A8	169026	Q8IWU4	solute carrier family 30 member 8
APLNR	187	P35414	apelin receptor
EPHB2	2048	P29323	EPH receptor B2
ESRRA	2101	P11474	estrogen related receptor alpha
FGF1	2246	P05230	fibroblast growth factor 1
FOXC2	2303	Q99958	forkhead box C2
FN1	2335	P02751	fibronectin 1
ANKK1	255239	Q8NFD2	ankyrin repeat and kinase domain containing 1
GC	2638	P02774	GC vitamin D binding protein
GHRH	2691	P01286	growth hormone releasing hormone
SPINK4	27290	O60575	serine peptidase inhibitor Kazal type 4
HPGDS	27306	O60760	hematopoietic prostaglandin D synthase
ANGPTL3	27329	Q9Y5C1	angiopoietin like 3
RABGEF1	27342	Q9UJ41	RAB guanine nucleotide exchange factor 1
FFAR1	2864	O14842	free fatty acid receptor 1
GPS2	2874	Q13227	G protein pathway suppressor 2
TBK1	29110	Q9UHD2	TANK binding kinase 1
CXCL2	2920	P19875	C-X-C motif chemokine ligand 2
A1CF	29974	Q9NQ94	APOBEC1 complementation factor
ACACA	31	Q13085	acetyl-CoA carboxylase alpha
HMGB1	3146	P09429	high mobility group box 1
HSPA4	3308	P34932	heat shock protein family A (Hsp70) member 4
HSPD1	3329	P10809	heat shock protein family D (Hsp60) member 1
IFNA1	3439	P01562	interferon alpha 1
IFNA13	3447	P01562	interferon alpha 13
IGFBP1	3484	P08833	insulin like growth factor binding protein 1
IL2	3558	P60568	interleukin 2
INPPL1	3636	O15357	inositol polyphosphate phosphatase like 1
KCNQ1	3784	P51787	potassium voltage-gated channel subfamily Q member 1
KNG1	3827	P01042	kininogen 1
ARG2	384	P78540	arginase 2
KRAS	3845	P01116	KRAS proto-oncogene, GTPase
C1QTNF12	388581	Q5T7M4	C1q and TNF related 12
MCL1	4170	Q07820	MCL1 apoptosis regulator, BCL2 family member
MEST	4232	Q5EB52	mesoderm specific transcript
MGAT2	4247	Q10469	alpha-1,6-mannosyl-glycoprotein 2-beta-N-acetylglicosaminyltransferase

COX2	4513	P00403	cytochrome c oxidase subunit II
MTTP	4547	P55157	microsomal triglyceride transfer protein
NFKB1	4790	P19838	nuclear factor kappa B subunit 1
NHS	4810	Q6T4R5	NHS actin remodeling regulator
NM	4827		neutrophil migration
NPPC	4880	P23582	natriuretic peptide C
NOX4	50507	Q9NPH5	NADPH oxidase 4
IL22	50616	Q9GZX6	interleukin 22
SCLY	51540	Q96I15	selenocysteine lyase
PKD1	5310	P98161	polycystin 1, transient receptor potential channel interacting
TERF2IP	54386	Q9NYB0	TERF2 interacting protein
MAPK9	5601	P45984	mitogen-activated protein kinase 9
PSMD9	5715	O00233	proteasome 26S subunit, non-ATPase 9
MIR146B	574447		microRNA 146b
CXCL5	6374	P42830	C-X-C motif chemokine ligand 5
SFTPD	6441	P35247	surfactant protein D
CRTC3	64784	Q6UV7	CREB regulated transcription coactivator 3
SNRPN	6638	P63162;Q9Y675	small nuclear ribonucleoprotein polypeptide N
TFAM	7019	Q00059	transcription factor A, mitochondrial
TMPRSS2	7113	O15393	transmembrane serine protease 2
TPD52	7163	P55327	tumor protein D52
TWIST1	7291	Q15672	twist family bHLH transcription factor 1
VGF	7425	O15240	VGF nerve growth factor inducible
TRPM8	79054	Q7Z2W7	transient receptor potential cation channel subfamily M member 8
CALCR	799	P30988	calcitonin receptor
SESN2	83667	P58004	sestrin 2
SYVN1	84447	Q86TM6	synoviolin 1
DGAT2	84649	Q96PD7	diacylglycerol O-acyltransferase 2
DLK1	8788	P80370	delta like non-canonical Notch ligand 1
CREG1	8804	O75629	cellular repressor of E1A stimulated genes 1
PTER	9317	Q96BW5	phosphotriesterase related
ABCG2	9429	Q9UNQ0	ATP binding cassette subfamily G member 2 (Junior blood group)
CD38	952	P28907	CD38 molecule
CD44	960	P16070	CD44 molecule (Indian blood group)
FOXO6	1E+08	A8MYZ6	forkhead box O6
LINC01672	1.01E+08		long intergenic non-protein coding RNA 1672
PTPRU	10076	Q92729	protein tyrosine phosphatase receptor type U
LRPPRC	10128	P42704	leucine rich pentatricopeptide repeat containing
CDK4	1019	P11802	cyclin dependent kinase 4
GDF11	10220	O95390	growth differentiation factor 11
LOC102723407	1.03E+08		immunoglobulin heavy variable 4-38-2-like
PERCC1	1.05E+08	A0A1W2PR82	proline and glutamate rich with coiled coil 1
SORBS1	10580	Q9BX66	sorbin and SH3 domain containing 1
POSTN	10631	Q15063	periostin
EBP	10682	Q15125	EBP cholestenol delta-isomerase
MTCO2P12	1.07E+08		MT-CO2 pseudogene 12

CHGA	1113	P10645	chromogranin A
FSTL1	11167	Q12841	follistatin like 1
SLC6A14	11254	Q9UN76	solute carrier family 6 member 14
C1QTNF6	114904	Q9BXI9	C1q and TNF related 6
CISH	1154	Q9NSE2	cytokine inducible SH2 containing protein
LEAP2	116842	Q969E1	liver enriched antimicrobial peptide 2
ACVR1C	130399	Q8NER5	activin A receptor type 1C
CREBBP	1387	Q92793	CREB binding protein
CX3CR1	1524	P49238	C-X3-C motif chemokine receptor 1
CYBA	1535	P13498	cytochrome b-245 alpha chain
CYBB	1536	P04839	cytochrome b-245 beta chain
DDT	1652	P30046	D-dopachrome tautomerase
DNMT1	1786	P26358	DNA methyltransferase 1
NR0B1	190	P51843	nuclear receptor subfamily 0 group B member 1
EIF4EBP1	1978	Q13541	eukaryotic translation initiation factor 4E binding protein 1
ESRRG	2104	P62508	estrogen related receptor gamma
ALDH1A1	216	P00352	aldehyde dehydrogenase 1 family member A1
MMRN1	22915	Q13201	multimerin 1
AKR1B1	231	P15121	aldo-keto reductase family 1 member B
ZFPM2	23414	Q8WW38	zinc finger protein, FOG family member 2
FOS	2353	P01100	Fos proto-oncogene, AP-1 transcription factor subunit
BACE1	23621	P56817	beta-secretase 1
ALOX5	240	P09917	arachidonate 5-lipoxygenase
FSHR	2492	P23945	follicle stimulating hormone receptor
NR5A1	2516	Q13285	nuclear receptor subfamily 5 group A member 1
CERS6	253782	Q6ZMG9	ceramide synthase 6
NOCT	25819	Q9UK39	nocturnin
HSPA12A	259217	O43301	heat shock protein family A (Hsp70) member 12A
SPAG8	26206	Q99932	sperm associated antigen 8
GAS6	2621	Q14393	growth arrest specific 6
GGT1	2678	P19440	gamma-glutamyltransferase 1
PDCD4	27250	Q53EL6	programmed cell death 4
ANGPT2	285	O15123	angiopoietin 2
FFAR2	2867	O15552	free fatty acid receptor 2
REM1	28954	O75628	RRAD and GEM like GTPase 1
KLF15	28999	Q9UIH9	Kruppel like factor 15
PYCARD	29108	Q9ULZ3	PYD and CARD domain containing
GSTM1	2944	P09488	glutathione S-transferase mu 1
GUCA2B	2981	Q16661	guanylate cyclase activator 2B
RMC1	29919	Q96DM3	regulator of MON1-CCZ1
PSAT1	29968	Q9Y617	phosphoserine aminotransferase 1
CFH	3075	P08603	complement factor H
HOXA5	3202	P20719	homeobox A5
HTR2B	3357	P41595	5-hydroxytryptamine receptor 2B
APOA4	337	P06727	apolipoprotein A4
HCAR2	338442	Q8TDS4	hydroxycarboxylic acid receptor 2

APOC1	341	P02654	apolipoprotein C1
LCE1C	353133	Q5T751	late cornified envelope 1C
FAS	355	P25445	Fas cell surface death receptor
IL1R1	3554	P14778	interleukin 1 receptor type 1
IL4	3565	P05112	interleukin 4
IL6ST	3572	P40189	interleukin 6 signal transducer
CXCL10	3627	P02778	C-X-C motif chemokine ligand 10
INSIG1	3638	O15503	insulin induced gene 1
INSRR	3645	P14616	insulin receptor related receptor
IRF5	3663	Q13568	interferon regulatory factor 5
IRF6	3664	O14896	interferon regulatory factor 6
KCNK3	3777	O14649	potassium two pore domain channel subfamily K member 3
GFRAL	389400	Q6UXV0	GDNF family receptor alpha like
C1QL3	389941	Q5VWW1	complement C1q like 3
LIPA	3988	P38571	lipase A, lysosomal acid type
LOX	4015	P28300	lysyl oxidase
LRP5	4041	O75197	LDL receptor related protein 5
MIR126	406913		microRNA 126
MIR148A	406940		microRNA 148a
MIR199A1	406976		microRNA 199a-1
MIR199A2	406977		microRNA 199a-2
MIR223	407008		microRNA 223
MIR26B	407017		microRNA 26b
SMAD3	4088	P84022	SMAD family member 3
MBL2	4153	P11226	mannose binding lectin 2
MMP1	4312	P03956	matrix metallopeptidase 1
MMP3	4314	P08254	matrix metallopeptidase 3
ATF4	468	P18848	activating transcription factor 4
NDN	4692	Q99608	necdin, MAGE family member
NDUFAB1	4706	O14561	NADH:ubiquinone oxidoreductase subunit AB1
CCN3	4856	P48745	cellular communication network factor 3
OLR1	4973	P78380	oxidized low density lipoprotein receptor 1
PRKN	5071	O60260	parkin RBR E3 ubiquitin protein ligase
TAS2R13	50838	Q9NYV9	taste 2 receptor member 13
PC	5091	P11498	pyruvate carboxylase
SOST	50964	Q9BQB4	sclerostin
PDE3B	5140	Q13370	phosphodiesterase 3B
GPRC5B	51704	Q9NZH0	G protein-coupled receptor class C group 5 member B
ARID4B	51742	Q4LE39	AT-rich interaction domain 4B
ABCB1	5243	P08183	ATP binding cassette subfamily B member 1
PLA2G1B	5319	P04054	phospholipase A2 group IB
LEPROT	54741	O15243	leptin receptor overlapping transcript
MEG3	55384		maternally expressed 3
PPY	5539	P01298	pancreatic polypeptide
APOBR	55911	Q0VD83	apolipoprotein B receptor
CTNNBL1	56259	Q8WYA6	catenin beta like 1

LRRC8A	56262	Q8IWT6	leucine rich repeat containing 8 VRAC subunit A
TAS2R38	5726	P59533	taste 2 receptor member 38
MIR181D	574457		microRNA 181d
ARRDC3	57561	Q96B67	arrestin domain containing 3
UBL5	59286	Q9BZL1	ubiquitin like 5
SLC25A19	60386	Q9HC21	solute carrier family 25 member 19
RNASEL	6041	Q05823	ribonuclease L
S100A9	6280	P06702	S100 calcium binding protein A9
SCN10A	6336	Q9Y5Y9	sodium voltage-gated channel alpha subunit 10
NOD2	64127	Q9HC29	nucleotide binding oligomerization domain containing 2
SELENOP	6414	P49908	selenoprotein P
SFRP4	6424	Q6FHJ7	secreted frizzled related protein 4
HIF3A	64344	Q9Y2N7	hypoxia inducible factor 3 subunit alpha
SLC6A3	6531	Q01959	solute carrier family 6 member 3
SLC6A8	6535	P48029	solute carrier family 6 member 8
GGTLC5P	653590		gamma-glutamyltransferase light chain 5 pseudogene
BRCA1	672	P38398	BRCA1 DNA repair associated
SST	6750	P61278	somatostatin
STAT5A	6776	P42229	signal transducer and activator of transcription 5A
STAT5B	6777	P51692	signal transducer and activator of transcription 5B
SULT2A1	6822	Q06520	sulfotransferase family 2A member 1
ADAM17	6868	P78536	ADAM metallopeptidase domain 17
BTF3P11	690		basic transcription factor 3 pseudogene 11
SNORD116@	692236		small nucleolar RNA, C/D box 116 cluster
TH	7054	P07101	tyrosine hydroxylase
THY1	7070	P04216	Thy-1 cell surface antigen
TLE3	7090	Q04726	TLE family member 3, transcriptional corepressor
TLR5	7100	O60602	toll like receptor 5
TSHR	7253	P16473	thyroid stimulating hormone receptor
CAPN5	726	O15484	calpain 5
TST	7263	Q16762	thiosulfate sulfurtransferase
TTN	7273	Q8WZ42	titin
GGTLC3	728226	B5MD39	gamma-glutamyltransferase light chain family member 3
GGT2	728441	P36268	gamma-glutamyltransferase 2
CCR2	729230	P41597	C-C motif chemokine receptor 2
GGTLC4P	729838		gamma-glutamyltransferase light chain 4 pseudogene
VPS51	738	Q9UID3	VPS51 subunit of GARP complex
VWF	7450	P04275	von Willebrand factor
TFEB	7942	P19484	transcription factor EB
CALCA	796	P01258;P06881	calcitonin related polypeptide alpha
HDAC11	79885	Q96DB2	histone deacetylase 11
NR4A3	8013	Q92570	nuclear receptor subfamily 4 group A member 3
MOGAT2	80168	Q3SYC2	monoacylglycerol O-acyltransferase 2
CALR	811	P27797	calreticulin
NRIP1	8204	P48552	nuclear receptor interacting protein 1
ARID1A	8289	O14497	AT-rich interaction domain 1A

MCHR2	84539	Q969V1	melanin concentrating hormone receptor 2
FAM71F1	84691	Q96KD3	family with sequence similarity 71 member F1
OGT	8473	O15294	O-linked N-acetylglucosamine (GlcNAc) transferase
APOL1	8542	O14791	apolipoprotein L1
TSLP	85480	Q969D9	thymic stromal lymphopoietin
LGR5	8549	O75473	leucine rich repeat containing G protein-coupled receptor 5
HDAC3	8841	O15379	histone deacetylase 3
PER2	8864	O15055	period circadian regulator 2
CD1D	912	P15813	CD1d molecule
CD5L	922	O43866	CD5 molecule like
MSC	9242	O60682	musculin
KL	9365	Q9UEF7	klotho
IKBKE	9641	Q14164	inhibitor of nuclear factor kappa B kinase subunit epsilon
LPIN2	9663	Q92539	lipin 2
RAPGEF5	9771	Q92565	Rap guanine nucleotide exchange factor 5
BMS1	9790	Q14692	BMS1 ribosome biogenesis factor
IP6K1	9807	Q92551	inositol hexakisphosphate kinase 1
MED13	9969	Q9UHV7	mediator complex subunit 13
ADA	100	P00813	adenosine deaminase
C20orf181	1E+08		chromosome 20 open reading frame 181
CD24	1E+08	P25063	CD24 molecule
BCL2L11	10018	O43521	BCL2 like 11
MIR1275	1E+08		microRNA 1275
AAA1	1E+08		aortic aneurysm, familial abdominal 1
DNM1L	10059	O00429	dynamin 1 like
BED	1.01E+08		Bornholm eye disease
TOB1	10140	P50616	transducer of ERBB2, 1
SORBS3	10174	O60504	sorbin and SH3 domain containing 3
CDK6	1021	Q00534	cyclin dependent kinase 6
PRG4	10216	Q92954	proteoglycan 4
AP3S2	10239	P59780	adaptor related protein complex 3 subunit sigma 2
CDKN1A	1026	P38936	cyclin dependent kinase inhibitor 1A
CBSL	1.03E+08	P0DN79;P35520	cystathionine beta-synthase like
CDKN2B	1030	P42772	cyclin dependent kinase inhibitor 2B
HMG20A	10363	Q9NP66	high mobility group 20A
CEACAM5	1048	P06731	CEA cell adhesion molecule 5
LARP1BP2	1.06E+08		LARP1B pseudogene 2
RNU6-392P	1.06E+08		RNA, U6 small nuclear 392, pseudogene
CCL27	10850	Q9Y4X3	C-C motif chemokine ligand 27
HPSE	10855	Q9Y251	heparanase
NPFFR2	10886	Q9Y5X5	neuropeptide FF receptor 2
GPR83	10888	Q9NYM4	G protein-coupled receptor 83
MTMR11	10903	A4FU01	myotubularin related protein 11
SLC27A2	11001	O14975	solute carrier family 27 member 2
ADCY5	111	O95622	adenylate cyclase 5
NUDT3	11165	O95989	nudix hydrolase 3

CHIT1	1118	Q13231	chitinase 1
PRRT2	112476	Q7Z6L0	proline rich transmembrane protein 2
CHRM2	1129	P08172	cholinergic receptor muscarinic 2
CHRNA2	1135	Q15822	cholinergic receptor nicotinic alpha 2 subunit
CHRNA3	1136	P32297	cholinergic receptor nicotinic alpha 3 subunit
CHRNA5	1138	P30532	cholinergic receptor nicotinic alpha 5 subunit
ADCY8	114	P40145	adenylate cyclase 8
UCN3	114131	Q969E3	urocortin 3
CHRN B4	1143	P30926	cholinergic receptor nicotinic beta 4 subunit
C1QTNF1	114897	Q9BXJ1	C1q and TNF related 1
THEM4	117145	Q5T1C6	thioesterase superfamily member 4
ANTXR2	118429	P58335	ANTXR cell adhesion molecule 2
CLU	1191	P10909	clusterin
CCR5	1234	P51681	C-C motif chemokine receptor 5 (gene/pseudogene)
COL6A3	1293	P12111	collagen type VI alpha 3 chain
RBM45	129831	Q8IUH3	RNA binding motif protein 45
COMP	1311	P49747	cartilage oligomeric matrix protein
COPA	1314	P53621	COPI coat complex subunit alpha
COX4I1	1327	P13073	cytochrome c oxidase subunit 4I1
CP	1356	P00450	ceruloplasmin
CPT1B	1375	Q92523	carnitine palmitoyltransferase 1B
CRABP1	1381	P29762	cellular retinoic acid binding protein 1
CREB1	1385	P16220	cAMP responsive element binding protein 1
CREM	1390	Q03060	cAMP responsive element modulator
FUND C1	139341	Q8IVP5	FUN14 domain containing 1
CRY1	1407	Q16526	cryptochrome circadian regulator 1
HT	140805		Hashimoto thyroiditis
CSF1R	1436	P07333	colony stimulating factor 1 receptor
IL34	146433	Q6ZMJ4	interleukin 34
CCN2	1490	P29279	cellular communication network factor 2
CTSK	1513	P43235	cathepsin K
CCDC80	151887	Q76M96	coiled-coil domain containing 80
CUX1	1523	P39880;Q13948	cut like homeobox 1
CYP1A1	1543	P04798	cytochrome P450 family 1 subfamily A member 1
CYP1A2	1544	P05177	cytochrome P450 family 1 subfamily A member 2
CYP2A6	1548	P11509	cytochrome P450 family 2 subfamily A member 6
LINC00689	154822		long intergenic non-protein coding RNA 689
CYP2B6	1555	P20813	cytochrome P450 family 2 subfamily B member 6
CYP2B7P	1556		cytochrome P450 family 2 subfamily B member 7, pseudogene
CBLL2	158506	Q8N7E2	Cbl proto-oncogene like 2
CYP27A1	1593	Q02318	cytochrome P450 family 27 subfamily A member 1
DAG1	1605	Q14118	dystroglycan 1
DBI	1622	P07108	diazepam binding inhibitor, acyl-CoA binding protein
SGMS2	166929	Q8NHU3	sphingomyelin synthase 2
ACAN	176	P16112	aggrecan
ATN1	1822	P54259	atrophin 1

RCAN1	1827	P53805	regulator of calcineurin 1
TSC22D3	1831	Q99576	TSC22 domain family member 3
DSPP	1834	Q9NZW4	dentin sialophosphoprotein
DUSP1	1843	P28562	dual specificity phosphatase 1
EGR1	1958	P18146	early growth response 1
AIF1	199	P55008	allograft inflammatory factor 1
ELANE	1991	P08246	elastase, neutrophil expressed
CRTC2	200186	Q53ET0	CREB regulated transcription coactivator 2
ENPEP	2028	Q07075	glutamyl aminopeptidase
PRSS55	203074	Q6UWB4	serine protease 55
EPAS1	2034	Q99814	endothelial PAS domain protein 1
ERG	2078	P11308	ETS transcription factor ERG
ERN1	2081	O75460	endoplasmic reticulum to nucleus signaling 1
FBL	2091	P22087	fibrillarin
F13A1	2162	P00488	coagulation factor XIII A chain
ALDH2	217	P05091	aldehyde dehydrogenase 2 family member
PTK2B	2185	Q14289	protein tyrosine kinase 2 beta
FCGR2B	2213	P31994	Fc fragment of IgG receptor IIb
FDXR	2232	P22570	ferredoxin reductase
GPC4	2239	O75487	glypican 4
FGB	2244	P02675	fibrinogen beta chain
FGF2	2247	P09038	fibroblast growth factor 2
FGF5	2250	P12034	fibroblast growth factor 5
FGF10	2255	O15520	fibroblast growth factor 10
FGF13	2258	Q92913	fibroblast growth factor 13
FGL1	2267	Q08830	fibrinogen like 1
FKBP4	2288	Q02790	FKBP prolyl isomerase 4
ATF6	22926	P18850	activating transcription factor 6
NT5C2	22978	P49902	5'-nucleotidase, cytosolic II
KDM4B	23030	O94953	lysine demethylase 4B
FOXM1	2305	Q08050	forkhead box M1
ZNF423	23090	Q2M1K9	zinc finger protein 423
FLT1	2321	P17948	fms related receptor tyrosine kinase 1
RRS1	23212	Q15050	ribosome biogenesis regulator 1 homolog
FMO3	2328	P31513	flavin containing dimethylaniline monooxygenase 3
NEDD4L	23327	Q96PU5	NEDD4 like E3 ubiquitin protein ligase
CRTC1	23373	Q6UVV9	CREB regulated transcription coactivator 1
PADI4	23569	Q9UM07	peptidyl arginine deiminase 4
SMUG1	23583	Q53HV7	single-strand-selective monofunctional uracil-DNA glycosylase 1
DAPK2	23604	Q9UIK4	death associated protein kinase 2
PPP1R15A	23645	O75807	protein phosphatase 1 regulatory subunit 15A
PLA2G15	23659	Q8NCC3	phospholipase A2 group XV
CADM1	23705	Q9BY67	cell adhesion molecule 1
ALOX5AP	241	P20292	arachidonate 5-lipoxygenase activating protein
PANX1	24145	Q96RD7	pannexin 1
ZNF318	24149	Q5VUA4	zinc finger protein 318

G6PC	2538	P35575	glucose-6-phosphatase catalytic subunit
BRWD3	254065	Q6RI45	bromodomain and WD repeat domain containing 3
GABRA2	2555	P47869	gamma-aminobutyric acid type A receptor subunit alpha2
BAMBI	25805	Q13145	BMP and activin membrane bound inhibitor
ASPM	259266	Q8IZT6	abnormal spindle microtubule assembly
PTPN22	26191	Q9Y2R2	protein tyrosine phosphatase non-receptor type 22
AMD1	262	P17707	adenosylmethionine decarboxylase 1
GEM	2669	P55040	GTP binding protein overexpressed in skeletal muscle
GFAP	2670	P14136	glial fibrillary acidic protein
GFER	2671	P55789	growth factor, augmenter of liver regeneration
HAVCR1	26762	Q96D42	hepatitis A virus cellular receptor 1
GJA1	2697	P17302	gap junction protein alpha 1
AMPD1	270	P23109	adenosine monophosphate deaminase 1
GJA4	2701	P35212	gap junction protein alpha 4
ACAD8	27034	Q9UKU7	acyl-CoA dehydrogenase family member 8
GK	2710	P32189	glycerol kinase
GLB1	2720	P16278	galactosidase beta 1
SGSM3	27352	Q96HU1	small G protein signaling modulator 3
GLO1	2739	Q04760	glyoxalase I
GNRHR	2798	P30968	gonadotropin releasing hormone receptor
GPD1	2819	P21695	glycerol-3-phosphate dehydrogenase 1
CXCR3	2833	P49682	C-X-C motif chemokine receptor 3
HCCAT5	283902		hepatocellular carcinoma associated transcript 5
METRNL	284207	Q641Q3	meteorin like, glial cell differentiation regulator
LPAR4	2846	Q99677	lysophosphatidic acid receptor 4
GPER1	2852	Q99527	G protein-coupled estrogen receptor 1
RGMB	285704	Q6NW40	repulsive guidance molecule BMP co-receptor b
SLC27A6	28965	Q9Y2P4	solute carrier family 27 member 6
SCG3	29106	Q8WXD2	secretogranin III
CD274	29126	Q9NZQ7	CD274 molecule
GSTP1	2950	P09211	glutathione S-transferase pi 1
REPIN1	29803	Q9BWE0	replication initiator 1
NPC1L1	29881	Q9UHC9	NPC1 like intracellular cholesterol transporter 1
ANXA1	301	P04083	annexin A1
H2AX	3014	P16104	H2A.X variant histone
ANXA2	302	P07355	annexin A2
HFE	3077	Q30201	homeostatic iron regulator
HHX	3087	Q03014	hematopoietically expressed homeobox
HOXD13	3239	P35453	homeobox D13
HSF1	3297	Q00613	heat shock transcription factor 1
HSPA2	3306	P54652	heat shock protein family A (Hsp70) member 2
HSPG2	3339	P98160	heparan sulfate proteoglycan 2
TNC	3371	P24821	tenascin C
C1QTNF9	338872	P0C862	C1q and TNF related 9
IDE	3416	P14735	insulin degrading enzyme
IFNB1	3456	P01574	interferon beta 1

APOD	347	P05090	apolipoprotein D
IGFALS	3483	P35858	insulin like growth factor binding protein acid labile subunit
IKBKB	3551	O14920	inhibitor of nuclear factor kappa B kinase subunit beta
IL13	3596	P35225	interleukin 13
ING2	3622	Q9H160	inhibitor of growth family member 2
ISL1	3670	P61371	ISL LIM homeobox 1
EIF6	3692	P56537	eukaryotic translation initiation factor 6
JAK3	3718	P52333	Janus kinase 3
GSTK1	373156	Q9Y2Q3	glutathione S-transferase kappa 1
MALAT1	378938		metastasis associated lung adenocarcinoma transcript 1
KISS1	3814	Q15726	KiSS-1 metastasis suppressor
KRT7	3855	P08729	keratin 7
KRT18	3875	P05783	keratin 18
RTL1	388015	A6NKG5	retrotransposon Gag like 1
LCAT	3931	P04180	lecithin-cholesterol acyltransferase
LINC01194	404663		long intergenic non-protein coding RNA 1194
MIR107	406901		microRNA 107
MIR10B	406903		microRNA 10b
MIR141	406933		microRNA 141
MIR152	406943		microRNA 152
MIR15B	406949		microRNA 15b
MIR200B	406984		microRNA 200b
MIR222	407007		microRNA 222
MIR23A	407010		microRNA 23a
MIR29A	407021		microRNA 29a
MIR32	407036		microRNA 32
MIR96	407053		microRNA 96
SMAD2	4087	Q15796	SMAD family member 2
MAF	4094	O75444	MAF bZIP transcription factor
MAS1	4142	P04201	MAS1 proto-oncogene, G protein-coupled receptor
MC1R	4157	Q01726	melanocortin 1 receptor
MC5R	4161	P33032	melanocortin 5 receptor
DNAJB9	4189	Q9UBS3	DnaJ heat shock protein family (Hsp40) member B9
MDK	4192	P21741	midkine
MFAP2	4237	P55001	microfibril associated protein 2
ASCL1	429	P50553	achaete-scute family bHLH transcription factor 1
MMP14	4323	P50281	matrix metallopeptidase 14
EIF2AK4	440275	Q9P2K8	eukaryotic translation initiation factor 2 alpha kinase 4
MIR342	442909		microRNA 342
ASPA	443	P45381	aspartoacylase
PLF	450095		Pulmonary function
RNR1	4549	A0A0C5B5G6	s-rRNA
MUSK	4593	O15146	muscle associated receptor tyrosine kinase
ATF3	467	P18847	activating transcription factor 3
NFATC3	4775	Q12968	nuclear factor of activated T cells 3
NFE2L1	4779	Q14494	nuclear factor, erythroid 2 like 1

NGF	4803	P01138	nerve growth factor
NNAT	4826	Q16517	neuronatin
NOS2	4843	P35228	nitric oxide synthase 2
NPPA	4878	P01160	natriuretic peptide A
MIR425	494337		microRNA 425
ATP5F1A	498	P25705	ATP synthase F1 subunit alpha
ORM1	5004	P02763	orosomucoid 1
PAEP	5047	P09466	progestagen associated endometrial protein
REG3A	5068	Q06141	regenerating family member 3 alpha
SERPINA5	5104	P05154	serpin family A member 5
ABHD5	51099	Q8WTS1	abhydrolase domain containing 5
HSPA14	51182	Q0VDF9	heat shock protein family A (Hsp70) member 14
DNAJC27	51277	Q9NZQ0	DnaJ heat shock protein family (Hsp40) member C27
TNFRSF12A	51330	Q9NP84	TNF receptor superfamily member 12A
IL23A	51561	Q9NPF7	interleukin 23 subunit alpha
KLF13	51621	Q9Y2Y9	Kruppel like factor 13
ENPP2	5168	Q13822	ectonucleotide pyrophosphatase/phosphodiesterase 2
LUC7L3	51747	O95232	LUC7 like 3 pre-mRNA splicing factor
PECAM1	5175	P16284	platelet and endothelial cell adhesion molecule 1
PER1	5187	O15534	period circadian regulator 1
PFKP	5214	Q01813	phosphofructokinase, platelet
PGC	5225	P20142	progastriicsin
PGF	5228	P49763	placental growth factor
SERPINA1	5265	P01009	serpin family A member 1
PIN1	5300	Q13526	peptidylprolyl cis/trans isomerase, NIMA-interacting 1
PKM	5315	P14618	pyruvate kinase M1/2
PLA2G4A	5321	P47712	phospholipase A2 group IVA
PLAG1	5324	Q6DJT9	PLAG1 zinc finger
PLAT	5327	P00750	plasminogen activator, tissue type
TM6SF2	53345	Q9BZW4	transmembrane 6 superfamily member 2
PLTP	5360	P55058	phospholipid transfer protein
PTOV1	53635	Q86YD1	PTOV1 extended AT-hook containing adaptor protein
PON3	5446	Q15166	paraoxonase 3
APPL2	55198	Q8NEU8	adaptor protein, phosphotyrosine interacting with PH domain and leucine zipper 2
QRSL1	55278	Q9H0R6	glutaminyl-tRNA amidotransferase subunit QRSL1
LGR4	55366	Q9BXB1	leucine rich repeat containing G protein-coupled receptor 4
PRCP	5547	P42785	prolylcarboxypeptidase
PREP	5550	P48147	prolyl endopeptidase
SLC30A10	55532	Q6XR72	solute carrier family 30 member 10
PRKCA	5578	P17252	protein kinase C alpha
SELENOS	55829	Q9BQE4	selenoprotein S
ACSS2	55902	Q9NR19	acyl-CoA synthetase short chain family member 2
MYDGF	56005	Q969H8	myeloid derived growth factor
MAPK10	5602	P53779	mitogen-activated protein kinase 10
MAP2K3	5606	P46734	mitogen-activated protein kinase kinase 3
PROC	5624	P04070	protein C, inactivator of coagulation factors Va and VIIIa

PROS1	5627	P07225	protein S
METTL3	56339	Q86U44	methyltransferase like 3
CCL28	56477	Q9NRJ3	C-C motif chemokine ligand 28
TMPRSS15	5651	P98073	transmembrane serine protease 15
SUCNR1	56670	Q9BXA5	succinate receptor 1
ATP10D	57205	Q9P241	ATPase phospholipid transporting 10D (putative)
ABHD6	57406	Q9BV23	abhydrolase domain containing 6
MIR519D	574480		microRNA 519d
ARHGAP21	57584	Q5T5U3	Rho GTPase activating protein 21
CFAP97	57587	Q9P2B7	cilia and flagella associated protein 97
PTPN2	5771	P17706	protein tyrosine phosphatase non-receptor type 2
IL21	59067	Q9HBE4	interleukin 21
RAPSN	5913	Q13702	receptor associated protein of the synapse
GER	59330		Gastroesophageal reflux
SENP2	59343	Q9HC62	SUMO specific peptidase 2
RGS2	5997	P41220	regulator of G protein signaling 2
BDKRB2	624	P30411	bradykinin receptor B2
S100A8	6279	P05109	S100 calcium binding protein A8
S100B	6285	P04271	S100 calcium binding protein B
SAA2	6289	P0DJI9	serum amyloid A2
ACSM3	6296	Q53FZ2	acyl-CoA synthetase medium chain family member 3
BGN	633	P21810	biglycan
CCL11	6356	P51671	C-C motif chemokine ligand 11
CCL19	6363	Q99731	C-C motif chemokine ligand 19
CCL20	6364	P78556	C-C motif chemokine ligand 20
THADA	63892	Q6YHU6	THADA armadillo repeat containing
SELP	6403	P16109	selectin P
SELPLG	6404	Q14242	selectin P ligand
XYLT2	64132	Q9H1B5	xylosyltransferase 2
CARD9	64170	Q9H257	caspase recruitment domain family member 9
SETMAR	6419	Q53H47	SET domain and mariner transposase fusion gene
SFRP1	6422	Q8N474	secreted frizzled related protein 1
HHIP	64399	Q96QV1	hedgehog interacting protein
PPY3	644059	Q5JQD4	peptide YY 3 (pseudogene)
SHC1	6464	P29353	SHC adaptor protein 1
CERK	64781	Q8TCT0	ceramide kinase
P2RY12	64805	Q9H244	purinergic receptor P2Y12
IL25	64806	Q9H293	interleukin 25
BMP2	650	P12643	bone morphogenetic protein 2
PINK1	65018	Q9BXM7	PTEN induced kinase 1
SLC2A2	6514	P11168	solute carrier family 2 member 2
SLC6A2	6530	P23975	solute carrier family 6 member 2
NCF1	653361	P14598	neutrophil cytosolic factor 1
SLC15A1	6564	P46059	solute carrier family 15 member 1
BMPR1A	657	P36894	bone morphogenetic protein receptor type 1A
SLN	6588	O00631	sarcolipin

SNRNP70	6625	P08621	small nuclear ribonucleoprotein U1 subunit 70
SOD3	6649	P08294	superoxide dismutase 3
SORL1	6653	Q92673	sortilin related receptor 1
MAP3K7	6885	O43318	mitogen-activated protein kinase kinase kinase 7
TAL1	6886	P17542	TAL bHLH transcription factor 1, erythroid differentiation factor
TAZ	6901	Q16635	tafazzin
TBX15	6913	Q96SF7	T-box transcription factor 15
MIR532	693124		microRNA 532
TCF21	6943	O43680	transcription factor 21
TEK	7010	Q02763	TEK receptor tyrosine kinase
TERF1	7013	P54274	telomeric repeat binding factor 1
THBD	7056	P07204	thrombomodulin
THRB	7068	P10828	thyroid hormone receptor beta
THRSP	7069	Q92748	thyroid hormone responsive
TIMP1	7076	P01033	TIMP metallopeptidase inhibitor 1
TIMP3	7078	P35625	TIMP metallopeptidase inhibitor 3
C1QBP	708	Q07021	complement C1q binding protein
TPH1	7166	P17752	tryptophan hydroxylase 1
CRISP2	7180	P16562	cysteine rich secretory protein 2
C3AR1	719	Q16581	complement C3a receptor 1
TRH	7200	P20396	thyrotropin releasing hormone
TRPC1	7220	P48995	transient receptor potential cation channel subfamily C member 1
TRPM2	7226	O94759	transient receptor potential cation channel subfamily M member 2
TNFRSF4	7293	P43489	TNF receptor superfamily member 4
PLIN4	729359	Q96Q06	perilipin 4
TYRP1	7306	P17643	tyrosinase related protein 1
UCN	7349	P55089	urocortin
UROD	7389	P06132	uroporphyrinogen decarboxylase
USF1	7391	P22415	upstream transcription factor 1
VIM	7431	P08670	vimentin
VIP	7432	P01282	vasoactive intestinal peptide
WFS1	7466	O76024	wolframin ER transmembrane glycoprotein
XRCC1	7515	P18887	X-ray repair cross complementing 1
CXCR4	7852	P61073	C-X-C motif chemokine receptor 4
VKORC1	79001	Q9BQB6	vitamin K epoxide reductase complex subunit 1
METRN	79006	Q9UJH8	meteorin, glial cell differentiation regulator
PRRC2A	7916	P48634	proline rich coiled-coil 2A
PLA2G7	7941	Q13093	phospholipase A2 group VII
MUL1	79594	Q969V5	mitochondrial E3 ubiquitin protein ligase 1
DHX40	79665	Q8IX18	DEAH-box helicase 40
ADM2	79924	Q7Z4H4	adrenomedullin 2
WDR26	80232	Q9H7D7	WD repeat domain 26
FLAD1	80308	Q8NFF5	flavin adenine dinucleotide synthetase 1
AAAS	8086	Q9NRG9	aladin WD repeat nucleoporin
TLR10	81793	Q9BXR5	toll like receptor 10
TAM	8205		Myeloproliferative syndrome, transient (transient abnormal

CAST	831	P20810	calpastatin
CASP3	836	P42574	caspase 3
ROPN1L	83853	Q96C74	rhophilin associated tail protein 1 like
PLA2G6	8398	O60733	phospholipase A2 group VI
SGIP1	84251	Q9BQI5	SH3GL interacting endocytic adaptor 1
ATRN	8455	O75882	attractin
IL1F10	84639	Q8WWZ1	interleukin 1 family member 10
SPZ1	84654	Q9BXG8	spermatogenic leucine zipper 1
ACCS	84680	Q96QU6	1-aminocyclopropane-1-carboxylate synthase homolog (inactive)
DGKE	8526	P52429	diacylglycerol kinase epsilon
TNFSF11	8600	O14788	TNF superfamily member 11
KLF7	8609	O75840	Kruppel like factor 7
TNKS	8658	O95271	tankyrase
TNFSF14	8740	O43557	TNF superfamily member 14
TNFSF10	8743	P50591	TNF superfamily member 10
CBS	875	P0DN79;P35520	cystathionine beta-synthase
SOCS2	8835	O14508	suppressor of cytokine signaling 2
CCN5	8839	O76076	cellular communication network factor 5
KAT2B	8850	Q92831	lysine acetyltransferase 2B
SPHK1	8877	Q9NYA1	sphingosine kinase 1
ARTN	9048	Q5T4W7	artemin
CCT	907		cataract, congenital, total
CLDN10	9071	P78369	claudin 10
SLC39A13	91252	Q96H72	solute carrier family 39 member 13
NLRP12	91662	P59046	NLR family pyrin domain containing 12
NOG	9241	Q13253	noggin
CD8A	925	P01732	CD8a molecule
KLF4	9314	O43474	Kruppel like factor 4
SLIT2	9353	O94813	slit guidance ligand 2
PPIG	9360	Q13427	peptidylprolyl isomerase G
SLC22A8	9376	Q8TCC7	solute carrier family 22 member 8
LIPG	9388	Q9Y5X9	lipase G, endothelial type
ATG5	9474	Q9H1Y0	autophagy related 5
MAGED1	9500	Q9Y5V3	MAGE family member D1
LITAF	9516	Q99732	lipopolysaccharide induced TNF factor
TBPL1	9519	P62380	TATA-box binding protein like 1
NPEPPS	9520	P55786	aminopeptidase puromycin sensitive
GDF3	9573	Q9NR23	growth differentiation factor 3
ABCG1	9619	P45844	ATP binding cassette subfamily G member 1
RGS6	9628	P49758	regulator of G protein signaling 6
KEAP1	9817	Q14145	kelch like ECH associated protein 1
DNAJC6	9829	O75061	DnaJ heat shock protein family (Hsp40) member C6
TBC1D4	9882	O60343	TBC1 domain family member 4
MVP	9961	Q14764	major vault protein
CDH2	1000	P19022	cadherin 2
AKT3	10000	Q9Y243	AKT serine/threonine kinase 3

MIR675	1E+08		microRNA 675
TANK	10010	Q92844	TRAF family member associated NFKB activator
ZSCAN30	1E+08	Q86W11	zinc finger and SCAN domain containing 30
VTRNA2-1	1E+08		vault RNA 2-1
MIR374B	1E+08		microRNA 374b
MUPP	1E+08		major urinary protein, pseudogene
HDAC6	10013	Q9UBN7	histone deacetylase 6
DIP	1E+08		interstitial pneumonitis, desquamative, familial
ENDO1	1E+08		Endometriosis, susceptibility to, 1
IBD20	1E+08		Inflammatory bowel disease-20
INSL5	10022	Q9Y5Q6	insulin like 5
WAGRO	1E+08		WAGRO syndrome
BOP	1E+08		Polymicrogyria, bilateral occipital
MIR1908	1E+08		microRNA 1908
TMED7-TICAM2	1E+08	Q86XR7;Q9Y3B3	TMED7-TICAM2 readthrough
CHAF1A	10036	Q13111	chromatin assembly factor 1 subunit A
PARP2	10038	Q9UGN5	poly(ADP-ribose) polymerase 2
GJC1	10052	P36383	gap junction protein gamma 1
LY75-CD302	1.01E+08	O60449	LY75-CD302 readthrough
TMX2-CTNND1	1.01E+08		TMX2-CTNND1 readthrough (NMD candidate)
DEL11P13	1.01E+08		Wilms tumor, aniridia, genitourinary anomalies and mental retardation syndrome
KLRC4-KLRK1	1.01E+08	P26718	KLRC4-KLRK1 readthrough
COMMD3-BMI1	1.01E+08	P35226	COMMD3-BMI1 readthrough
ABCC5	10057	O15440	ATP binding cassette subfamily C member 5
MIR4777	1.01E+08		microRNA 4777
MIR4460	1.01E+08		microRNA 4460
MIR4443	1.01E+08		microRNA 4443
MIR4517	1.01E+08		microRNA 4517
BIRC6-AS1	1.01E+08		BIRC6 antisense RNA 1
CDH11	1009	P55287	cadherin 11
PPIF	10105	P30405	peptidylprolyl isomerase F
PGR-AS1	1.01E+08		PGR antisense RNA 1
OPN1MW3	1.01E+08	P04001;P0DN77;P0DN78	opsin 1, medium wave sensitive 3
LSINCT5	1.01E+08		long stress-induced non-coding transcript 5
BCAP31	10134	P51572	B cell receptor associated protein 31
FAM13A	10144	O94988	family with sequence similarity 13 member A
TRIM28	10155	Q13263	tripartite motif containing 28
WASF2	10163	Q9Y6W5	WASP family member 2
DHRS9	10170	Q9BPW9	dehydrogenase/reductase 9
RBM6	10180	P78332	RNA binding motif protein 6
LINC01412	1.02E+08		long intergenic non-protein coding RNA 1412
MACORIS	1.02E+08		macrophage enriched lincRNA repressor of IFN-gamma signaling
RNF41	10193	Q9H4P4	ring finger protein 41
CDK5	1020	Q00535	cyclin dependent kinase 5
CALCRL	10203	Q16602	calcitonin receptor like receptor
ANGPTL7	10218	O43827	angiopoietin like 7

TRIB1	10221	Q96RU8	tribbles pseudokinase 1
PLIN3	10226	O60664	perilipin 3
RCAN2	10231	Q14206	regulator of calcineurin 2
CDK8	1024	P49336	cyclin dependent kinase 8
SPRY1	10252	O43609	sprouty RTK signaling antagonist 1
IRX5	10265	P78411	iroquois homeobox 5
RAMP2	10266	O60895	receptor activity modifying protein 2
RAMP3	10268	O60896	receptor activity modifying protein 3
LOC102724197	1.03E+08		inactive glutathione hydrolase 2
LOC102724971	1.03E+08		putative V-set and immunoglobulin domain-containing-like protein IGHV4OR15-8
RTN3	10313	O95197	reticulon 3
AKR1A1	10327	P14550	aldo-keto reductase family 1 member A1
KLF2	10365	Q9Y5W3	Kruppel like factor 2
CITED2	10370	Q99967	Cbp/p300 interacting transactivator with Glu/Asp rich carboxy-terminal domain 2
CEPT1	10390	Q9Y6K0	choline/ethanolamine phosphotransferase 1
PEMT	10400	Q9UBM1	phosphatidylethanolamine N-methyltransferase
PIAS3	10401	Q9Y6X2	protein inhibitor of activated STAT 3
YAP1	10413	P46937	Yes associated protein 1
ERICD	1.04E+08		E2F1-regulated inhibitor of cell death
IFI30	10437	P13284	IFI30 lysosomal thiol reductase
OLFM1	10439	Q99784	olfactomedin 1
CDX2	1045	Q99626	caudal type homeobox 2
TOMM40	10452	O96008	translocase of outer mitochondrial membrane 40
MAD2L2	10459	Q9UI95	mitotic arrest deficient 2 like 2
TIMM44	10469	O43615	translocase of inner mitochondrial membrane 44
SLC9A6	10479	Q92581	solute carrier family 9 member A6
NCOA2	10499	Q15596	nuclear receptor coactivator 2
SEMA4D	10507	Q92854	semaphorin 4D
CEPB	1051	P17676	CCAAT enhancer binding protein beta
SEMA3C	10512	Q99985	semaphorin 3C
CEBPD	1052	P49716	CCAAT enhancer binding protein delta
KAT5	10524	Q92993	lysine acetyltransferase 5
HYOU1	10525	Q9Y4L1	hypoxia up-regulated 1
ZNRD2	10534	O60232	zinc ribbon domain containing 2
THRA1/BTR	1.05E+08		uncharacterized LOC105371807
LINC00237	1.05E+08		long intergenic non-protein coding RNA 237
PRDX4	10549	Q13162	peroxiredoxin 4
ARL6IP5	10550	O75915	ADP ribosylation factor like GTPase 6 interacting protein 5
AGPAT2	10555	O15120	1-acylglycerol-3-phosphate O-acyltransferase 2
SLC35A1	10559	P78382	solute carrier family 35 member A1
OLFM4	10562	Q6UX06	olfactomedin 4
DPYSL4	10570	O14531	dihydropyrimidinase like 4
LRP1-AS	1.06E+08		LRP1 antisense RNA
TXNRD2	10587	Q9NNW7	thioredoxin reductase 2
SCGN	10590	O76038	secretagogin, EF-hand calcium binding protein

RGS14	10636	O43566	regulator of G protein signaling 14
CAMKK2	10645	Q96RR4	calcium/calmodulin dependent protein kinase kinase 2
CST12P	1.06E+08		cystatin 12, pseudogene
RN7SL263P	1.06E+08		RNA, 7SL, cytoplasmic 263, pseudogene
CELF1	10658	Q92879	CUGBP Elav-like family member 1
SIRT1-AS	1.07E+08		SIRT1 antisense RNA
CGRRF1	10668	Q99675	cell growth regulator with ring finger domain 1
DCTN6	10671	O00399	dynactin subunit 6
GNA13	10672	Q14344	G protein subunit alpha 13
TNFSF13B	10673	Q9Y275	TNF superfamily member 13b
CETN1	1068	Q12798	centrin 1
POLD3	10714	Q15054	DNA polymerase delta 3, accessory subunit
ORI6	1.07E+08		origin of replication ori6
OGA	10724	O60502	O-GlcNAcase
NFAT5	10725	O94916	nuclear factor of activated T cells 5
NES	10763	P48681	nestin
CFTR	1080	P13569	CF transmembrane conductance regulator
SEPTIN9	10801	Q9UHD8	septin 9
CCR9	10803	P51686	C-C motif chemokine receptor 9
WASF3	10810	Q9UPY6	WASP family member 3
PPP1R13L	10848	Q8WUF5	protein phosphatase 1 regulatory subunit 13 like
LILRB1	10859	Q8NHL6	leukocyte immunoglobulin like receptor B1
ADAM28	10863	Q9UKQ2	ADAM metallopeptidase domain 28
USP19	10869	O94966	ubiquitin specific peptidase 19
CEACAM8	1088	P31997	CEA cell adhesion molecule 8
MRPS30	10884	Q9NP92	mitochondrial ribosomal protein S30
UTS2	10911	O95399	urotensin 2
PAPOLA	10914	P51003	poly(A) polymerase alpha
PRDX3	10935	P30048	peroxiredoxin 3
FERMT2	10979	Q96AC1	fermitin family member 2
SDS	10993	P20132	serine dehydratase
SLC27A5	10998	Q9Y2P5	solute carrier family 27 member 5
SLC27A4	10999	Q6P1M0	solute carrier family 27 member 4
RIPK3	11035	Q9Y572	receptor interacting serine/threonine kinase 3
CHD2	1106	O14647	chromodomain helicase DNA binding protein 2
RAPGEF4	11069	Q8WZA2	Rap guanine nucleotide exchange factor 4
STIN2-VNTR	1.11E+08		serotonin transporter intronic VNTR enhancer
ADAMTS5	11096	Q9UNA0	ADAM metallopeptidase with thrombospondin type 1 motif 5
PRDM4	11108	Q9UKN5	PR/SET domain 4
CHEK1	1111	O14757	checkpoint kinase 1
WDHD1	11169	O75717	WD repeat and HMG-box DNA binding protein 1
MAP4K5	11183	Q9Y4K4	mitogen-activated protein kinase kinase kinase kinase 5
IRAK3	11213	Q9Y616	interleukin 1 receptor associated kinase 3
AKAP13	11214	Q12802	A-kinase anchoring protein 13
KLHL2	11275	O95198	kelch like family member 2
VSIG4	11326	Q9Y279	V-set and immunoglobulin domain containing 4

PDAP1	11333	Q13442	PDGFA associated protein 1
TUSC2	11334	O75896	tumor suppressor 2, mitochondrial calcium regulator
OIP5	11339	O43482	Opa interacting protein 5
SYNPO	11346	Q8N3V7	synaptopodin
CHRNA4	1137	P43681	cholinergic receptor nicotinic alpha 4 subunit
DBA2	114086		Diamond-Blackfan anemia 2
TXNRD3	114112	Q86VQ6	thioredoxin reductase 3
SORCS1	114815	Q8WY21	sortilin related VPS10 domain containing receptor 1
OSBPL11	114885	Q9BXB4	oxysterol binding protein like 11
C1QTNF3	114899	Q9BXJ4	C1q and TNF related 3
C1QTNF7	114905	Q9BXJ2	C1q and TNF related 7
HAUS1	115106	Q96CS2	HAUS augmin like complex subunit 1
H3P23	1.15E+08		H3 histone pseudogene 23
H3P10	1.15E+08		H3 histone pseudogene 10
SLC5A11	115584	Q8WWX8	solute carrier family 5 member 11
ADCYAP1	116	P18509	adenylate cyclase activating polypeptide 1
SLC22A12	116085	Q96S37	solute carrier family 22 member 12
ABHD15	116236	Q6UXT9	abhydrolase domain containing 15
LRG1	116844	P02750	leucine rich alpha-2-glycoprotein 1
AGAP2	116986	Q99490	ArfGAP with GTPase domain, ankyrin repeat and PH domain 2
FTSJ3	117246	Q8IY81	FtsJ RNA 2'-O-methyltransferase 3
RLN3	117579	Q8WXF3	relaxin 3
TWIST2	117581	Q8WVJ9	twist family bHLH transcription factor 2
CLCN3	1182	P51790	chloride voltage-gated channel 3
MSS51	118490	Q4VC12	MSS51 mitochondrial translational activator
CLCN7	1186	P51798	chloride voltage-gated channel 7
GSTO2	119391	Q9H4Y5	glutathione S-transferase omega 2
CLK2	1196	P49760	CDC like kinase 2
CLN3	1201	Q13286	CLN3 lysosomal/endosomal transmembrane protein, battenin
CLTA	1211	P09496	clathrin light chain A
TPH2	121278	Q8IWU9	tryptophan hydroxylase 2
CMA1	1215	P23946	chymase 1
SPPL3	121665	Q8TCT6	signal peptide peptidase like 3
CCR6	1235	P51684	C-C motif chemokine receptor 6
CCR7	1236	P32248	C-C motif chemokine receptor 7
ACKR2	1238	O00590	atypical chemokine receptor 2
IQCK	124152	Q8N0W5	IQ motif containing K
ZNF543	125919	Q08ER8	zinc finger protein 543
CPT1C	126129	Q8TCG5	carnitine palmitoyltransferase 1C
COL1A1	1277	P02452	collagen type I alpha 1 chain
OSCP1	127700	Q8WVF1	organic solute carrier partner 1
COL4A1	1282	P02462	collagen type IV alpha 1 chain
COL6A1	1291	P12109	collagen type VI alpha 1 chain
COL9A3	1299	Q14050	collagen type IX alpha 3 chain
COL12A1	1303	Q99715	collagen type XII alpha 1 chain
CORT	1325	O00230	cortistatin

SLCO6A1	133482	Q86UG4	solute carrier organic anion transporter family member 6A1
ADORA1	134	P30542	adenosine A1 receptor
TAAR1	134864	Q96RJ0	trace amine associated receptor 1
ADORA2A	135	P29274	adenosine A2a receptor
ADORA2B	136	P29275	adenosine A2b receptor
KLF14	136259	Q8TD94	Kruppel like factor 14
CPN1	1369	P15169	carboxypeptidase N subunit 1
CPN2	1370	P22792	carboxypeptidase N subunit 2
GPAT4	137964	Q86UL3	glycerol-3-phosphate acyltransferase 4
MAGEC3	139081	Q8TD91	MAGE family member C3
CRHR2	1395	Q13324	corticotropin releasing hormone receptor 2
MAGEE2	139599	Q8TD90	MAGE family member E2
ADORA3	140	P0DMS8	adenosine A3 receptor
CRMP1	1400	Q14194	collapsin response mediator protein 1
S100A16	140576	Q96FQ6	S100 calcium binding protein A16
TRIM69	140691	Q86WT6	tripartite motif containing 69
MACROD2	140733	A1Z1Q3	mono-ADP ribosylhydrolase 2
CRY2	1408	Q49AN0	cryptochrome circadian regulator 2
CSE1L	1434	P55060	chromosome segregation 1 like
PIWIL4	143689	Q7Z3Z4	piwi like RNA-mediated gene silencing 4
CSF2	1437	P04141	colony stimulating factor 2
CSF3	1440	P09919	colony stimulating factor 3
CSK	1445	P41240	C-terminal Src kinase
CDAN1	146059	Q8IWY9	codanin 1
CSTA	1475	P01040	cystatin A
LYPD4	147719	Q6UWN0	LY6/PLAUR domain containing 4
TICAM1	148022	Q8IUC6	toll like receptor adaptor molecule 1
CILP2	148113	Q8IUL8	cartilage intermediate layer protein 2
ATP8B3	148229	O60423	ATPase phospholipid transporting 8B3
CREB3L4	148327	Q8TEY5	cAMP responsive element binding protein 3 like 4
HJV	148738	Q6ZVN8	hemojuvelin BMP co-receptor
PM20D1	148811	Q6GTS8	peptidase M20 domain containing 1
CTNND1	1500	O60716	catenin delta 1
PHETA2	150368	Q6ICB4	PH domain containing endocytic trafficking adaptor 2
CTRL	1506	P40313	chymotrypsin like
CTSB	1508	P07858	cathepsin B
PLB1	151056	Q6P1J6	phospholipase B1
ZNF385B	151126	Q569K4	zinc finger protein 385B
ERFE	151176	Q4G0M1	erythroferrone
CTSL	1514	P07711	cathepsin L
XXYL1	152002	Q8NB16	xyloside xylosyltransferase 1
CNTN4	152330	Q8IWV2	contactin 4
PAQR3	152559	Q6TCH7	progestin and adipoQ receptor family member 3
CREBRF	153222	Q8IUR6	CREB3 regulatory factor
SLC2A12	154091	Q8TD20	solute carrier family 2 member 12
VKORC1L1	154807	Q8N0U8	vitamin K epoxide reductase complex subunit 1 like 1

KCTD7	154881	Q96MP8	potassium channel tetramerization domain containing 7
CYP2C9	1559	P11712	cytochrome P450 family 2 subfamily C member 9
CYP2D7	1564	A0A087X1C5	cytochrome P450 family 2 subfamily D member 7 (gene/pseudogene)
CYP2D6	1565	P10635	cytochrome P450 family 2 subfamily D member 6
CYP3A4	1576	P08684	cytochrome P450 family 3 subfamily A member 4
CYP11A1	1583	P05108	cytochrome P450 family 11 subfamily A member 1
CYP17A1	1586	P05093	cytochrome P450 family 17 subfamily A member 1
CYP21A2	1589	P08686	cytochrome P450 family 21 subfamily A member 2
CYP24A1	1591	Q07973	cytochrome P450 family 24 subfamily A member 1
SLC35G1	159371	Q2M3R5	solute carrier family 35 member G1
CYP27B1	1594	O15528	cytochrome P450 family 27 subfamily B member 1
DACH1	1602	Q9UI36	dachshund family transcription factor 1
DAPK3	1613	O43293	death associated protein kinase 3
MARCHF10	162333	Q8NA82	membrane associated ring-CH-type finger 10
AKR1C2	1646	P52895	aldo-keto reductase family 1 member C2
TMPRSS6	164656	Q8IU80	transmembrane serine protease 6
AAVS1	17		adeno-associated virus integration site 1
NLRP6	171389	P59044	NLR family pyrin domain containing 6
DIH1	1732		diaphragmatic hernia 1
DIO1	1733	P49895	iodothyronine deiodinase 1
DNAH8	1769	Q96JB1	dynein axonemal heavy chain 8
DOCK2	1794	Q92608	dedicator of cytokinesis 2
DPT	1805	Q07507	dermatopontin
DRD5	1816	P21918	dopamine receptor D5
DUSP5	1847	Q16690	dual specificity phosphatase 5
DUSP9	1852	Q99956	dual specificity phosphatase 9
E2F1	1869	Q01094	E2F transcription factor 1
ECT2	1894	Q9H8V3	epithelial cell transforming 2
EDNRB	1910	P24530	endothelin receptor type B
PGAM5	192111	Q96HS1	PGAM family member 5, mitochondrial serine/threonine protein phosphatase
EIF2S1	1965	P05198	eukaryotic translation initiation factor 2 subunit alpha
DCP1B	196513	Q8IZD4	decapping mRNA 1B
ARID2	196528	Q68CP9	AT-rich interaction domain 2
METTL21C	196541	Q5VZV1	methyltransferase like 21C
MLKL	197259	Q8NB16	mixed lineage kinase domain like pseudokinase
EIF4E	1977	P06730	eukaryotic translation initiation factor 4E
EIF4EBP2	1979	Q13542	eukaryotic translation initiation factor 4E binding protein 2
ELAVL2	1993	Q12926	ELAV like RNA binding protein 2
A2M	2	P01023	alpha-2-macroglobulin
PIKFYVE	200576	Q9Y2I7	phosphoinositide kinase, FYVE-type zinc finger containing
SPRED2	200734	Q7Z698	sprouty related EVH1 domain containing 2
CRYBG1	202	Q9Y4K1	crystallin beta-gamma domain containing 1
TAPT1	202018	Q6NXT6	transmembrane anterior posterior transformation 1
ENO2	2026	P09104	enolase 2
CCDC171	203238	Q6TFL3	coiled-coil domain containing 171
ERBB4	2066	Q15303	erb-b2 receptor tyrosine kinase 4

ERCC2	2068	P18074	ERCC excision repair 2, TFIIH core complex helicase subunit
ERCC4	2072	Q92889	ERCC excision repair 4, endonuclease catalytic subunit
ESRRB	2103	O95718	estrogen related receptor beta
ETFA	2108	P13804	electron transfer flavoprotein subunit alpha
ETV3	2117	P41162	ETS variant transcription factor 3
EZH2	2146	Q15910	enhancer of zeste 2 polycomb repressive complex 2 subunit
F2R	2149	P25116	coagulation factor II thrombin receptor
F2RL2	2151	O00254	coagulation factor II thrombin receptor like 2
F9	2158	P00740	coagulation factor IX
F10	2159	P00742	coagulation factor X
F11	2160	P03951	coagulation factor XI
FABP3	2170	P05413	fatty acid binding protein 3
FANCB	2187	Q8NB91	FA complementation group B
MTIF3	219402	Q9H2K0	mitochondrial translational initiation factor 3
FAT2	2196	Q9NYQ8	FAT atypical cadherin 2
TMEM26	219623	Q6ZUK4	transmembrane protein 26
FCGR1A	2209	P12314	Fc fragment of IgG receptor Ia
MARCHF8	220972	Q5T0T0	membrane associated ring-CH-type finger 8
FCGR3A	2214	P08637	Fc fragment of IgG receptor IIIa
PHACTR1	221692	Q9C0D0	phosphatase and actin regulator 1
HOXA11-AS	221883		HOXA11 antisense RNA
THSD7A	221981	Q9UPZ6	thrombospondin type 1 domain containing 7A
FDFT1	2222	P37268	farnesyl-diphosphate farnesyltransferase 1
FDPS	2224	P14324	farnesyl diphosphate synthase
FES	2242	P07332	FES proto-oncogene, tyrosine kinase
VASH1	22846	Q7L8A9	vasohibin 1
MLXIP	22877	Q9HAP2	MLX interacting protein
ALDOB	229	P05062	aldolase, fructose-bisphosphate B
KLRK1	22914	P26718	killer cell lectin like receptor K1
RAB18	22931	Q9NP72	RAB18, member RAS oncogene family
FOXC1	2296	Q12948	forkhead box C1
WDTC1	23038	Q8N5D0	WD and tetratricopeptide repeats 1
CAND2	23066	O75155	cullin associated and neddylation dissociated 2 (putative)
KDM4C	23081	Q9H3R0	lysine demethylase 4C
KDM6B	23135	O15054	lysine demethylase 6B
FLNA	2316	P21333	filamin A
GPD1L	23171	Q8N335	glycerol-3-phosphate dehydrogenase 1 like
PASK	23178	Q96RG2	PAS domain containing serine/threonine kinase
FLNC	2318	Q14315	filamin C
NBEAL2	23218	Q6ZNJ1	neurobeachin like 2
FLT3	2322	P36888	fms related receptor tyrosine kinase 3
SIK2	23235	Q9H0K1	salt inducible kinase 2
PHLPP1	23239	O60346	PH domain and leucine rich repeat protein phosphatase 1
PSD3	23362	Q9NYI0	pleckstrin and Sec7 domain containing 3
SIK3	23387	Q9Y2K2	SIK family kinase 3
DICER1	23405	Q9UPY3	dicer 1, ribonuclease III

SIRT5	23408	Q9NXA8	sirtuin 5
SIRT4	23409	Q9Y6E7	sirtuin 4
NCS1	23413	P62166	neuronal calcium sensor 1
MLYCD	23417	O95822	malonyl-CoA decarboxylase
TARDBP	23435	Q13148	TAR DNA binding protein
OTP	23440	Q5XKR4	orthopedia homeobox
TRAM1	23471	Q15629	translocation associated membrane protein 1
SEC14L2	23541	O76054	SEC14 like lipid binding 2
DDAH2	23564	O95865	dimethylarginine dimethylaminohydrolase 2
FPR2	2358	P25090	formyl peptide receptor 2
AMACR	23600	Q9UHK6	alpha-methylacyl-CoA racemase
MKRN1	23608	Q9UHC7	makorin ring finger protein 1
LY96	23643	Q9Y6Y9	lymphocyte antigen 96
DIANPH	23771		diabetic nephropathy
ALOX15	246	P16050	arachidonate 15-lipoxygenase
PELI3	246330	Q8N2H9	pellino E3 ubiquitin protein ligase family member 3
IL27	246778	Q8NEV9	interleukin 27
FSHB	2488	P01225	follicle stimulating hormone subunit beta
ALPL	249	P05186	alkaline phosphatase, biomineralization associated
FYN	2534	P06241	FYN proto-oncogene, Src family tyrosine kinase
ANGPTL5	253935	Q86XS5	angiopoietin like 5
SLC37A4	2542	O43826	solute carrier family 37 member 4
GABPB1	2553	Q06547	GA binding protein transcription factor subunit beta 1
NPNT	255743	Q6UXI9	nephronectin
TCERG1L	256536	Q5VWI1	transcription elongation regulator 1 like
GCA	25801	P28676	grancalcin
SPDEF	25803	O95238	SAM pointed domain containing ETS transcription factor
TAFA5	25817	Q7Z5A7	TAFA chemokine like family member 5
GALE	2582	Q14376	UDP-galactose-4-epimerase
PRDX5	25824	P30044	peroxiredoxin 5
MOB4	25843	Q9Y3A3	MOB family member 4, phocean
GALR1	2587	P47211	galanin receptor 1
POC1A	25886	Q8NBT0	POC1 centriolar protein A
AMBp	259	P02760	alpha-1-microglobulin/bikunin precursor
GALNT2	2590	Q10471	polypeptide N-acetylgalactosaminyltransferase 2
SGMS1	259230	Q86VZ5	sphingomyelin synthase 1
GEMIN5	25929	Q8TEQ6	gem nuclear organelle associated protein 5
EGFL6	25975	Q8IUX8	EGF like domain multiple 6
SNED1	25992	Q8TER0	sushi, nidogen and EGF like domains 1
GORASP2	26003	Q9H8Y8	golgi reassembly stacking protein 2
ZZZ3	26009	Q8IYH5	zinc finger ZZ-type containing 3
ACOT11	26027	Q8WXI4	acyl-CoA thioesterase 11
IS1	260402		Adolescent idiopathic scoliosis
DNM3	26052	Q9UQ16	dynamin 3
CFAP61	26074	Q8NHU2	cilia and flagella associated protein 61
KIFBP	26128	Q96EK5	kinesin family binding protein

GATA2	2624	P23769	GATA binding protein 2
FBXO3	26273	Q9UK99	F-box protein 3
GCH1	2643	P30793	GTP cyclohydrolase 1
NUPR1	26471	O60356	nuclear protein 1, transcriptional regulator
OPN1MW	2652	P04001;P0DN77;P0DN78	opsin 1, medium wave sensitive
GCY	2656		growth control, Y chromosome influenced
GDF2	2658	Q9UK05	growth differentiation factor 2
GDF10	2662	P55107	growth differentiation factor 10
TAS2R12P	266656		taste 2 receptor member 12 pseudogene
HCA1	266790		Hypercalciuria, absorptive, 1
NAP1L5	266812	Q96NT1	nucleosome assembly protein 1 like 5
GFI1	2672	Q99684	growth factor independent 1 transcriptional repressor
GH2	2689	P01242	growth hormone 2
FETUB	26998	Q9UGM5	fetuin B
GJA3	2700	Q9Y6H8	gap junction protein alpha 3
NPTN	27020	Q9Y639	neuroplastin
GJA8	2703	P48165	gap junction protein alpha 8
MLH3	27030	Q9UHC1	mutL homolog 3
NOX1	27035	Q9Y5S8	NADPH oxidase 1
FOXP1	27086	Q9H334	forkhead box P1
INTU	27152	Q9ULD6	inturned planar cell polarity protein
NAAA	27163	Q02083	N-acylethanolamine acid amidase
GLS2	27165	Q9UI32	glutaminase 2
HCAR1	27198	Q9BXC0	hydroxycarboxylic acid receptor 1
SIT1	27240	Q9Y3P8	signaling threshold regulating transmembrane adaptor 1
TMEM97	27346	Q5BJF2	transmembrane protein 97
STK39	27347	Q9UEW8	serine/threonine kinase 39
MCAT	27349	Q8IVS2	malonyl-CoA-acyl carrier protein transacylase
GLI1	2735	P08151	GLI family zinc finger 1
DESI1	27351	Q6ICB0	desumoylating isopeptidase 1
GLI2	2736	P10070	GLI family zinc finger 2
MAT2B	27430	Q9NZL9	methionine adenosyltransferase 2B
GM2AP1	2761		GM2 ganglioside activator pseudogene 1
GNA12	2768	Q03113	G protein subunit alpha 12
GNAQ	2776	P50148	G protein subunit alpha q
AMY2A	279	P04746	amylase alpha 2A
GNRH1	2796	P01148	gonadotropin releasing hormone 1
ABO	28	P16442	ABO, alpha 1-3-N-acetylgalactosaminyltransferase and alpha 1-3-galactosyltransferase
AMY2B	280	P19961	amylase alpha 2B
GOLGB1	2804	Q14789	golgin B1
IFNL3	282617	Q8IZI9	interferon lambda 3
IFNL1	282618	Q8IU54	interferon lambda 1
JAKMIP3	282973	Q5VZ66	Janus kinase and microtubule interacting protein 3
H19	283120		H19 imprinted maternally expressed transcript
OR10A4	283297	Q9H209	olfactory receptor family 10 subfamily A member 4
UTS2R	2837	Q9UKP6	urotensin 2 receptor

HID1	283987	Q8IV36	HID1 domain containing
CCDC57	284001	Q2TAC2	coiled-coil domain containing 57
CAVIN1	284119	Q6NZI2	caveolae associated protein 1
RSPO1	284654	Q2MKA7	R-spondin 1
DLL1	28514	O00548	delta like canonical Notch ligand 1
FLJ33534	285150		uncharacterized LOC285150
PNPLA1	285848	Q8N8W4	patatin like phospholipase domain containing 1
GPR35	2859	Q9HC97	G protein-coupled receptor 35
GPR39	2863	O43194	G protein-coupled receptor 39
FFAR3	2865	O14843	free fatty acid receptor 3
GRK4	2868	P32298	G protein-coupled receptor kinase 4
GRK5	2869	P34947	G protein-coupled receptor kinase 5
ANK2	287	Q01484	ankyrin 2
GPX4	2879	P36969	glutathione peroxidase 4
GRB14	2888	Q14449	growth factor receptor bound protein 14
FLVCR1	28982	Q9Y5Y0	FLVCR heme transporter 1
MCTS1	28985	Q9ULC4	MCTS1 re-initiation and release factor
NOB1	28987	Q9ULX3	NIN1 (RPN12) binding protein 1 homolog
GRIN1	2902	Q05586	glutamate ionotropic receptor NMDA type subunit 1
PHPT1	29085	Q9NRX4	phosphohistidine phosphatase 1
MYLIP	29116	Q8WY64	myosin regulatory light chain interacting protein
BRD7	29117	Q9NP11	bromodomain containing 7
LGALS13	29124	Q9UHV8	galectin 13
CXCL1	2919	P09341	C-X-C motif chemokine ligand 1
GRP	2922	P07492	gastrin releasing peptide
GSK3A	2931	P49840	glycogen synthase kinase 3 alpha
GSK3B	2932	P49841	glycogen synthase kinase 3 beta
GSR	2936	P00390	glutathione-disulfide reductase
GSTA4	2941	O15217	glutathione S-transferase alpha 4
MSH6	2956	P52701	mutS homolog 6
GTF3A	2971	Q92664	general transcription factor IIIA
GUCA2A	2980	Q02747	guanylate cyclase activator 2A
TRPM5	29850	Q9NZQ8	transient receptor potential cation channel subfamily M member 5
HOOK2	29911	Q96ED9	hook microtubule tethering protein 2
MDFIC	29969	Q9P1T7	MyoD family inhibitor domain containing
GUCY2D	3000	Q02846	guanylate cyclase 2D, retinal
NXPH1	30010	P58417	neurexophilin 1
HADHA	3030	P40939	hydroxyacyl-CoA dehydrogenase trifunctional multienzyme complex subunit alpha
HAS2	3037	Q92819	hyaluronan synthase 2
HDAC2	3066	Q92769	histone deacetylase 2
HEXA	3073	P06865	hexosaminidase subunit alpha
PLA2G2E	30814	Q9NZK7	phospholipase A2 group IIE
SOCS7	30837	O14512	suppressor of cytokine signaling 7
NRG1	3084	Q02297	neuregulin 1
ANXA6	309	P08133	annexin A6
HLA-B	3106	P01889	major histocompatibility complex, class I, B

HLA-DRB3	3125	P79483	major histocompatibility complex, class II, DR beta 3
HMBS	3145	P08397	hydroxymethylbilane synthase
FOXA2	3170	Q9Y261	forkhead box A2
HNRNPA1	3178	P09651	heterogeneous nuclear ribonucleoprotein A1
HNRNPH1	3187	P31943	heterogeneous nuclear ribonucleoprotein H1
HOXC9	3225	P31274	homeobox C9
HOXC10	3226	Q9NYD6	homeobox C10
APC	324	P25054	APC regulator of WNT signaling pathway
HPR	3250	P00739	haptoglobin-related protein
AIRE	326	O43918	autoimmune regulator
HES1	3280	Q14469	hes family bHLH transcription factor 1
BIRC2	329	Q13490	baculoviral IAP repeat containing 2
HSD17B1	3292	P14061	hydroxysteroid 17-beta dehydrogenase 1
BIRC3	330	Q13489	baculoviral IAP repeat containing 3
HSPB1	3315	P04792	heat shock protein family B (small) member 1
HSP90AA1	3320	P07900	heat shock protein 90 alpha family class A member 1
APLP2	334	Q06481	amyloid beta precursor like protein 2
HTR1D	3352	P28221	5-hydroxytryptamine receptor 1D
HTR3A	3359	P46098	5-hydroxytryptamine receptor 3A
HTR6	3362	P50406	5-hydroxytryptamine receptor 6
IARS1	3376	P41252	isoleucyl-tRNA synthetase 1
GPIHBP1	338328	Q8IV16	glycosylphosphatidylinositol anchored high density lipoprotein binding protein 1
ICAM3	3385	P32942	intercellular adhesion molecule 3
ID1	3397	P41134	inhibitor of DNA binding 1, HLH protein
ID3	3399	Q02535	inhibitor of DNA binding 3, HLH protein
STING1	340061	Q86WV6	stimulator of interferon response cGAMP interactor 1
SLC35D3	340146	Q5M8T2	solute carrier family 35 member D3
IFI27	3429	P40305	interferon alpha inducible protein 27
MCIDAS	345643	D6RGH6	multiciliate differentiation and DNA synthesis associated cell cycle protein
IFNGR1	3459	P15260	interferon gamma receptor 1
GNAT3	346562	A8MTJ3	G protein subunit alpha transducin 3
SLC35B2	347734	Q8TB61	solute carrier family 35 member B2
IGFBP7	3490	Q16270	insulin like growth factor binding protein 7
CCN1	3491	O00622	cellular communication network factor 1
LCE1A	353131	Q5T7P2	late cornified envelope 1A
TICAM2	353376	Q86XR7;Q9Y3B3	toll like receptor adaptor molecule 2
IL1RAP	3556	Q9NPH3	interleukin 1 receptor accessory protein
IL2RB	3560	P14784	interleukin 2 receptor subunit beta
IL5	3567	P05113	interleukin 5
IL9	3578	P15248	interleukin 9
IL10RA	3587	Q13651	interleukin 10 receptor subunit alpha
IL16	3603	Q14005	interleukin 16
TNFRSF9	3604	Q07011	TNF receptor superfamily member 9
ILK	3611	Q13418	integrin linked kinase
IRF1	3659	P10914	interferon regulatory factor 1
AQP9	366	O43315	aquaporin 9

IRF3	3661	Q14653	interferon regulatory factor 3
IRF4	3662	Q15306	interferon regulatory factor 4
IRF7	3665	Q92985	interferon regulatory factor 7
ABCC6	368	O95255	ATP binding cassette subfamily C member 6
ITGAD	3681	Q13349	integrin subunit alpha D
ITGB2	3689	P05107	integrin subunit beta 2
ITGB6	3694	P18564	integrin subunit beta 6
ITPR2	3709	Q14571	inositol 1,4,5-trisphosphate receptor type 2
ASPG	374569	Q86U10	asparaginase
KCP	375616	Q6ZWJ8	kielin cysteine rich BMP regulator
KCNJ5	3762	P48544	potassium inwardly rectifying channel subfamily J member 5
KCNJ13	3769	O60928	potassium inwardly rectifying channel subfamily J member 13
USP17L2	377630	Q6R6M4	ubiquitin specific peptidase 17 like family member 2
KHK	3795	P50053	ketohexokinase
KIR2DL1	3802	P43626	killer cell immunoglobulin like receptor, two Ig domains and long cytoplasmic tail 1
KIR2DS1	3806	Q14954	killer cell immunoglobulin like receptor, two Ig domains and short cytoplasmic tail 1
KIR3DL1	3811	P43629	killer cell immunoglobulin like receptor, three Ig domains and long cytoplasmic tail 1
KIR3DL2	3812	P43630	killer cell immunoglobulin like receptor, three Ig domains and long cytoplasmic tail 2
CHKB-CPT1B	386593		CHKB-CPT1B readthrough (NMD candidate)
SUMO4	387082	Q6EEV6	small ubiquitin like modifier 4
THEMIS	387357	Q8N1K5	thymocyte selection associated
KRT31	3881	Q15323	keratin 31
ACAT2	39	Q9BWD1	acetyl-CoA acetyltransferase 2
RND3	390	P61587	Rho family GTPase 3
LALBA	3906	P00709	lactalbumin alpha
UOX	391051		urate oxidase (pseudogene)
USP17L9P	391627		ubiquitin specific peptidase 17 like family member 9, pseudogene
LETM1	3954	O95202	leucine zipper and EF-hand containing transmembrane protein 1
LGALS1	3956	P09382	galectin 1
LIF	3976	P15018	LIF interleukin 6 family cytokine
LNPEP	4012	Q9UIQ6	leucyl and cysteinyl aminopeptidase
LOXL2	4017	Q9Y4K0	lysyl oxidase like 2
LRP1	4035	Q07954	LDL receptor related protein 1
LRP2	4036	P98164	LDL receptor related protein 2
LTA	4049	P01374	lymphotoxin alpha
CYP4F3	4051	Q08477	cytochrome P450 family 4 subfamily F member 3
LTBP3	4054	Q9NS15	latent transforming growth factor beta binding protein 3
LUM	4060	P51884	lumican
CD180	4064	Q99467	CD180 molecule
LY75	4065	O60449	lymphocyte antigen 75
MIR125A	406910		microRNA 125a
MIR132	406921		microRNA 132
MIR136	406927		microRNA 136
MIR140	406932		microRNA 140
MIR144	406936		microRNA 144

MIR145	406937		microRNA 145
MIR149	406941		microRNA 149
MIR150	406942		microRNA 150
MIR17	406952		microRNA 17
MIR192	406967		microRNA 192
MIR19B1	406980		microRNA 19b-1
MIR200A	406983		microRNA 200a
MIR203A	406986		microRNA 203a
MIR204	406987		microRNA 204
MIR210	406992		microRNA 210
MIR216A	406998		microRNA 216a
MIR22	407004		microRNA 22
MIR23B	407011		microRNA 23b
MIR27B	407019		microRNA 27b
MIR28	407020		microRNA 28
MIR296	407022		microRNA 296
MIR30C1	407031		microRNA 30c-1
MIR30C2	407032		microRNA 30c-2
MIR30D	407033		microRNA 30d
MIR31	407035		microRNA 31
MIR320A	407037		microRNA 320a
NBR1	4077	Q14596	NBR1 autophagy cargo receptor
TNFSF12-TNFSF13	407977	O43508	TNFSF12-TNFSF13 readthrough
ARRB2	409	P32121	arrestin beta 2
SMAD6	4091	O43541	SMAD family member 6
MAOB	4129	P27338	monoamine oxidase B
MARK1	4139	Q9P0L2	microtubule affinity regulating kinase 1
ARSD	414	P51689	arylsulfatase D
MARK3	4140	P27448	microtubule affinity regulating kinase 3
DNAJB3	414061	Q8WWF6	DnaJ heat shock protein family (Hsp40) member B3
MBP	4155	P02686	myelin basic protein
MC2R	4158	Q01718	melanocortin 2 receptor
ADAM11	4185	O75078	ADAM metallopeptidase domain 11
MDM2	4193	Q00987	MDM2 proto-oncogene
MEFV	4210	O15553	MEFV innate immunity regulator, pyrin
MAP3K3	4215	Q99759	mitogen-activated protein kinase kinase kinase 3
MAP3K5	4217	Q99683	mitogen-activated protein kinase kinase kinase 5
MGAT3	4248	Q09327	beta-1,4-mannosyl-glycoprotein 4-beta-N-acetylglucosaminyltransferase
ASAHI	427	Q13510	N-acylsphingosine amidohydrolase 1
MIP	4284	P30301	major intrinsic protein of lens fiber
MLH1	4292	P40692	mutL homolog 1
MMP12	4321	P39900	matrix metallopeptidase 12
MMP15	4324	P51511	matrix metallopeptidase 15
MMP19	4327	Q99542	matrix metallopeptidase 19
CD200	4345	P41217	CD200 molecule
PLIN5	440503	Q00G26	perilipin 5

EEF1A1P11	440595		eukaryotic translation elongation factor 1 alpha 1 pseudogene 11
BECN2	441925	A8MW95	beclin 2
MIR324	442898		microRNA 324
MIR326	442900		microRNA 326
MIR335	442904		microRNA 335
MIR374A	442919		microRNA 374a
MSH2	4436	P43246	mutS homolog 2
MSN	4478	P26038	moesin
MST1R	4486	Q04912	macrophage stimulating 1 receptor
MT1B	4490	P07438	metallothionein 1B
MT2A	4502	P02795	metallothionein 2A
ATP6	4508	P00846	ATP synthase F0 subunit 6
CYTB	4519	P00156	cytochrome b
MTHFD1	4522	P11586	methylenetetrahydrofolate dehydrogenase, cyclohydrolase and formyltetrahydrofolate synthetase 1
ND1	4535	P03886	NADH dehydrogenase, subunit 1 (complex I)
MTR	4548	Q99707	5-methyltetrahydrofolate-homocysteine methyltransferase
MUC1	4582	P15941	mucin 1, cell surface associated
MYCL	4610	P12524	MYCL proto-oncogene, bHLH transcription factor
MYH6	4624	P13533	myosin heavy chain 6
MYH7	4625	P12883	myosin heavy chain 7
MYL2	4633	P10916	myosin light chain 2
NCAM1	4684	P13591	neural cell adhesion molecule 1
NCK1	4690	P16333	NCK adaptor protein 1
ATIC	471	P31939	5-aminoimidazole-4-carboxamide ribonucleotide formyltransferase/IMP cyclohydrolase
ATM	472	Q13315	ATM serine/threonine kinase
NEFL	4747	P07196	neurofilament light
NFYA	4800	P23511	nuclear transcription factor Y subunit alpha
NMBR	4829	P28336	neuromedin B receptor
NOTCH2	4853	Q04721	notch receptor 2
ATP2A2	488	P16615	ATPase sarcoplasmic/endoplasmic reticulum Ca2+ transporting 2
NPR1	4881	P16066	natriuretic peptide receptor 1
ATP2A3	489	Q93084	ATPase sarcoplasmic/endoplasmic reticulum Ca2+ transporting 3
NRF1	4899	Q16656	nuclear respiratory factor 1
NTSR1	4923	P30989	neurotensin receptor 1
NR4A2	4929	P43354	nuclear receptor subfamily 4 group A member 2
CISD2	493856	Q8N5K1	CDGSH iron sulfur domain 2
MIR361	494323		microRNA 361
MIR377	494326		microRNA 377
MIR378A	494327		microRNA 378a
MIR379	494328		microRNA 379
MIR383	494332		microRNA 383
MIR423	494335		microRNA 423
MIR424	494336		microRNA 424
OMG	4974	P23515	oligodendrocyte myelin glycoprotein
OPRD1	4985	P41143	opioid receptor delta 1

P2RX7	5027	Q99572	purinergic receptor P2X 7
P2RY2	5029	P41231	purinergic receptor P2Y2
P4HB	5034	P07237	prolyl 4-hydroxylase subunit beta
G0S2	50486	P27469	G0/G1 switch 2
NOX3	50508	Q9HBY0	NADPH oxidase 3
DELEC1	50514	Q9P2X7	deleted in esophageal cancer 1
SERPINB2	5055	P05120	serpin family B member 2
PAM	5066	P19021	peptidylglycine alpha-amidating monooxygenase
CNTN3	5067	Q9P232	contactin 3
NEUROG3	50674	Q9Y4Z2	neurogenin 3
ASAP1	50807	Q9ULH1	ArfGAP with SH3 domain, ankyrin repeat and PH domain 1
TAS2R14	50840	Q9NYV8	taste 2 receptor member 14
F11R	50848	Q9Y624	F11 receptor
PDE11A	50940	Q9HCR9	phosphodiesterase 11A
FOXP3	50943	Q9BZS1	forkhead box P3
TMED7	51014	Q86XR7;Q9Y3B3	transmembrane p24 trafficking protein 7
PCK2	5106	Q16822	phosphoenolpyruvate carboxykinase 2, mitochondrial
APH1A	51107	Q96BI3	aph-1 homolog A, gamma-secretase subunit
PCNA	5111	P12004	proliferating cell nuclear antigen
SLC45A2	51151	Q9UMX9	solute carrier family 45 member 2
MZB1	51237	Q8WU39	marginal zone B and B1 cell specific protein
RXFP3	51289	Q9NSD7	relaxin family peptide receptor 3
KCNK9	51305	Q9NPC2	potassium two pore domain channel subfamily K member 9
TLR8	51311	Q9NR97	toll like receptor 8
RSRC1	51319	Q96IZ7	arginine and serine rich coiled-coil 1
PDC	5132	P20941	phosducin
PDCD1	5133	Q15116	programmed cell death 1
DACT1	51339	Q9NYF0	dishevelled binding antagonist of beta catenin 1
TAOK3	51347	Q9H2K8	TAO kinase 3
ATP5F1E	514	P56381	ATP synthase F1 subunit epsilon
PDE4B	5142	Q07343	phosphodiesterase 4B
PRKAG2	51422	Q9UGJ0	protein kinase AMP-activated non-catalytic subunit gamma 2
DCDC2	51473	Q9UHG0	doublecortin domain containing 2
SIRT7	51547	Q9NRC8	sirtuin 7
LSR	51599	Q86X29	lipolysis stimulated lipoprotein receptor
PDK1	5163	Q15118	pyruvate dehydrogenase kinase 1
PDK2	5164	Q15119	pyruvate dehydrogenase kinase 2
ACSL5	51703	Q9ULC5	acyl-CoA synthetase long chain family member 5
PEG3	5178	Q9GZU2	paternally expressed 3
ADA2	51816	Q9NZK5	adenosine deaminase 2
PEX1	5189	O43933	peroxisomal biogenesis factor 1
SLC25A3	5250	Q00325	solute carrier family 25 member 3
PHF2	5253	O75151	PHD finger protein 2
SERPINA4	5267	P29622	serpin family A member 4
PIM1	5292	P11309	Pim-1 proto-oncogene, serine/threonine kinase
PITX3	5309	O75364	paired like homeodomain 3

PKHD1	5314	P08F94	PKHD1 ciliary IPT domain containing fibrocystin/polyductin
PLA2G2A	5320	P14555	phospholipase A2 group IIA
PLA2G5	5322	P39877	phospholipase A2 group V
PLAGL1	5325	Q9UM63	PLAG1 like zinc finger 1
PLAU	5328	P00749	plasminogen activator, urokinase
PLCB2	5330	Q00722	phospholipase C beta 2
LRP1B	53353	Q9NZR2	LDL receptor related protein 1B
PLD1	5337	Q13393	phospholipase D1
PLEK	5341	P08567	pleckstrin
PLK1	5347	P53350	polo like kinase 1
PLOD2	5352	O00469	procollagen-lysine,2-oxoglutarate 5-dioxygenase 2
PLXNA1	5361	Q9UIW2	plexin A1
PMAIP1	5366	Q13794	phorbol-12-myristate-13-acetate-induced protein 1
PNOC	5368	Q13519	prepronociceptin
GPR84	53831	Q9NQS5	G protein-coupled receptor 84
RAB4B	53916	P61018	RAB4B, member RAS oncogene family
CNTN5	53942	O94779	contactin 5
PRRX1	5396	P54821	paired related homeobox 1
ATP7B	540	P35670	ATPase copper transporting beta
FAM3B	54097	P58499	FAM3 metabolism regulating signaling molecule B
POLE3	54107	Q9NRF9	DNA polymerase epsilon 3, accessory subunit
NANS	54187	Q9NR45	N-acetylneuraminate synthase
TREM2	54209	Q9NZC2	triggering receptor expressed on myeloid cells 2
TREM1	54210	Q9NP99	triggering receptor expressed on myeloid cells 1
SLC38A2	54407	Q96QD8	solute carrier family 38 member 2
RETREG1	54463	Q9H6L5	reticulophagy regulator 1
XRN1	54464	Q8IZH2	5'-3' exoribonuclease 1
KRT20	54474	P35900	keratin 20
RNF216	54476	Q9NWF9	ring finger protein 216
EXOSC4	54512	Q9NPD3	exosome component 4
ROBO4	54538	Q8WZ75	roundabout guidance receptor 4
POU3F2	5454	P20265	POU class 3 homeobox 2
DDIT4	54541	Q9NX09	DNA damage inducible transcript 4
EGLN1	54583	Q9GZT9	egl-9 family hypoxia inducible factor 1
POU5F1	5460	Q01860	POU class 5 homeobox 1
ARL15	54622	Q9NXU5	ADP ribosylation factor like GTPase 15
RBFOX1	54715	Q9NWB1	RNA binding fox-1 homolog 1
PPIA	5478	P62937	peptidylprolyl isomerase A
PPIB	5479	P23284	peptidylprolyl isomerase B
PPID	5481	Q08752	peptidylprolyl isomerase D
QPCTL	54814	Q9NXS2	glutaminyl-peptide cyclotransferase like
VPS13C	54832	Q709C8	vacuolar protein sorting 13 homolog C
CASZ1	54897	Q86V15	castor zinc finger 1
CYP2W1	54905	Q8TAV3	cytochrome P450 family 2 subfamily W member 1
TMEM160	54958	Q9NX00	transmembrane protein 160
PLAAT2	54979	Q9NWW9	phospholipase A and acyltransferase 2

ULK4	54986	Q96C45	unc-51 like kinase 4
ACP3	55	P15309	acid phosphatase 3
MARCHF1	55016	Q8TCQ1	membrane associated ring-CH-type finger 1
PID1	55022	Q7Z2X4	phosphotyrosine interaction domain containing 1
ATG16L1	55054	Q676U5	autophagy related 16 like 1
MTPAP	55149	Q9NVV4	mitochondrial poly(A) polymerase
PRMT6	55170	Q96LA8	protein arginine methyltransferase 6
NUDT11	55190	Q96G61	nudix hydrolase 11
AVPR1A	552	P37288	arginine vasopressin receptor 1A
PPP2R2A	5520	P63151	protein phosphatase 2 regulatory subunit Balpha
MOB1A	55233	Q9H8S9	MOB kinase activator 1A
PSPC1	55269	Q8WXF1	paraspeckle component 1
PPP2R5C	5527	Q13362	protein phosphatase 2 regulatory subunit B'gamma
AVPR1B	553	P47901	arginine vasopressin receptor 1B
LARP6	55323	Q9BRS8	La ribonucleoprotein 6, translational regulator
LAPTM4B	55353	Q86VI4	lysosomal protein transmembrane 4 beta
IMPACT	55364	Q9P2X3	impact RWD domain protein
NPY4R	5540	P0DQD5;P50391	neuropeptide Y receptor Y4
PRB1	5542	P04280	proline rich protein BstNI subfamily 1 (gene/pseudogene)
MIR31HG	554202		MIR31 host gene
MIR429	554210		microRNA 429
MIR448	554212		microRNA 448
SAGE1	55511	Q9NXZ1	sarcoma antigen 1
PLXNA3	55558	P51805	plexin A3
MIOX	55586	Q9UGB7	myo-inositol oxygenase
BMP2K	55589	Q9NSY1	BMP2 inducible kinase
STAP2	55620	Q9UGK3	signal transducing adaptor family member 2
ZNF407	55628	Q9C0G0	zinc finger protein 407
HIF1AN	55662	Q9NWT6	hypoxia inducible factor 1 subunit alpha inhibitor
VPS35	55737	Q96QK1	VPS35 retromer complex component
CNDP2	55748	Q96KP4	carnosine dipeptidase 2
SEPTIN11	55752	Q9NVA2	septin 11
MBD5	55777	Q9P267	methyl-CpG binding domain protein 5
MCTP2	55784	Q6DN12	multiple C2 and transmembrane domain containing 2
ADCY10	55811	Q96PN6	adenylate cyclase 10
DOK5	55816	Q9P104	docking protein 5
CENPJ	55835	Q9HC77	centromere protein J
EAF2	55840	Q96CJ1	ELL associated factor 2
CISD1	55847	Q9NZ45	CDGSH iron sulfur domain 1
PSENEN	55851	Q9NZ42	presenilin enhancer, gamma-secretase subunit
PRKD1	5587	Q15139	protein kinase D1
LMO3	55885	Q8TAP4	LIM domain only 3
PRKCZ	5590	Q05513	protein kinase C zeta
CMAS	55907	Q8NFW8	cytidine monophosphate N-acetylneurameric acid synthetase
PRKDC	5591	P78527	protein kinase, DNA-activated, catalytic subunit
SULF2	55959	Q8IWU5	sulfatase 2

MAPK7	5598	Q13164	mitogen-activated protein kinase 7
MAP2K6	5608	P52564	mitogen-activated protein kinase kinase 6
EIF2AK2	5610	P19525	eukaryotic translation initiation factor 2 alpha kinase 2
ANKH	56172	Q9HCJ1	ANKH inorganic pyrophosphate transport regulator
PRNP	5621	F7VJQ1;P04156	prion protein
PROP1	5626	O75360	PROP paired-like homeobox 1
GPCPD1	56261	Q9NPB8	glycerophosphocholine phosphodiesterase 1
PARD3	56288	Q8TEW0	par-3 family cell polarity regulator
RELN	5649	P78509	reelin
KLK7	5650	P49862	kallikrein related peptidase 7
SLC2A9	56606	Q9NRM0	solute carrier family 2 member 9
ASAHI2	56624	Q9NR71	N-acylsphingosine amidohydrolase 2
PSEN1	5663	P49768	presenilin 1
PSG5	5673	Q15238	pregnancy specific beta-1-glycoprotein 5
SPHK2	56848	Q9NRA0	sphingosine kinase 2
CELF4	56853	Q9BZC1	CUGBP Elav-like family member 4
SEMA3G	56920	Q9NS98	semaphorin 3G
ARNTL2	56938	Q8WYA1	aryl hydrocarbon receptor nuclear translocator like 2
PSMB6	5694	P28072	proteasome 20S subunit beta 6
DUSP22	56940	Q9NRW4	dual specificity phosphatase 22
RGMA	56963	Q96B86	repulsive guidance molecule BMP co-receptor a
SLC12A9	56996	Q9BXP2	solute carrier family 12 member 9
RPGRIPI	57096	Q96KN7	RPGRI interacting protein 1
TIGAR	57103	Q9NQ88	TP53 induced glycolysis regulatory phosphatase
LPAR5	57121	Q9H1C0	lysophosphatidic acid receptor 5
CD248	57124	Q9HCU0	CD248 molecule
ATP10A	57194	O60312	ATPase phospholipid transporting 10A (putative)
PTCH1	5727	Q13635	patched 1
PTGDR	5729	Q13258	prostaglandin D2 receptor
PTGDS	5730	P41222	prostaglandin D2 synthase
JPH3	57338	Q8WXH2	junctophilin 3
MIR20B	574032		microRNA 20b
AS3MT	57412	Q9HBK9	arsenite methyltransferase
SLC24A3	57419	Q9HC58	solute carrier family 24 member 3
PTGS1	5742	P23219	prostaglandin-endoperoxide synthase 1
MIR496	574454		microRNA 496
MIR522	574495		microRNA 522
AHRR	57491	A9YTQ3	aryl-hydrocarbon receptor repressor
ZNF608	57507	Q9ULD9	zinc finger protein 608
NLGN2	57555	Q8NFZ4	neuroligin 2
SEMA6A	57556	Q9H2E6	semaphorin 6A
LRRN1	57633	Q6UXK5	leucine rich repeat neuronal 1
CHD8	57680	Q9HCK8	chromodomain helicase DNA binding protein 8
MAGEE1	57692	Q9HCI5	MAGE family member E1
CPNE5	57699	Q9HCH3	copine 5
DENND1A	57706	Q8TEH3	DENN domain containing 1A

METTL14	57721	Q9HCE5	methyltransferase like 14
PTPN6	5777	P29350	protein tyrosine phosphatase non-receptor type 6
MARK4	57787	Q96L34	microtubule affinity regulating kinase 4
CCAR2	57805	Q8N163	cell cycle and apoptosis regulator 2
PTPN11	5781	Q06124	protein tyrosine phosphatase non-receptor type 11
PTPRB	5787	P23467	protein tyrosine phosphatase receptor type B
PTPRC	5788	P08575	protein tyrosine phosphatase receptor type C
PTPRE	5791	P23469	protein tyrosine phosphatase receptor type E
PTPRJ	5795	Q12913	protein tyrosine phosphatase receptor type J
PTPRS	5802	Q13332	protein tyrosine phosphatase receptor type S
PTBP2	58155	Q9UKA9	polypyrimidine tract binding protein 2
PVALB	5816	P20472	parvalbumin
CXCL16	58191	Q9H2A7	C-X-C motif chemokine ligand 16
NLRC4	58484	Q9NPP4	NLR family CARD domain containing 4
BCAT1	586	P54687	branched chain amino acid transaminase 1
BCAT2	587	O15382	branched chain amino acid transaminase 2
RAC1	5879	P63000	Rac family small GTPase 1
RASA1	5921	P20936	RAS p21 protein activator 1
RASA2	5922	Q15283	RAS p21 protein activator 2
TRPV4	59341	Q9HBA0	transient receptor potential cation channel subfamily V member 4
ALOXE3	59344	Q9BYJ1	arachidonate lipoxygenase 3
RBMS1	5937	P29558	RNA binding motif single stranded interacting protein 1
REG1A	5967	P05451	regenerating family member 1 alpha
RGS4	5999	P49798	regulator of G protein signaling 4
ACTB	60	P60709	actin beta
FAM3A	60343	P98173	FAM3 metabolism regulating signaling molecule A
RNASE2	6036	P10153	ribonuclease A family member 2
BCL6	604	P41182	BCL6 transcription repressor
EXOC4	60412	Q96A65	exocyst complex component 4
ELOVL5	60481	Q9NYP7	ELOVL fatty acid elongase 5
CPAT1	60502		cerebral palsy, ataxic 1
GAS5	60674		growth arrest specific 5
TNFRSF17	608	Q02223	TNF receptor superfamily member 17
ROBO1	6091	Q9Y6N7	roundabout guidance receptor 1
ROCK1	6093	Q13464	Rho associated coiled-coil containing protein kinase 1
OPN1SW	611	P03999	opsin 1, short wave sensitive
RPL10	6134	P27635	ribosomal protein L10
RPL11	6135	P62913	ribosomal protein L11
RPL29	6159	P47914	ribosomal protein L29
BCS1L	617	Q9Y276	BCS1 homolog, ubiquinol-cytochrome c reductase complex chaperone
DELYQ11	619469		Sertoli cell-only syndrome, Y-linked
MIR483	619552		microRNA 483
RPS19	6223	P39019	ribosomal protein S19
RRAS	6237	P10301	RAS related
RYR2	6262	Q92736	ryanodine receptor 2
S100A4	6275	P26447	S100 calcium binding protein A4

S100A6	6277	P06703	S100 calcium binding protein A6
S100A7	6278	P31151	S100 calcium binding protein A7
S100A12	6283	P80511	S100 calcium binding protein A12
CFB	629	P00751	complement factor B
SAA3P	6290		serum amyloid A3, pseudogene
TSPAN31	6302	Q12999	tetraspanin 31
MSMO1	6307	Q15800	methylsterol monooxygenase 1
CCL3	6348	P10147	C-C motif chemokine ligand 3
BHMT	635	Q93088	betaine--homocysteine S-methyltransferase
CCL7	6354	P80098	C-C motif chemokine ligand 7
CCL8	6355	P80075	C-C motif chemokine ligand 8
CCL14	6358	Q16627	C-C motif chemokine ligand 14
CCL17	6361	Q92583	C-C motif chemokine ligand 17
CCL18	6362	P55774	C-C motif chemokine ligand 18
CCL22	6367	O00626	C-C motif chemokine ligand 22
BID	637	P55957	BH3 interacting domain death agonist
CXCL11	6373	O14625	C-X-C motif chemokine ligand 11
CX3CL1	6376	P78423	C-X3-C motif chemokine ligand 1
SDC2	6383	P34741	syndecan 2
CXCL12	6387	P48061	C-X-C motif chemokine ligand 12
UBE2O	63893	Q9C0C9	ubiquitin conjugating enzyme E2 O
DMRTA1	63951	Q5VZB9	DMRT like family A1
SEL1L	6400	Q9UBV2	SEL1L adaptor subunit of ERAD E3 ubiquitin ligase
SELE	6401	P16581	selectin E
NPVF	64111	Q9HCQ7	neuropeptide VF precursor
SELENOW	6415	P63302	selenoprotein W
MAP2K4	6416	P45985	mitogen-activated protein kinase kinase 4
SFPQ	6421	P23246	splicing factor proline and glutamine rich
SFRP2	6423	Q96HF1	secreted frizzled related protein 2
POU5F1P3	642559		POU class 5 homeobox 1 pseudogene 3
SRSF1	6426	Q07955	serine and arginine rich splicing factor 1
TRA2B	6434	P62995	transformer 2 beta homolog
BLVRA	644	P53004	biliverdin reductase A
MTMR14	64419	Q8NCE2	myotubularin related protein 14
SCG5	6447	P05408	secretogranin V
SH3GL1	6455	Q99961	SH3 domain containing GRB2 like 1, endophilin A2
POU5F1P4	645682		POU class 5 homeobox 1 pseudogene 4
CLEC7A	64581	Q9BXN2	C-type lectin domain containing 7A
EBF2	64641	Q9HAK2	EBF transcription factor 2
NUCKS1	64710	Q9H1E3	nuclear casein kinase and cyclin dependent kinase substrate 1
BMI1	648	P35226	BMI1 proto-oncogene, polycomb ring finger
ST6GAL1	6480	P15907	ST6 beta-galactoside alpha-2,6-sialyltransferase 1
ST3GAL2	6483	Q16842	ST3 beta-galactoside alpha-2,3-sialyltransferase 2
AIDA	64853	Q96BJ3	axin interactor, dorsalization associated
RFX7	64864	Q2KHR2	regulatory factor X7
PPP1R3G	648791	B7ZBB8	protein phosphatase 1 regulatory subunit 3G

NDRG4	65009	Q9ULP0	NDRG family member 4
NBEAL1	65065	Q6ZS30	neurobeachin like 1
WNK1	65125	Q9H4A3	WNK lysine deficient protein kinase 1
SLC2A3	6515	P11169	solute carrier family 2 member 3
SLC2A5	6518	P22732	solute carrier family 2 member 5
SLC5A5	6528	Q92911	solute carrier family 5 member 5
RPL7P9	653702		ribosomal protein L7 pseudogene 9
SLC6A12	6539	P48065	solute carrier family 6 member 12
SLC12A3	6559	P55017	solute carrier family 12 member 3
SLC16A1	6566	P53985	solute carrier family 16 member 1
SLC19A1	6573	P41440	solute carrier family 19 member 1
BMPR2	659	Q13873	bone morphogenetic protein receptor type 2
SLPI	6590	P03973	secretory leukocyte peptidase inhibitor
SNAI2	6591	O43623	snail family transcriptional repressor 2
SMARCA2	6595	P51531	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 2
STK33	65975	Q9BYT3	serine/threonine kinase 33
SMO	6608	Q99835	smoothened, frizzled class receptor
SMPD1	6609	P17405	sphingomyelin phosphodiesterase 1
SNCA	6622	P37840	synuclein alpha
SNCG	6623	O76070	synuclein gamma
FSCN1	6624	Q16658	fascin actin-bundling protein 1
SOAT1	6646	P35610	sterol O-acyltransferase 1
DST	667	Q03001	dystonin
SPI1	6688	P17947	Spi-1 proto-oncogene
SPINK1	6690	P00995	serine peptidase inhibitor Kazal type 1
SPTA1	6708	P02549	spectrin alpha, erythrocytic 1
SPTBN1	6711	Q01082	spectrin beta, non-erythrocytic 1
SRC	6714	P12931	SRC proto-oncogene, non-receptor tyrosine kinase
ITPRID2	6744	P28290	ITPR interacting domain containing 2
SSTR2	6752	P30874	somatostatin receptor 2
ST2	6761		suppression of tumorigenicity 2
ST13	6767	P50502	ST13 Hsp70 interacting protein
ZFP36L1	677	Q07352	ZFP36 ring finger protein like 1
STAT1	6772	P42224	signal transducer and activator of transcription 1
STAU1	6780	O95793	staufen double-stranded RNA binding protein 1
STC1	6781	P52823	stanniocalcin 1
SULT1E1	6783	P49888	sulfotransferase family 1E member 1
STXBP3	6814	O00186	syntaxin binding protein 3
SULT1A1	6817	P50225	sulfotransferase family 1A member 1
SUV39H1	6839	O43463	suppressor of variegation 3-9 homolog 1
SYT4	6860	Q9H2B2	synaptotagmin 4
TAC1	6863	P20366	tachykinin precursor 1
TAC3	6866	Q9UHF0	tachykinin precursor 3
TADA2A	6871	O75478	transcriptional adaptor 2A
TAT	6898	P17735	tyrosine aminotransferase
TBL1X	6907	O60907	transducin beta like 1 X-linked

TBXA2R	6915	P21731	thromboxane A2 receptor
TCEA1	6917	P23193	transcription elongation factor A1
HNF1B	6928	P35680	HNF1 homeobox B
MIR33B	693120		microRNA 33b
MIR551B	693136		microRNA 551b
MIR593	693178		microRNA 593
MIR634	693219		microRNA 634
TCN2	6948	P20062	transcobalamin 2
BUB1B	701	O60566	BUB1 mitotic checkpoint serine/threonine kinase B
TFDP1	7027	Q14186	transcription factor Dp-1
TFF2	7032	Q03403	trefoil factor 2
TFF3	7033	Q07654	trefoil factor 3
TGFB3	7043	P10600	transforming growth factor beta 3
TGFBR2	7048	P37173	transforming growth factor beta receptor 2
THBS2	7058	P35442	thrombospondin 2
TSPO	706	P30536	translocator protein
THRA	7067	P10827	thyroid hormone receptor alpha
TIE1	7075	P35590	tyrosine kinase with immunoglobulin like and EGF like domains 1
TIMP4	7079	Q99727	TIMP metallopeptidase inhibitor 4
TSPAN8	7103	P19075	tetraspanin 8
TNNI3	7137	P19429	troponin I3, cardiac type
TP73	7161	O15350	tumor protein p73
NR2C2	7182	P49116	nuclear receptor subfamily 2 group C member 2
TRAF6	7189	Q9Y4K3	TNF receptor associated factor 6
TRP-TGG3-1	7219		tRNA-Pro (anticodon TGG) 3-1
TRPC3	7222	Q13507	transient receptor potential cation channel subfamily C member 3
TRPS1	7227	Q9UHF7	transcriptional repressor GATA binding 1
MIR652	724022		microRNA 652
TTR	7276	P02766	transthyretin
MCHR2-AS1	728012		MCHR2 antisense RNA 1
USP17L24	728369	Q0WX57	ubiquitin specific peptidase 17 like family member 24
USP17L25	728373	Q0WX57	ubiquitin specific peptidase 17 like family member 25
POTEF	728378	A5A3E0	POTE ankyrin domain family member F
USP17L26	728379	Q0WX57	ubiquitin specific peptidase 17 like family member 26
USP17L27	728393	Q0WX57	ubiquitin specific peptidase 17 like family member 27
TUFM	7284	P49411	Tu translation elongation factor, mitochondrial
USP17L28	728400	Q0WX57	ubiquitin specific peptidase 17 like family member 28
USP17L29	728405	Q0WX57	ubiquitin specific peptidase 17 like family member 29
USP17L30	728419	Q0WX57	ubiquitin specific peptidase 17 like family member 30
OPN1MW2	728458	P04001;P0DN77;P0DN78	opsin 1, medium wave sensitive 2
SERF1B	728492	O75920	small EDRK-rich factor 1B
TYRO3	7301	Q06418	TYRO3 protein tyrosine kinase
UGT1A	7361		UDP glucuronosyltransferase family 1 member A complex locus
UTRN	7402	P46939	utrophin
VAV2	7410	P52735	vav guanine nucleotide exchange factor 2
VEGFC	7424	P49767	vascular endothelial growth factor C

WAS	7454	P42768	WASP actin nucleation promoting factor
LAT2	7462	Q9GZY6	linker for activation of T cells family member 2
WNT7A	7476	O00755	Wnt family member 7A
WRN	7486	Q14191	WRN RecQ like helicase
YY1	7528	P25490	YY1 transcription factor
YWHAZ	7534	P63104	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein zeta
ZFP36	7538	P26651	ZFP36 ring finger protein
CFAP410	755	O43822	cilia and flagella associated protein 410
CA5A	763	P35218	carbonic anhydrase 5A
MIR758	768212		microRNA 758
ZBTB16	7704	Q05516	zinc finger and BTB domain containing 16
ZNF214	7761	Q9UL59	zinc finger protein 214
PRDM2	7799	Q13029	PR/SET domain 2
MOGS	7841	Q13724	mannosyl-oligosaccharide glucosidase
FZD5	7855	Q13467	frizzled class receptor 5
SEMA3B	7869	Q13214	semaphorin 3B
NABP2	79035	Q9BQ15	nucleic acid binding protein 2
REEP5	7905	Q00765	receptor accessory protein 5
ASPSCR1	79058	Q9BZE9	ASPSCR1 tether for SLC2A4, UBX domain containing
ELOVL6	79071	Q9H5J4	ELOVL fatty acid elongase 6
APOO	79135	Q9BUR5	apolipoprotein O
MBOAT7	79143	Q96N66	membrane bound O-acyltransferase domain containing 7
LAP	7939		Laryngeal adductor paralysis
PPP1R3B	79660	Q86XI6	protein phosphatase 1 regulatory subunit 3B
FN3KRP	79672	Q9HA64	fructosamine 3 kinase related protein
GHS	7971		Goldenhar syndrome
TBL1XR1	79718	Q9BZK7	TBL1X receptor 1
CARF	79800	Q8N187	calcium responsive transcription factor
CSPP1	79848	Q1MSJ5	centrosome and spindle pole associated protein 1
MAP9	79884	Q49MG5	microtubule associated protein 9
RIN3	79890	Q8TB24	Ras and Rab interactor 3
CALD1	800	Q05682	caldesmon 1
DOCK5	80005	Q9H7D0	dedicator of cytokinesis 5
PTGES2	80142	Q9H7Z7	prostaglandin E synthase 2
ASRGL1	80150	Q7L266	asparaginase and isoasparyl peptidase 1
SPSB1	80176	Q96BD6	splA/ryanodine receptor domain and SOCS box containing 1
FUZ	80199	Q9BT04	fuzzy planar cell polarity protein
LHX3	8022	Q9UBR4	LIM homeobox 3
LPAL2	80350	Q16609	lipoprotein(a) like 2, pseudogene
ADAM12	8038	O43184	ADAM metallopeptidase domain 12
MFAP5	8076	Q13361	microfibril associated protein 5
ITIH5	80760	Q86UX2	inter-alpha-trypsin inhibitor heavy chain 5
CMIP	80790	Q8IY22	c-Maf inducing protein
HMGA2	8091	P52926	high mobility group AT-hook 2
WNT5B	81029	Q9H1J7	Wnt family member 5B
CAMK2A	815	Q9UQM7	calcium/calmodulin dependent protein kinase II alpha

SLC38A1	81539	Q9H2H9	solute carrier family 38 member 1
CAMP	820	P49913	cathelicidin antimicrobial peptide
GDF5	8200	P43026	growth differentiation factor 5
NCOA3	8202	Q9Y6Q9	nuclear receptor coactivator 3
BAS	8213		Beta-adrenergic stimulation, response to
CAPN1	823	P07384	calpain 1
CAPN2	824	P17655	calpain 2
CAPN3	825	P20807	calpain 3
CAPNS1	826	P04632	calpain small subunit 1
NAA10	8260	P41227	N-alpha-acetyltransferase 10, NatA catalytic subunit
TKTL1	8277	P51854	transketolase like 1
SERF1A	8293	O75920	small EDRK-rich factor 1A
PICALM	8301	Q13492	phosphatidylinositol binding clathrin assembly protein
BRAP	8315	Q7Z569	BRCA1 associated protein
ARHGAP24	83478	Q8N264	Rho GTPase activating protein 24
PARP9	83666	Q8IXQ6	poly(ADP-ribose) polymerase family member 9
ITCH	83737	Q96J02	itchy E3 ubiquitin protein ligase
LOH19CR1	8378		loss of heterozygosity, 19, chromosomal region 1
TMTC1	83857	Q8IUR5	transmembrane O-mannosyltransferase targeting cadherins 1
IMMP2L	83943	Q96T52	inner mitochondrial membrane peptidase subunit 2
ADGRV1	84059	Q8WXG9	adhesion G protein-coupled receptor V1
TAGLN2	8407	P37802	transgelin 2
HORMAD1	84072	Q86X24	HORMA domain containing 1
ULK1	8408	O75385	unc-51 like autophagy activating kinase 1
CASP8	841	Q14790	caspase 8
POLR1B	84172	Q9H9Y6	RNA polymerase I subunit B
MEHMO	8422		mental retardation, epileptic seizures, hypogonadism and -genitalism, microcephaly and obesity syndrome
MAF1	84232	Q9H063	MAF1 homolog, negative regulator of RNA polymerase III
CHCHD5	84269	Q9BSY4	coiled-coil-helix-coiled-coil-helix domain containing 5
NCK2	8440	O43639	NCK adaptor protein 2
DOC2B	8447	Q14184	double C2 domain beta
HOPX	84525	Q9BPY8	HOP homeobox
COL25A1	84570	Q9BXS0	collagen type XXV alpha 1 chain
ZGPAT	84619	Q8N5A5	zinc finger CCCH-type and G-patch domain containing
ZNF469	84627	Q96JG9	zinc finger protein 469
CNDP1	84735	Q96KN2	carnosine dipeptidase 1
GPAT3	84803	Q53EU6	glycerol-3-phosphate acyltransferase 3
PERM1	84808	Q5SV97	PPARGC1 and ESRR induced regulator, muscle 1
RAX2	84839	Q96IS3	retina and anterior neural fold homeobox 2
MFSD2A	84879	Q8NA29	major facilitator superfamily domain containing 2A
SLC35B4	84912	Q969S0	solute carrier family 35 member B4
CYP4F2	8529	P78329	cytochrome P450 family 4 subfamily F member 2
ABCC11	85320	Q96J66	ATP binding cassette subfamily C member 11
LGALS12	85329	Q96DT0	galectin 12
HELZ2	85441	Q9BYK8	helicase with zinc finger 2
TSPYLS5	85453	Q86VY4	TSPY like 5

MAPKAPK5	8550	Q8IW41	MAPK activated protein kinase 5
BHLHE40	8553	O14503	basic helix-loop-helix family member e40
PIAS1	8554	O75925	protein inhibitor of activated STAT 1
DENR	8562	O43583	density regulated re-initiation and release factor
PDXK	8566	O00764	pyridoxal kinase
RUNX1	861	Q01196	RUNX family transcription factor 1
RUNX1T1	862	Q06455	RUNX1 partner transcriptional co-repressor 1
UNC5C	8633	O95185	unc-5 netrin receptor C
PDE5A	8654	O76074	phosphodiesterase 5A
SLC4A4	8671	Q9Y6R1	solute carrier family 4 member 4
STX16	8675	O14662	syntaxin 16
BECN1	8678	Q14457	beclin 1
TNFRSF25	8718	Q93038	TNF receptor superfamily member 25
ADAM19	8728	Q9H013	ADAM metallopeptidase domain 19
CBR1	873	P16152	carbonyl reductase 1
TNFSF12	8742	O43508	TNF superfamily member 12
TNFSF9	8744	P41273	TNF superfamily member 9
TRIM24	8805	O15164	tripartite motif containing 24
FGF18	8817	O76093	fibroblast growth factor 18
CES2	8824	O00748	carboxylesterase 2
NRP1	8829	O14786	neuropilin 1
HCAR3	8843	P49019	hydroxycarboxylic acid receptor 3
ASAP2	8853	O43150	ArfGAP with SH3 domain, ankyrin repeat and PH domain 2
LDB1	8861	Q86U70	LIM domain binding 1
PER3	8863	P56645	period circadian regulator 3
CCKBR	887	P32239	cholecystokinin B receptor
KRIT1	889	O00522	KRIT1 ankyrin repeat containing
EIF2S2	8894	P20042	eukaryotic translation initiation factor 2 subunit beta
ACTN3	89	Q08043	actinin alpha 3 (gene/pseudogene)
SNURF	8926	P63162;Q9Y675	SNRPN upstream reading frame
WASF1	8936	Q92558	WASP family member 1
CCNE1	898	P24864	cyclin E1
SIGLEC12	89858	Q96PQ1	sialic acid binding Ig like lectin 12 (gene/pseudogene)
UCN2	90226	Q96RP3	urocortin 2
SCRN2	90507	Q96FV2	secernin 2
MCU	90550	Q8NE86	mitochondrial calcium uniporter
TBL1Y	90665	Q9BQ87	transducin beta like 1 Y-linked
PYGO2	90780	Q9BRQ0	pygopus family PHD finger 2
USP10	9100	Q14694	ubiquitin specific peptidase 10
CERS5	91012	Q8N5B7	ceramide synthase 5
PCSK7	9159	Q16549	proprotein convertase subtilisin/kexin type 7
ZBED1	9189	O96006	zinc finger BED-type containing 1
SLC33A1	9197	O00400	solute carrier family 33 member 1
LRRFIP1	9208	Q32MZ4	LRR binding FLII interacting protein 1
GGTLC1	92086	Q9BX51	gamma-glutamyltransferase light chain 1
AURKB	9212	Q96GD4	aurora kinase B

UBE2L6	9246	O14933	ubiquitin conjugating enzyme E2 L6
GPR50	9248	Q13585	G protein-coupled receptor 50
DHRS3	9249	O75911	dehydrogenase/reductase 3
SLC38A5	92745	Q8WUX1	solute carrier family 38 member 5
S1PR2	9294	O95136	sphingosine-1-phosphate receptor 2
MS4A1	931	P11836	membrane spanning 4-domains A1
PRDM6	93166	Q9NQX0	PR/SET domain 6
B4GALT5	9334	O43286	beta-1,4-galactosyltransferase 5
SNAP29	9342	O95721	synaptosome associated protein 29
SLC22A6	9356	Q4U2R8	solute carrier family 22 member 6
LONP1	9361	P36776	lon peptidase 1, mitochondrial
SFXN1	94081	Q9H9B4	sideroflexin 1
FADS2	9415	O95864	fatty acid desaturase 2
PPP1R14A	94274	Q96A00	protein phosphatase 1 regulatory inhibitor subunit 14A
NCR2	9436	O95944	natural cytotoxicity triggering receptor 2
GSTO1	9446	P78417	glutathione S-transferase omega 1
AIM2	9447	O14862	absent in melanoma 2
MAP4K4	9448	O95819	mitogen-activated protein kinase kinase kinase kinase 4
CD33	945	P20138	CD33 molecule
LY86	9450	O95711	lymphocyte antigen 86
CHST3	9469	Q7LGC8	carbohydrate sulfotransferase 3
STX8	9482	Q9UNK0	syntaxin 8
SCARB1	949	Q8WTVO	scavenger receptor class B member 1
SCARB2	950	Q14108	scavenger receptor class B member 2
ADAMTS1	9510	Q9UHI8	ADAM metallopeptidase with thrombospondin type 1 motif 1
GAL3ST1	9514	Q99999	galactose-3-O-sulfotransferase 1
ENTPD1	953	P49961	ectonucleoside triphosphate diphosphohydrolase 1
BAG3	9531	O95817	BAG cochaperone 3
PTGES	9536	O14684	prostaglandin E synthase
CXCL14	9547	O95715	C-X-C motif chemokine ligand 14
MRPL33	9553	O75394	mitochondrial ribosomal protein L33
VPS26A	9559	O75436	VPS26, retromer complex component A
BCAR1	9564	P56945	BCAR1 scaffold protein, Cas family member
NR1D1	9572	P20393	nuclear receptor subfamily 1 group D member 1
PREPL	9581	Q4J6C6	prolyl endopeptidase like
WTAP	9589	Q15007	WT1 associated protein
CD47	961	Q08722	CD47 molecule
NCOR1	9611	O75376	nuclear receptor corepressor 1
CD48	962	P09326	CD48 molecule
CD69	969	Q07108	CD69 molecule
EDEM1	9695	Q92611	ER degradation enhancing alpha-mannosidase like protein 1
PUM1	9698	Q14671	pumilio RNA binding family member 1
CD74	972	P04233	CD74 molecule
SEMA3E	9723	O15041	semaphorin 3E
CD79A	973	P11912	CD79a molecule
SART3	9733	Q15020	spliceosome associated factor 3, U4/U6 recycling protein

CD81	975	P60033	CD81 molecule
KMT2B	9757	Q9UMN6	lysine methyltransferase 2B
PIEZ01	9780	Q92508	piezo type mechanosensitive ion channel component 1
CDK1	983	P06493	cyclin dependent kinase 1
MELK	9833	Q14680	maternal embryonic leucine zipper kinase
GAB2	9846	Q9UQC2	GRB2 associated binding protein 2
C2CD5	9847	Q86YS7	C2 calcium dependent domain containing 5
SGSM2	9905	O43147	small G protein signaling modulator 2
SEC16A	9919	O15027	SEC16 homolog A, endoplasmic reticulum export factor
KBTBD11	9920	O94819	kelch repeat and BTB domain containing 11
LPGAT1	9926	Q92604	lysophosphatidylglycerol acyltransferase 1
THRAP3	9967	Q9Y2W1	thyroid hormone receptor associated protein 3
CDC42	998	P60953	cell division cycle 42
KCNE2	9992	Q9Y6J6	potassium voltage-gated channel subfamily E regulatory subunit 2

### **Step 3:**

Identify the common genes shared between sarcopenia and obesity. This was accomplished by comparing the two gene lists (164 genes for sarcopenia and 2,822 genes for generalized obesity) using Excel. The overlapping genes present in both lists were extracted, yielding a set of common genes potentially implicated in both conditions.

The list of common genes shared between sarcopenia (Disease ID: C0872084) and generalized obesity (Disease ID: C0028754) is as follows:

Gene	UniProt	Gene_Full_Name
AR	P10275	androgen receptor
MFN2	O95140	mitofusin 2
BCL2	P10415	BCL2 apoptosis regulator
EIF2S1	P05198	eukaryotic translation initiation factor 2 subunit alpha
PPARGC1A	Q9UBK2	PPARG coactivator 1 alpha
ATP5F1A	P25705	ATP synthase F1 subunit alpha
ALB	P02768	albumin
MSTN	O14793	myostatin
CRP	P02741	C-reactive protein
CST3	P01034	cystatin C
IGF1	P05019	insulin like growth factor 1
PTH	P01270	parathyroid hormone
COPD		Pulmonary disease, chronic obstructive, severe early-onset
IL6	P05231	interleukin 6
TNF	P01375	tumor necrosis factor
VDR	P11473	vitamin D receptor
GH1	P01241	growth hormone 1
GPT	P24298	glutamic--pyruvic transaminase
ADIPOQ	Q15848	adiponectin, C1Q and collagen domain containing
REN	P00797	renin
TTR	P02766	transthyretin
MTOR	P42345	mechanistic target of rapamycin kinase
PRKAA1	Q13131	protein kinase AMP-activated catalytic subunit alpha 1
IL2	P60568	interleukin 2
TP53	P04637	tumor protein p53
MIP	P30301	major intrinsic protein of lens fiber
LEP	P41159	leptin
SOD1	P00441	superoxide dismutase 1
CXCL8	P10145	C-X-C motif chemokine ligand 8
IL15	P40933	interleukin 15
ESR1	P03372	estrogen receptor 1
AGT	P01019	angiotensinogen
NLRP3	Q96P20	NLR family pyrin domain containing 3
CALCR	P30988	calcitonin receptor
DMD	P11532	dystrophin
ACE	P12821	angiotensin I converting enzyme
BEST1	O76090	bestrophin 1
BCHE	P06276	butyrylcholinesterase
SQSTM1	Q13501	sequestosome 1
PIK3CG	P48736	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit gamma
ACE2	Q9BYF1	angiotensin I converting enzyme 2
APLN	Q9ULZ1	apelin
RENBP	P51606	renin binding protein
ACTN3	Q08043	actinin alpha 3 (gene/pseudogene)
PLAT	P00750	plasminogen activator, tissue type
CD38	P28907	CD38 molecule
PRKAA2	P54646	protein kinase AMP-activated catalytic subunit alpha 2
PRKAB1	Q9Y478	protein kinase AMP-activated non-catalytic subunit beta 1
CMAS	Q8NFW8	cytidine monophosphate N-acetylneuraminate acid synthetase
S100B	P04271	S100 calcium binding protein B

CCK	P06307	cholecystokinin
BUB1B	O60566	BUB1 mitotic checkpoint serine/threonine kinase B
TGFB1	P01137	transforming growth factor beta 1
CALR	P27797	calreticulin
PNPLA3	Q9NST1	patatin like phospholipase domain containing 3
ATP6AP2	O75787	ATPase H <sup>+</sup> transporting accessory protein 2
ASPSCR1	Q9BZE9	ASPSCR1 tether for SLC2A4, UBX domain containing
FZD5	Q13467	frizzled class receptor 5
TWIST1	Q15672	twist family bHLH transcription factor 1
BMP2	P12643	bone morphogenetic protein 2
WNK1	Q9H4A3	WNK lysine deficient protein kinase 1
SLC5A2	P31639	solute carrier family 5 member 2
SLC6A8	P48029	solute carrier family 6 member 8
RUNX1	Q01196	RUNX family transcription factor 1
CAV1	Q03135	caveolin 1
SNAP25	P60880	synaptosome associated protein 25
VEGFA	P15692	vascular endothelial growth factor A
GDF11	O95390	growth differentiation factor 11
EIF4EBP2	Q13542	eukaryotic translation initiation factor 4E binding protein 2
EPO	P01588	erythropoietin
FABP4	P15090	fatty acid binding protein 4
FOXP1	Q12778	forkhead box O1
SIRT1	Q96EB6	sirtuin 1
ANGPTL2	Q9UKU9	angiopoietin like 2
SMUG1	Q53HV7	single-strand-selective monofunctional uracil-DNA glycosylase 1
NUP62	P37198	nucleoporin 62
GABPA	Q06546	GA binding protein transcription factor subunit alpha
EIF4EBP1	Q13541	eukaryotic translation initiation factor 4E binding protein 1
AHSG	P02765	alpha 2-HS glycoprotein
METTL21C	Q5VZV1	methyltransferase like 21C
CEACAM5	P06731	CEA cell adhesion molecule 5
SORBS1	Q9BX66	sorbin and SH3 domain containing 1
KHDRBS1	Q07666	KH RNA binding domain containing, signal transduction associated 1
CLU	P10909	clusterin
PLIN2	Q99541	perilipin 2
CTNNB1	P35222	catenin beta 1
CTSL	P07711	cathepsin L
DNAH8	Q96JB1	dynein axonemal heavy chain 8
EGFR	P00533	epidermal growth factor receptor
NR3C1	P04150	nuclear receptor subfamily 3 group C member 1
CD274	Q9NZQ7	CD274 molecule
MMP3	P08254	matrix metallopeptidase 3
MSRA	Q9UJ68	methionine sulfoxide reductase A
MTHFR	P42898	methylenetetrahydrofolate reductase
NCAM1	P13591	neural cell adhesion molecule 1
ACLY	P53396	ATP citrate lyase

NFE2L2	Q16236	nuclear factor, erythroid 2 like 2
NM		neutrophil migration
OSM	P13725	oncostatin M
DCTN4	Q9UJW0	dynactin subunit 4
PFKFB3	Q16875	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 3
PIK3CA	P42336	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit alpha
PIK3CB	P42338	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit beta
ARSA	P15289	arylsulfatase A
MIR21		microRNA 21
ARNTL	O00327	aryl hydrocarbon receptor nuclear translocator like
GTF2H1	P32780	general transcription factor IIH subunit 1
HFE	Q30201	homeostatic iron regulator
HSD11B1	P28845	hydroxysteroid 11-beta dehydrogenase 1
HSPA1A	P0DMV8;P0DMV9	heat shock protein family A (Hsp70) member 1A
IFNG	P01579	interferon gamma
IL1A	P01583	interleukin 1 alpha
IL4	P05112	interleukin 4
IL10	P22301	interleukin 10
ILK	Q13418	integrin linked kinase
INSRR	P14616	insulin receptor related receptor
LMNA	P02545	lamin A/C
LNPEP	Q9UIQ6	leucyl and cysteinyl aminopeptidase
PIK3CD	O00329	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit delta

## **Step 4:**

Identify the protein targets encoded by the 119 common genes shared between sarcopenia and obesity. This was accomplished by mapping the gene identifiers to their corresponding protein products using the UniProt Database (UniProtKB, <http://www.uniprot.org/>).

The list of protein targets, derived from the 119 common genes shared between sarcopenia (Disease ID: C0872084) and generalized obesity (Disease ID: C0028754), is provided below:

Gene	UniProt	Protien Name
AR	P10275	Androgen receptor
MFN2	O95140	Mitofusin-2
BCL2	P10415	Apoptosis regulator Bcl-2
EIF2S1	P05198	Eukaryotic translation initiation factor 2 subunit 1
PPARGC1A	Q9UBK2	Peroxisome proliferator-activated receptor gamma coactivator 1-alpha
ATP5F1A	P25705	ATP synthase subunit alpha, mitochondrial.
ALB	P02768	Albumin
MSTN	O14793	Myostatin
CRP	P02741	C-reactive protein
CST3	P01034	Cystatin-C
IGF1	P05019	Insulin-like growth factor I
PTH	P01270	Parathyroid hormone
COPD		Coatomer subunit delta
IL6	P05231	Interleukin-6
TNF	P01375	Tumor necrosis factor
VDR	P11473	Vitamin D3 receptor
GH1	P01241	Somatotropin
GPT	P24298	Glutamate pyruvate transaminase 1
ADIPOQ	Q15848	Adiponectin
REN	P00797	Renin
TTR	P02766	Transthyretin
MTOR	P42345	Serine/threonine-protein kinase mTOR
PRKAA1	Q13131	5'-AMP-activated protein kinase catalytic subunit alpha-1
IL2	P60568	Interleukin-2
TP53	P04637	Cellular tumor antigen p53
MIP	P30301	Lens fiber major intrinsic protein
LEP	P41159	Leptin
SOD1	P00441	Superoxide dismutase [Cu-Zn]
CXCL8	P10145	C-X-C motif chemokine 8
IL15	P40933	interleukin 15
ESR1	P03372	Estrogen receptor
AGT	P01019	Angiotensinogen
NLRP3	Q96P20	NACHT, LRR and PYD domains-containing protein 3
CALCR	P30988	Calcitonin receptor
DMD	P11532	Dystrophin
ACE	P12821	angiotensin I converting enzyme
BEST1	O76090	Bestrophin-1
BCHE	P06276	Butyrylcholine esterase
SQSTM1	Q13501	Sequestosome-1
PIK3CG	P48736	Phosphatidylinositol 4,5-bisphosphate 3-kinase catalytic subunit gamma isoform
ACE2	Q9BYF1	Angiotensin-converting enzyme 2
APLN	Q9ULZ1	Apelin
RENBP	P51606	N-acylglucosamine 2-epimerase
ACTN3	Q08043	Alpha-actinin-3
PLAT	P00750	Tissue-type plasminogen activator

CD38	P28907	ADP-ribosyl cyclase/cyclic ADP-ribose hydrolase 1
PRKAA2	P54646	5'-AMP-activated protein kinase catalytic subunit alpha-2
PRKAB1	Q9Y478	5'-AMP-activated protein kinase subunit beta-1
CMAS	Q8NFW8	N-acylneuraminate cytidyltransferase
S100B	P04271	Protein S100-B
CCK	P06307	Cholecystokinin
BUB1B	O60566	Mitotic checkpoint serine/threonine-protein kinase BUB1 beta
TGFB1	P01137	Transforming growth factor beta-1 proprotein
CALR	P27797	Calreticulin
PNPLA3	Q9NST1	Patatin-like phospholipase domain containing 3
ATP6AP2	O75787	Renin receptor
ASPSCR1	Q9BZE9	ASPSCR1 tether for SLC2A4
FZD5	Q13467	Frizzled-5
TWIST1	Q15672	Twist-related protein 1
BMP2	P12643	Bone morphogenetic protein 2
WNK1	Q9H4A3	Serine/threonine-protein kinase WNK1
SLC5A2	P31639	Solute carrier family 5 member 2
SLC6A8	P48029	solute carrier family 6 member 8
RUNX1	Q01196	Runt-related transcription factor 1
CAV1	Q03135	caveolin 1
SNAP25	P60880	Synaptosomal-associated protein 25
VEGFA	P15692	Vascular endothelial growth factor A
GDF11	O95390	Growth/differentiation factor 11
EIF4EBP2	Q13542	Eukaryotic translation initiation factor 4E-binding protein 2
EPO	P01588	Erythropoietin
FABP4	P15090	Fatty acid-binding protein 4
FOXO1	Q12778	Forkhead box protein O1
SIRT1	Q96EB6	NAD-dependent protein deacetylase sirtuin-1
ANGPTL2	Q9UKU9	Angiopoietin-related protein 2
SMUG1	Q53HV7	Single-strand selective monofunctional uracil DNA glycosylase
NUP62	P37198	Nuclear pore glycoprotein p62
GABPA	Q06546	GA-binding protein alpha chain
EIF4EBP1	Q13541	Eukaryotic translation initiation factor 4E-binding protein 1
AHSG	P02765	Alpha-2-HS-glycoprotein
METTL21C	Q5VZV1	Protein-lysine methyltransferase METTL21C
CEACAM5	P06731	Carcinoembryonic antigen-related cell adhesion molecule 5
SORBS1	Q9BX66	Sorbin and SH3 domain-containing protein 1
KHDRBS1	Q07666	KH domain-containing, RNA-binding, signal transduction-associated protein 1
CLU	P10909	Clusterin
PLIN2	Q99541	Perilipin-2
CTNNB1	P35222	Catenin beta-1
CTSL	P07711	Cathepsin L
DNAH8	Q96JB1	dynein axonemal heavy chain 8
EGFR	P00533	epidermal growth factor receptor
NR3C1	P04150	nuclear receptor subfamily 3 group C member 1
CD274	Q9NZQ7	CD274 molecule

MMP3	P08254	matrix metallopeptidase 3
MSRA	Q9UJ68	Mitochondrial peptide methionine sulfoxide reductase
MTHFR	P42898	Methylenetetrahydrofolate reductase (NADPH)
NCAM1	P13591	Neural cell adhesion molecule 1,
ACLY	P53396	ATP-citrate synthase
NFE2L2	Q16236	Nuclear factor erythroid 2-related factor 2
NM		neutrophil migration
OSM	P13725	Oncostatin-M
DCTN4	Q9UJW0	Dynactin subunit 4
PFKFB3	Q16875	6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 3
PIK3CA	P42336	Phosphatidylinositol 4,5-bisphosphate 3-kinase catalytic subunit alpha isoform
PIK3CB	P42338	Phosphatidylinositol 4,5-bisphosphate 3-kinase catalytic subunit beta isoform
ARSA	P15289	Arylsulfatase A
MIR21		microRNA 21
ARNTL	O00327	Aryl hydrocarbon receptor nuclear translocator-like protein 1
GTF2H1	P32780	General transcription factor IIH subunit 1
HFE	Q30201	Hereditary hemochromatosis protein,
HSD11B1	P28845	11-beta-hydroxysteroid dehydrogenase 1
HSPA1A	P0DMV8;P0DMV9	Heat shock 70 kDa protein 1A
IFNG	P01579	Interferon gamma
IL1A	P01583	Interleukin-1 alpha
IL4	P05112	Interleukin-4
IL10	P22301	Interleukin-10
ILK	Q13418	Integrin-linked protein kinase
INSRR	P14616	Insulin receptor-related protein
LMNA	P02545	Prelamin-A/C
LNPEP	Q9UIQ6	Leucyl-cysteinyl aminopeptidase
PIK3CD	O00329	Phosphatidylinositol 4,5-bisphosphate 3-kinase catalytic subunit delta isoform

## **Step 5:**

Identify phytochemicals from Indian medicinal plants that may act on the targets associated with sarcopenia. This was accomplished using the IMPPAT (Indian Medicinal Plants, Phytochemistry And Therapeutics) database (<https://cb.imsc.res.in/imppat/>), a comprehensive resource on Indian medicinal plants and their therapeutic applications.

The following steps were taken:

- a) Access the IMPPAT database homepage and navigate to the "Therapeutic Use Category" section.
- b) Since sarcopenia was not listed as a specific condition, the related category of "muscle weakness" was selected as a proxy.
- c) Scroll down to the "muscle weakness" category and retrieve the list of medicinal plants and their respective parts used for treating this condition.
- d) For each plant listed, copy the plant name and use the "Basic Search" option on the IMPPAT homepage to obtain the phytochemicals present in the specific plant part used for therapeutic purposes.
- e) Compile a list of the identified phytochemicals, along with their respective medicinal plant sources and plant parts.

The list of phytochemicals, their medicinal plant sources, and plant parts potentially active against sarcopenia (based on the "muscle weakness" category) is provided below:

Indian medicinal plant	Plant part	IMPPAT Phytochemical identifier	Phytochemical name
<i>Coccinia grandis</i>	leaf	IMPHY009413	Triacontane
<i>Coccinia grandis</i>	leaf	IMPHY014836	beta-Sitosterol
<i>Elaeagnus rhamnoides</i>		IMPHY000308	Hexadecane
<i>Elaeagnus rhamnoides</i>		IMPHY000569	Procyanidin
<i>Elaeagnus rhamnoides</i>		IMPHY000827	Resveratrol
<i>Elaeagnus rhamnoides</i>		IMPHY001739	3,6,7-Trihydroxy-2-(4-hydroxy-3-methoxyphenyl)chromen-4-one
<i>Elaeagnus rhamnoides</i>		IMPHY002430	Hippophaenin B
<i>Elaeagnus rhamnoides</i>		IMPHY003130	1-Hexacosene
<i>Elaeagnus rhamnoides</i>		IMPHY003262	2,6,11-Trimethyldodecane
<i>Elaeagnus rhamnoides</i>		IMPHY003463	Dehydroascorbic acid
<i>Elaeagnus rhamnoides</i>		IMPHY003500	Citric acid
<i>Elaeagnus rhamnoides</i>		IMPHY004078	6-methoxy-2H-chromene
<i>Elaeagnus rhamnoides</i>		IMPHY004130	Sinapic acid
<i>Elaeagnus rhamnoides</i>		IMPHY004388	Kaempferol
<i>Elaeagnus rhamnoides</i>		IMPHY004442	Harmalol
<i>Elaeagnus rhamnoides</i>		IMPHY004618	Physalien
<i>Elaeagnus rhamnoides</i>		IMPHY004619	Quercetin
<i>Elaeagnus rhamnoides</i>		IMPHY004645	beta-Cryptoxanthin
<i>Elaeagnus rhamnoides</i>		IMPHY004653	Serotonin
<i>Elaeagnus rhamnoides</i>		IMPHY004756	Isorhamnetin 3-sophoroside
<i>Elaeagnus rhamnoides</i>		IMPHY005356	(10R,11S)-11-[(10R,11R)-3,4,5,17,18,19-hexahydroxy-8,14-dioxo-11-(3,4,5-trihydroxybenzoyl)oxy-9,13-dioxatricyclo[13.4.0.02,7]nonadeca-1(19),2,4,6,15,17-hexaen-10-yl]-3,4,5,16,17,18-hexahydroxy-8,13-dioxo-9,12-dioxatricyclo[12.4.0.02,7]octadeca-1(18),2,4,6,14,16-hexaene-10-carboxylic acid
<i>Elaeagnus rhamnoides</i>		IMPHY005443	Phloionolic acid
<i>Elaeagnus rhamnoides</i>		IMPHY005471	Myricetin
<i>Elaeagnus rhamnoides</i>		IMPHY005537	Ellagic acid
<i>Elaeagnus rhamnoides</i>		IMPHY005566	Harman
<i>Elaeagnus rhamnoides</i>		IMPHY005663	2,6-Di-tert-butyl-4-ethylphenol
<i>Elaeagnus rhamnoides</i>		IMPHY005936	trans-2-Nonen-1-ol
<i>Elaeagnus rhamnoides</i>		IMPHY006362	Ascorbic acid
<i>Elaeagnus rhamnoides</i>		IMPHY007109	2,3-Butanedione
<i>Elaeagnus rhamnoides</i>		IMPHY007222	Pentanal
<i>Elaeagnus rhamnoides</i>		IMPHY007225	Harmol
<i>Elaeagnus rhamnoides</i>		IMPHY007230	Butyl glyoxylate
<i>Elaeagnus rhamnoides</i>		IMPHY007327	Palmitic acid
<i>Elaeagnus rhamnoides</i>		IMPHY008215	18-Hydroxy-9-octadecenoic acid
<i>Elaeagnus rhamnoides</i>		IMPHY008724	Isorhamnetin
<i>Elaeagnus rhamnoides</i>		IMPHY010072	Eucalyptol
<i>Elaeagnus rhamnoides</i>		IMPHY010974	10,16-Dihydroxyhexadecanoic acid
<i>Elaeagnus rhamnoides</i>		IMPHY011609	alpha-Carotene
<i>Elaeagnus rhamnoides</i>		IMPHY011707	beta-Carotene
<i>Elaeagnus rhamnoides</i>		IMPHY011735	(+)-Gallocatechin
<i>Elaeagnus rhamnoides</i>		IMPHY011737	Epigallocatechin
<i>Elaeagnus rhamnoides</i>		IMPHY011748	isorhamnetin-3-O-glucoside
<i>Elaeagnus rhamnoides</i>		IMPHY011785	Zeaxanthin
<i>Elaeagnus rhamnoides</i>		IMPHY011802	Ferulic acid
<i>Elaeagnus rhamnoides</i>		IMPHY011826	Oleanolic acid
<i>Elaeagnus rhamnoides</i>		IMPHY011844	Chlorogenic acid

Elaeagnus rhamnoides		IMPHY011880	Ursolic acid
Elaeagnus rhamnoides		IMPHY011933	Caffeic acid
Elaeagnus rhamnoides		IMPHY011974	4-Hydroxycinnamic acid
Elaeagnus rhamnoides		IMPHY012021	Gallic acid
Elaeagnus rhamnoides		IMPHY012868	Narcissin
Elaeagnus rhamnoides		IMPHY014824	Astragalin
Elaeagnus rhamnoides		IMPHY014836	beta-Sitosterol
Elaeagnus rhamnoides		IMPHY015047	Rutin
Elaeagnus rhamnoides		IMPHY015054	Quercitrin
Ichnocarpus frutescens	root	IMPHY006588	2-Hydroxy-4-methoxybenzaldehyde
Ichnocarpus frutescens	root	IMPHY014836	beta-Sitosterol
Ichnocarpus frutescens	stem	IMPHY004141	alpha-Amyrenyl acetate
Ichnocarpus frutescens	stem	IMPHY011619	alpha-Amyrin
Ichnocarpus frutescens	stem	IMPHY011688	Friedelin
Ichnocarpus frutescens	stem	IMPHY011859	Epifriedelanol
Ichnocarpus frutescens	stem	IMPHY012473	Lupeol
Ichnocarpus frutescens	stem	IMPHY014836	beta-Sitosterol
Ichnocarpus frutescens	stem	IMPHY014991	Lupeol acetate
Rosa damascena	flower	IMPHY000308	Hexadecane
Rosa damascena	flower	IMPHY000545	O-Cymene
Rosa damascena	flower	IMPHY000795	Octanal
Rosa damascena	flower	IMPHY001246	Carvacrol
Rosa damascena	flower	IMPHY001493	Methyl tridecanoate
Rosa damascena	flower	IMPHY001494	Methyl heptadecanoate
Rosa damascena	flower	IMPHY001516	Decane
Rosa damascena	flower	IMPHY001548	Geranylacetone
Rosa damascena	flower	IMPHY001816	gamma-Terpineol
Rosa damascena	flower	IMPHY001828	3-Octanol
Rosa damascena	flower	IMPHY001896	Heptacosane
Rosa damascena	flower	IMPHY001915	Octadecane
Rosa damascena	flower	IMPHY002875	Undecane
Rosa damascena	flower	IMPHY002915	Benzyl Alcohol
Rosa damascena	flower	IMPHY002983	1-Hexadecanol
Rosa damascena	flower	IMPHY003016	Lauric acid
Rosa damascena	flower	IMPHY003050	Methyl salicylate
Rosa damascena	flower	IMPHY003179	3-Octanone
Rosa damascena	flower	IMPHY003485	Myrcene
Rosa damascena	flower	IMPHY003513	Isoamyl alcohol
Rosa damascena	flower	IMPHY003518	Methyl tetradecanoate
Rosa damascena	flower	IMPHY003525	Nonanal
Rosa damascena	flower	IMPHY003536	Eugenol

Rosa damascena	flower	IMPHY003537	Tetradecanal
Rosa damascena	flower	IMPHY003555	o-Cresol
Rosa damascena	flower	IMPHY003720	(1S,6R,7R)-1-methyl-3-methylidene-8-propan-2-yltricyclo[4.4.0.02,7]decane
Rosa damascena	flower	IMPHY003723	2,4-Decadienal
Rosa damascena	flower	IMPHY003977	(-)beta-Bourbonene
Rosa damascena	flower	IMPHY003982	gamma-Terpinene
Rosa damascena	flower	IMPHY004077	Verbenone
Rosa damascena	flower	IMPHY004135	Cyclohexene, 6-ethenyl-6-methyl-1-(1-methylethyl)-3-(1-methylethylidene)-, (S)-
Rosa damascena	flower	IMPHY004150	Neryl formate
Rosa damascena	flower	IMPHY004151	Geranyl formate
Rosa damascena	flower	IMPHY004194	(1S,2R,5S)-2-isopropyl-5-methylcyclohexyl acetate
Rosa damascena	flower	IMPHY004414	3,7-Dimethylocta-1,3,7-triene
Rosa damascena	flower	IMPHY004536	Geranic acid
Rosa damascena	flower	IMPHY004619	Quercetin
Rosa damascena	flower	IMPHY004929	Juglanin
Rosa damascena	flower	IMPHY005345	1-Octen-3-OL
Rosa damascena	flower	IMPHY005804	Dimethyl trisulfide
Rosa damascena	flower	IMPHY006003	Phenethyl acetate
Rosa damascena	flower	IMPHY006007	Citronellyl formate
Rosa damascena	flower	IMPHY006033	Ethyl butyrate
Rosa damascena	flower	IMPHY006063	1-Docosene
Rosa damascena	flower	IMPHY006145	p-Cymene
Rosa damascena	flower	IMPHY006177	Methyl geranate
Rosa damascena	flower	IMPHY006279	2-Phenylethanol
Rosa damascena	flower	IMPHY006324	Linalyl propionate
Rosa damascena	flower	IMPHY006347	Hexanal
Rosa damascena	flower	IMPHY006352	Nerol oxide
Rosa damascena	flower	IMPHY006404	Damascenone
Rosa damascena	flower	IMPHY006417	2,6-Dimethyl-2,4,6-octatriene
Rosa damascena	flower	IMPHY006668	Isophorone
Rosa damascena	flower	IMPHY006696	Methyleugenol
Rosa damascena	flower	IMPHY006898	Stearyl alcohol
Rosa damascena	flower	IMPHY006925	1-Octadecene
Rosa damascena	flower	IMPHY006948	beta-Terpineol
Rosa damascena	flower	IMPHY006951	Eicosane
Rosa damascena	flower	IMPHY006970	Decanal
Rosa damascena	flower	IMPHY006971	Methyl palmitate
Rosa damascena	flower	IMPHY006989	2-Pentanone
Rosa damascena	flower	IMPHY006996	1-Dodecene
Rosa damascena	flower	IMPHY007039	Acetophenone
Rosa damascena	flower	IMPHY007067	Linalyl acetate
Rosa damascena	flower	IMPHY007131	Perillene
Rosa damascena	flower	IMPHY007171	1-Hexanol
Rosa damascena	flower	IMPHY007182	1-Tetradecanol

Rosa damascena	flower	IMPHY007186	Heptanal
Rosa damascena	flower	IMPHY007202	Nonane
Rosa damascena	flower	IMPHY007204	Dodecanal
Rosa damascena	flower	IMPHY007213	Methyl stearate
Rosa damascena	flower	IMPHY007215	Methyl dodecanoate
Rosa damascena	flower	IMPHY007221	Methyl decanoate
Rosa damascena	flower	IMPHY007222	Pentanal
Rosa damascena	flower	IMPHY007253	(Z)-3,7-Dimethylocta-2,6-dien-1-yl dodecanoate
Rosa damascena	flower	IMPHY007254	1-Octene
Rosa damascena	flower	IMPHY007267	beta-Terpinene
Rosa damascena	flower	IMPHY007276	Nonan-1-ol
Rosa damascena	flower	IMPHY007302	Hexyl acetate
Rosa damascena	flower	IMPHY007331	6-Methyl-5-hepten-2-one
Rosa damascena	flower	IMPHY007421	Citronellyl acetate
Rosa damascena	flower	IMPHY007467	Hexadecanal
Rosa damascena	flower	IMPHY007528	Cadinane
Rosa damascena	flower	IMPHY007620	1-Octanol
Rosa damascena	flower	IMPHY007852	Azulene
Rosa damascena	flower	IMPHY008203	Methyl ursolate
Rosa damascena	flower	IMPHY008360	Methyl pentadecanoate
Rosa damascena	flower	IMPHY008910	Hentriaccontane
Rosa damascena	flower	IMPHY008936	alpha-Guaiene
Rosa damascena	flower	IMPHY008946	delta-Guaiene
Rosa damascena	flower	IMPHY008972	Butyl acetate
Rosa damascena	flower	IMPHY008991	Benzyl acetate
Rosa damascena	flower	IMPHY009017	Phytane
Rosa damascena	flower	IMPHY009355	Tetracosane
Rosa damascena	flower	IMPHY009359	Hexacosane
Rosa damascena	flower	IMPHY009368	Heptadecane
Rosa damascena	flower	IMPHY009369	Nonadecane
Rosa damascena	flower	IMPHY009375	Docosane
Rosa damascena	flower	IMPHY009377	Pentacosane
Rosa damascena	flower	IMPHY009382	Heneicosane
Rosa damascena	flower	IMPHY009389	Pentadecane
Rosa damascena	flower	IMPHY009413	Triacontane
Rosa damascena	flower	IMPHY009419	Tridecane
Rosa damascena	flower	IMPHY009481	Octacosane
Rosa damascena	flower	IMPHY009482	Nonacosane
Rosa damascena	flower	IMPHY009483	Tritriaccontane
Rosa damascena	flower	IMPHY009490	Tricosane
Rosa damascena	flower	IMPHY009626	2-Nonanol
Rosa damascena	flower	IMPHY009681	Methyl behenate
Rosa damascena	flower	IMPHY009751	1-Heptanol
Rosa damascena	flower	IMPHY009774	Benzothiazole

Rosa damascena	flower	IMPHY009853	Naphthalene
Rosa damascena	flower	IMPHY009874	Myrtenyl acetate
Rosa damascena	flower	IMPHY009946	Benzaldehyde
Rosa damascena	flower	IMPHY009980	Ethylbenzene
Rosa damascena	flower	IMPHY009993	Isogeraniol
Rosa damascena	flower	IMPHY009997	Geranyl isovalerate
Rosa damascena	flower	IMPHY010000	Dodecane
Rosa damascena	flower	IMPHY010031	Phenylethyl beta-D-glucopyranoside
Rosa damascena	flower	IMPHY010072	Eucalyptol
Rosa damascena	flower	IMPHY010080	beta-Elemene
Rosa damascena	flower	IMPHY010086	6-Methylhept-5-en-2-ol
Rosa damascena	flower	IMPHY010097	Benzyl benzoate
Rosa damascena	flower	IMPHY010579	1-Eicosene
Rosa damascena	flower	IMPHY010580	Tiliroside
Rosa damascena	flower	IMPHY010585	(1aR,7R,7aR,7bS)-1,1,7,7a-tetramethyl-2,3,5,6,7,7b-hexahydro-1aH-cyclopropa[a]naphthalene
Rosa damascena	flower	IMPHY011008	1-Heptadecene
Rosa damascena	flower	IMPHY011010	1-Nonadecene
Rosa damascena	flower	IMPHY011057	9-Eicosene, (E)-
Rosa damascena	flower	IMPHY011081	alpha-Damascenone
Rosa damascena	flower	IMPHY011215	Tetradecane
Rosa damascena	flower	IMPHY011392	3-Carene
Rosa damascena	flower	IMPHY011396	4-Carvomenthenol
Rosa damascena	flower	IMPHY011519	alpha-Terpinyl acetate
Rosa damascena	flower	IMPHY011542	beta-Eudesmol
Rosa damascena	flower	IMPHY011570	(2Z,6E)-Farnesyl acetate
Rosa damascena	flower	IMPHY011581	alpha-Selinene
Rosa damascena	flower	IMPHY011586	(S,1Z,6Z)-8-Isopropyl-1-methyl-5-methylenecyclodeca-1,6-diene
Rosa damascena	flower	IMPHY011588	cis-3-Hexen-1-ol
Rosa damascena	flower	IMPHY011599	Terpinolene
Rosa damascena	flower	IMPHY011609	alpha-Carotene
Rosa damascena	flower	IMPHY011619	alpha-Amyrin
Rosa damascena	flower	IMPHY011631	(E,Z)-farnesol
Rosa damascena	flower	IMPHY011632	Farnesol
Rosa damascena	flower	IMPHY011643	alpha-Terpinene
Rosa damascena	flower	IMPHY011647	Geranyl acetate
Rosa damascena	flower	IMPHY011648	Neryl acetate
Rosa damascena	flower	IMPHY011658	beta-Farnesene
Rosa damascena	flower	IMPHY011660	(+)-alpha-Cadinene
Rosa damascena	flower	IMPHY011709	alpha-Eudesmol
Rosa damascena	flower	IMPHY011741	Tannic acid
Rosa damascena	flower	IMPHY011761	Humulene
Rosa damascena	flower	IMPHY011789	Citral
Rosa damascena	flower	IMPHY011790	Neral
Rosa damascena	flower	IMPHY011793	(+)-gamma-Cadinene

Rosa damascena	flower	IMPHY011804	cis-3-Hexenyl acetate
Rosa damascena	flower	IMPHY011817	alpha-Farnesene
Rosa damascena	flower	IMPHY011844	Chlorogenic acid
Rosa damascena	flower	IMPHY011884	Pulegone
Rosa damascena	flower	IMPHY011890	Elemol
Rosa damascena	flower	IMPHY011896	Valencene
Rosa damascena	flower	IMPHY011919	Afzelin
Rosa damascena	flower	IMPHY011957	(+)-delta-Cadinene
Rosa damascena	flower	IMPHY012019	Acetone
Rosa damascena	flower	IMPHY012058	Linalool
Rosa damascena	flower	IMPHY012061	alpha-Pinene
Rosa damascena	flower	IMPHY012070	o-Xylene
Rosa damascena	flower	IMPHY012086	Citronellal
Rosa damascena	flower	IMPHY012097	Methyl octanoate
Rosa damascena	flower	IMPHY012104	Citronellol
Rosa damascena	flower	IMPHY012133	1-Hexadecene
Rosa damascena	flower	IMPHY012147	beta-Pinene
Rosa damascena	flower	IMPHY012160	alpha-Terpineol
Rosa damascena	flower	IMPHY012165	Sabinene
Rosa damascena	flower	IMPHY012175	D-Limonene
Rosa damascena	flower	IMPHY012178	p-Menthan-3-one
Rosa damascena	flower	IMPHY012179	(2S,4R)-4-methyl-2-(2-methylprop-1-en-1-yl)tetrahydro-2H-pyran
Rosa damascena	flower	IMPHY012193	Methyl pentacosanoate
Rosa damascena	flower	IMPHY012223	beta-Amyrin
Rosa damascena	flower	IMPHY012238	Methyl tetracosanoate
Rosa damascena	flower	IMPHY012287	Pulegol
Rosa damascena	flower	IMPHY012479	2-Methyltricosane
Rosa damascena	flower	IMPHY012487	Menthofuran
Rosa damascena	flower	IMPHY012524	Cyanin
Rosa damascena	flower	IMPHY012586	(-)-alpha-Cadinol
Rosa damascena	flower	IMPHY012626	Dihydro-beta-ionol
Rosa damascena	flower	IMPHY012654	Nerol
Rosa damascena	flower	IMPHY012667	Caryophyllene oxide
Rosa damascena	flower	IMPHY012712	Phytol
Rosa damascena	flower	IMPHY012738	Isocaryophyllene
Rosa damascena	flower	IMPHY012739	(Z)-beta-Ocimene
Rosa damascena	flower	IMPHY012920	2-Furanmethanol, 5-ethenyltetrahydro-alpha,alpha,5-trimethyl-, cis-
Rosa damascena	flower	IMPHY012922	Cyanine
Rosa damascena	flower	IMPHY013785	Methyl nonadecanoate
Rosa damascena	flower	IMPHY013900	1-Tricosene
Rosa damascena	flower	IMPHY014024	1-Heneicosene
Rosa damascena	flower	IMPHY014567	1,2-Epithiohumulene
Rosa damascena	flower	IMPHY014708	beta-Selinene
Rosa damascena	flower	IMPHY014811	alpha-Phellandrene

Rosa damascena	flower	IMPHY014824	Astragalin
Rosa damascena	flower	IMPHY014831	beta-Caryophyllene
Rosa damascena	flower	IMPHY014835	(E)-beta-ocimene
Rosa damascena	flower	IMPHY014923	Geraniol
Rosa damascena	flower	IMPHY014925	beta-D-Glucose
Rosa damascena	flower	IMPHY014951	(+)-Isomenthol
Rosa damascena	flower	IMPHY014966	Trifolin
Rosa damascena	flower	IMPHY014988	Limonene
Rosa damascena	flower	IMPHY014989	trans-Linalool oxide
Rosa damascena	flower	IMPHY015003	Menthol
Rosa damascena	flower	IMPHY015004	Menthone
Rosa damascena	flower	IMPHY015022	Nerolidol
Rosa damascena	flower	IMPHY015054	Quercitrin
Rosa damascena	flower	IMPHY015059	Rose oxide
Rosa damascena	flower	IMPHY015131	10-Heneicosene (c,t)
Rosa damascena	flower	IMPHY015205	1-Tridecene
Rosa damascena	flower	IMPHY015240	2,6,10-Trimethylpentadecane
Rosa damascena	flower	IMPHY015417	5-Methyltridecane
Rosa damascena	flower	IMPHY015458	9-Hexacosene
Rosa damascena	flower	IMPHY015463	9-Tetracosene
Rosa damascena	flower	IMPHY015573	Citronellyl octanoate
Rosa damascena	flower	IMPHY015660	Ethyl decanoate
Rosa damascena	flower	IMPHY015840	Methyl nonanoate
Rosa damascena	flower	IMPHY016081	3,7-Dimethyl-5-octene-1,7-diol
Rosa damascena	flower	IMPHY016502	Aciphyllene
Rosa damascena	flower	IMPHY016602	Cyclopentanone
Rosa damascena	flower	IMPHY016746	Methyl heptacosanoate
Rosa damascena	flower	IMPHY016747	Methyl hexacosanoate
Rosa damascena	flower	IMPHY016751	Methyl octacosanoate
Rosa damascena	flower	IMPHY016755	Methyl tricosanoate
Rosa damascena	flower	IMPHY017159	3-Methyl-2-hexanol
Rosa damascena	flower	IMPHY017202	(S)-3,4-Dimethylpentanol
Rosa damascena	flower	IMPHY017294	1,4-Dichlorobenzene
Rosa damascena	flower	IMPHY017301	4-Ethyl-5-methylnonane
Rosa damascena	flower	IMPHY017416	(E)-3-Octadecene
Rosa damascena	flower	IMPHY017949	(2E,5e)-3,7-dimethyl-2,5-octadien-1,7-diol
Strychnos nux-vomica	seed	IMPHY000064	(+)-Condylcarpine
Strychnos nux-vomica	seed	IMPHY000330	Pseudo-alpha-colubrine
Strychnos nux-vomica	seed	IMPHY000354	(4aR,5aR,8aS,13aS,15aS,15bR)-5a-hydroxy-10-methoxy-2,4a,5,7,8,13a,15,15a,15b,16-decahydro4,6-methanoindolo[3,2,1-ij]oxepino[2,3,4-de]pyrrolo[2,3-h]quinolin-14-one
Strychnos nux-vomica	seed	IMPHY000964	Brucine
Strychnos nux-vomica	seed	IMPHY001619	Salidroside
Strychnos nux-vomica	seed	IMPHY002140	1-[(12S,13R,14R,19R,21S)-14-hydroxy-15-oxa-1,11-diazahexacyclo[16.3.1.04,12.04,21.05,10.013,19]docosa-5,7,9,17-tetraen-11-yl]ethanone
Strychnos nux-vomica	seed	IMPHY002152	alpha-COLUBRINE

Strychnos nux-vomica	seed	IMPHY002300	(10S,22R,23R,24S)-4-methyl-9-oxa-4,13-diazahexacyclo[11.6.5.01,24.06,22.010,23.014,19]tetracosa-6,14,16,18-tetraene-12,20-dione
Strychnos nux-vomica	seed	IMPHY002416	(1S,13S,14Z,19S,21S)-14-(2-hydroxyethylidene)-4,5-dimethoxy-16-oxido-8-aza-16-azoniahexacyclo[11.5.2.11,8.02,7.016,19.012,21]henicosa-2,4,6,11-tetraen-9-one
Strychnos nux-vomica	seed	IMPHY002449	Vomicine
Strychnos nux-vomica	seed	IMPHY002966	beta-COLUBRINE
Strychnos nux-vomica	seed	IMPHY003699	Loganin
Strychnos nux-vomica	seed	IMPHY005220	2-Hydroxy-3-methoxystychnine
Strychnos nux-vomica	seed	IMPHY005229	Pseudostrychnine
Strychnos nux-vomica	seed	IMPHY005478	Strychnine
Strychnos nux-vomica	seed	IMPHY005503	4-Hydroxystychnine
Strychnos nux-vomica	seed	IMPHY006703	Corynan-16-carboxylic acid, 16,17,19,20-tetrahydro-17-hydroxy-, methyl ester, (16E,19E)-(1R,13S,14Z,19S,21S)-14-(2-hydroxyethylidene)-8,16-diazahexacyclo[11.5.2.11,8.02,7.016,19.012,21]henicosa-2,4,6,11-tetraen-9-one
Strychnos nux-vomica	seed	IMPHY006720	(1R,13S,14Z,19S,21S)-14-(2-hydroxyethylidene)-4,5-dimethoxy-8,16-diazahexacyclo[11.5.2.11,8.02,7.016,19.012,21]henicosa-2,4,6,11-tetraen-9-one
Strychnos nux-vomica	seed	IMPHY006756	(1R,13S,14Z,19S,21S)-14-(2-hydroxyethylidene)-4,5-dimethoxy-8,16-diazahexacyclo[11.5.2.11,8.02,7.016,19.012,21]henicosa-2,4,6,11-tetraen-9-one
Strychnos nux-vomica	seed	IMPHY007002	Strychnine N-oxide
Strychnos nux-vomica	seed	IMPHY008836	Cuchiloside
Strychnos nux-vomica	seed	IMPHY010539	Novaccine
Strychnos nux-vomica	seed	IMPHY011257	(4aR,5aS,6R,8aS,13aS,15aS,15bR)-10,11-dimethoxy-6-oxido-4a,5,5a,7,8,13a,15,15a,15b,16-decahydro-2H-4,6-methanoindolo[3,2,1-ij]oxepino[2,3,4-de]pyrrolo[2,3-h]quinolin-6-iium-14-one
Strychnos nux-vomica	seed	IMPHY011390	Isostrychnine N-oxide
Strychnos nux-vomica	seed	IMPHY011844	Chlorogenic acid
Symphytum officinale		IMPHY004597	Rosmarinic acid
Symphytum officinale		IMPHY005501	Allantoin
Tabernaemontana alternifolia	root	IMPHY000996	Ibogamine
Tabernaemontana alternifolia	root	IMPHY001591	methyl (1S,17R)-17-(1-hydroxyethyl)-3,13-diazapentacyclo[13.3.1.02,10.04,9.013,18]nonadeca-2(10),4,6,8-tetraene-1-carboxylate
Tabernaemontana alternifolia	root	IMPHY007011	Coronaridine
Tabernaemontana alternifolia	root	IMPHY010496	Voacangine
Tabernaemontana alternifolia	root	IMPHY014012	Voaluteine
Tabernaemontana divaricata		IMPHY000996	Ibogamine
Tabernaemontana divaricata		IMPHY001591	methyl (1S,17R)-17-(1-hydroxyethyl)-3,13-diazapentacyclo[13.3.1.02,10.04,9.013,18]nonadeca-2(10),4,6,8-tetraene-1-carboxylate
Tabernaemontana divaricata		IMPHY002078	Isovoacristine
Tabernaemontana divaricata		IMPHY002112	Voacamidine
Tabernaemontana divaricata		IMPHY002962	Benzoic acid
Tabernaemontana divaricata		IMPHY003239	2,5-Dihydroxybenzoic acid
Tabernaemontana divaricata		IMPHY003500	Citric acid
Tabernaemontana divaricata		IMPHY003625	Coronaridine,19-oxo-
Tabernaemontana divaricata		IMPHY003626	3-Oxo-coronaridine
Tabernaemontana divaricata		IMPHY003742	(-)-Dregamine
Tabernaemontana divaricata		IMPHY003743	Tabernaemontanine

Tabernaemontana		IMPHY004130	Sinapic acid
Tabernaemontana		IMPHY005621	Olivacine
Tabernaemontana		IMPHY006789	Iso-voacangine
Tabernaemontana		IMPHY007011	Coronaridine
Tabernaemontana		IMPHY007819	methyl (1S,10S,15R,17S,18S)-17-ethyl-10-hydroxy-3,13-diazapentacyclo[13.3.1.02,10.04,9.013,18]nonadeca-2,4,6,8-tetraene-1-carboxylate
Tabernaemontana		IMPHY008283	Hecubine
Tabernaemontana		IMPHY008843	Mehramine
Tabernaemontana		IMPHY009226	Pseudovobparicine
Tabernaemontana		IMPHY009810	9beta-Hydroxy-9-hydro-16-dehydro-12-methoxyibogamine-18-carboxylic acid methyl ester
Tabernaemontana		IMPHY009928	2-Acetylindole
Tabernaemontana		IMPHY010127	Voaphylline hydroxyindolenine
Tabernaemontana		IMPHY010128	Methyl 10-hydroxy-17-(1-hydroxyethyl)-7-methoxy-3,13-diazatetracyclo[13.3.1.02,10.04,9.013,18]nonadeca-2,4(9),5,7-tetraene-1-carboxylate
Tabernaemontana		IMPHY010153	Ervaticine
Tabernaemontana		IMPHY010439	methyl (1S,14R,15Z,18S)-15-ethylidene-17-methyl-12-oxo-10,17-diazatetracyclo[12.3.1.03,11.04,9]octadeca-3(11),4,6,8-tetraene-18-carboxylate
Tabernaemontana		IMPHY010496	Voacangine
Tabernaemontana		IMPHY010589	Asperglaucide
Tabernaemontana		IMPHY010600	Gomezine
Tabernaemontana		IMPHY010966	Voacristine
Tabernaemontana		IMPHY011619	alpha-Amyrin
Tabernaemontana		IMPHY011642	Cycloartenol
Tabernaemontana		IMPHY011797	Oleic acid
Tabernaemontana		IMPHY012402	Campesterol
Tabernaemontana		IMPHY012473	Lupeol
Tabernaemontana		IMPHY014836	beta-Sitosterol
Withania somnifera	root	IMPHY000630	Withasomidienone
Withania somnifera	root	IMPHY001693	Somniferine
Withania somnifera	root	IMPHY003143	Withanolide M
Withania somnifera	root	IMPHY003462	Hygrine
Withania somnifera	root	IMPHY003936	Withanolide D
Withania somnifera	root	IMPHY004118	Withaferin A
Withania somnifera	root	IMPHY004177	Withanolide E
Withania somnifera	root	IMPHY004857	Withasomnine
Withania somnifera	root	IMPHY005148	Withanolide G
Withania somnifera	root	IMPHY005185	Withanolide P
Withania somnifera	root	IMPHY005214	Withanone
Withania somnifera	root	IMPHY005335	Sitoindoside IX

Withania somnifera	root	IMPHY007301	Nicotine
Withania somnifera	root	IMPHY008698	Withanolide S
Withania somnifera	root	IMPHY009147	Withanolide C
Withania somnifera	root	IMPHY009363	Anahygrine
Withania somnifera	root	IMPHY009438	Withanolide L
Withania somnifera	root	IMPHY010143	Tropine
Withania somnifera	root	IMPHY011136	4-Hydroxy-1,26-dioxo-5,6:22,26-diepoxyergosta-2,24-dien-27-yl 6-o-hexadecanoylhexopyranoside
Withania somnifera	root	IMPHY011736	Galactitol
Withania somnifera	root	IMPHY011908	(2R)-2-[(1S)-1-[(8R,9S,10R,13S,14R,17S)-14,17-dihydroxy-10,13-dimethyl-1-oxo-4,7,8,9,11,12,15,16-octahydrocyclopenta[a]phenanthren-17-yl]-1-hydroxyethyl]-4,5-dimethyl-2,3-dihydropyran-6-one
Withania somnifera	root	IMPHY011909	Withanolide J
Withania somnifera	root	IMPHY012663	Cuscohygrine
Withania somnifera	root	IMPHY014836	beta-Sitosterol
Zingiber officinale	rhizome	IMPHY000022	Myrcenol
Zingiber officinale	rhizome	IMPHY000084	2-Heptanol
Zingiber officinale	rhizome	IMPHY000099	Myrtenol
Zingiber officinale	rhizome	IMPHY000173	Thujyl alcohol
Zingiber officinale	rhizome	IMPHY000399	beta-Bisabolene
Zingiber officinale	rhizome	IMPHY000402	1,4-Cineole
Zingiber officinale	rhizome	IMPHY000448	Gingerglycolipid B
Zingiber officinale	rhizome	IMPHY000795	Octanal
Zingiber officinale	rhizome	IMPHY001235	Gingerglycolipid A
Zingiber officinale	rhizome	IMPHY001246	Carvacrol
Zingiber officinale	rhizome	IMPHY001351	Elemicin
Zingiber officinale	rhizome	IMPHY001817	p-Menth-3-en-1-ol
Zingiber officinale	rhizome	IMPHY001861	2-Hexanone
Zingiber officinale	rhizome	IMPHY001896	Heptacosane
Zingiber officinale	rhizome	IMPHY001915	Octadecane
Zingiber officinale	rhizome	IMPHY002715	[10]-Gingerdione
Zingiber officinale	rhizome	IMPHY002825	2-(4-Methylphenyl)propan-2-ol
Zingiber officinale	rhizome	IMPHY002875	Undecane
Zingiber officinale	rhizome	IMPHY002913	Sesquisabinene
Zingiber officinale	rhizome	IMPHY003479	Zingerone
Zingiber officinale	rhizome	IMPHY003485	Myrcene
Zingiber officinale	rhizome	IMPHY003525	Nonanal
Zingiber officinale	rhizome	IMPHY003536	Eugenol
Zingiber officinale	rhizome	IMPHY003602	Eudesm-7(11)-en-4-ol
Zingiber officinale	rhizome	IMPHY003695	(-)Germacrene A
Zingiber officinale	rhizome	IMPHY003719	beta-Copaene
Zingiber officinale	rhizome	IMPHY003830	6-Gingerdiol
Zingiber officinale	rhizome	IMPHY003915	2-Decenal
Zingiber officinale	rhizome	IMPHY003945	Bicyclo(3.1.0)hex-2-ene, 5-(1,5-dimethyl-4-hexenyl)-2-methyl-
Zingiber officinale	rhizome	IMPHY003947	7-Epi-sesquithujene
Zingiber officinale	rhizome	IMPHY003955	(R)-4-Isopropylcyclohex-2-enone
Zingiber officinale	rhizome	IMPHY003956	(+)-gamma-Gurjunene

Zingiber officinale	rhizome	IMPHY003977	(-)-beta-Bourbonene
Zingiber officinale	rhizome	IMPHY003982	gamma-Terpinene
Zingiber officinale	rhizome	IMPHY004049	alpha-Santalol
Zingiber officinale	rhizome	IMPHY004121	2-Heptanone
Zingiber officinale	rhizome	IMPHY004151	Geranyl formate
Zingiber officinale	rhizome	IMPHY004184	Cinnamyl acetate
Zingiber officinale	rhizome	IMPHY004276	Isogingerenone B
Zingiber officinale	rhizome	IMPHY004285	Gingerenone B
Zingiber officinale	rhizome	IMPHY004286	Longifolene
Zingiber officinale	rhizome	IMPHY004436	Dehydrozingeronone
Zingiber officinale	rhizome	IMPHY004536	Geranic acid
Zingiber officinale	rhizome	IMPHY004537	Gingerenone A
Zingiber officinale	rhizome	IMPHY004598	Shogaol
Zingiber officinale	rhizome	IMPHY004670	Seychellene
Zingiber officinale	rhizome	IMPHY004671	p-Mentha-1,5-dien-7-ol
Zingiber officinale	rhizome	IMPHY004889	Cinnamyl alcohol
Zingiber officinale	rhizome	IMPHY005009	[6]-Gingerdiol 3,5-diacetate
Zingiber officinale	rhizome	IMPHY005010	1-(4-hydroxy-3-methoxyphenyl)-7-(4-hydroxyphenyl)-(4E)-4-hepten-3-one
Zingiber officinale	rhizome	IMPHY005077	(10)-Gingerol
Zingiber officinale	rhizome	IMPHY005345	1-Octen-3-OL
Zingiber officinale	rhizome	IMPHY005397	Gingerdione
Zingiber officinale	rhizome	IMPHY005583	Geranylgeraniol
Zingiber officinale	rhizome	IMPHY005618	Germacrene B
Zingiber officinale	rhizome	IMPHY005653	2-Octanol
Zingiber officinale	rhizome	IMPHY005798	Curlone
Zingiber officinale	rhizome	IMPHY005830	Eudesmane
Zingiber officinale	rhizome	IMPHY005974	Longicyclene
Zingiber officinale	rhizome	IMPHY005993	2-Pentanol
Zingiber officinale	rhizome	IMPHY006007	Citronellyl formate
Zingiber officinale	rhizome	IMPHY006145	p-Cymene
Zingiber officinale	rhizome	IMPHY006176	Geranylinalool
Zingiber officinale	rhizome	IMPHY006324	Linalyl propionate
Zingiber officinale	rhizome	IMPHY006325	Myrtenal
Zingiber officinale	rhizome	IMPHY006347	Hexanal
Zingiber officinale	rhizome	IMPHY006352	Nerol oxide
Zingiber officinale	rhizome	IMPHY006414	Geranyl tiglate
Zingiber officinale	rhizome	IMPHY006515	Hedycaryol
Zingiber officinale	rhizome	IMPHY006696	Methyleugenol
Zingiber officinale	rhizome	IMPHY006709	Acetyleugenol
Zingiber officinale	rhizome	IMPHY006944	Estragole
Zingiber officinale	rhizome	IMPHY006948	beta-Terpineol
Zingiber officinale	rhizome	IMPHY006950	Tricyclene
Zingiber officinale	rhizome	IMPHY006951	Eicosane
Zingiber officinale	rhizome	IMPHY006970	Decanal

Zingiber officinale	rhizome	IMPHY007067	Linalyl acetate
Zingiber officinale	rhizome	IMPHY007069	4'-Methylacetophenone
Zingiber officinale	rhizome	IMPHY007076	Undecanal
Zingiber officinale	rhizome	IMPHY007077	Furan, 3-methyl-2-(3-methyl-2-butenyl)-
Zingiber officinale	rhizome	IMPHY007162	2-Methyl-3-buten-2-OL
Zingiber officinale	rhizome	IMPHY007171	1-Hexanol
Zingiber officinale	rhizome	IMPHY007204	Dodecanal
Zingiber officinale	rhizome	IMPHY007291	Heptane
Zingiber officinale	rhizome	IMPHY007299	Phellandral
Zingiber officinale	rhizome	IMPHY007331	6-Methyl-5-hepten-2-one
Zingiber officinale	rhizome	IMPHY007369	Paradol
Zingiber officinale	rhizome	IMPHY007376	beta-Cubebene
Zingiber officinale	rhizome	IMPHY007378	(2S,3R,4R,5S,6S)-2-(hydroxymethyl)-6-(((2S,3R,4R,5S,6R)-3,4,5-trihydroxy-6-(((4aR,8aS)-4-isopropyl-1,7-dimethyl-1,2,3,4,4a,5,8,8a-octahydronaphthalen-1-yl)oxy)tetrahydro-2H-pyran-2-yl)methoxy)tetrahydro-2H-pyran-3,4,5-triol
Zingiber officinale	rhizome	IMPHY007421	Citronellyl acetate
Zingiber officinale	rhizome	IMPHY007445	(Z)-beta-Ocimenol
Zingiber officinale	rhizome	IMPHY007620	1-Octanol
Zingiber officinale	rhizome	IMPHY007751	Cedr-8-en-13-ol
Zingiber officinale	rhizome	IMPHY007840	Spathulenol
Zingiber officinale	rhizome	IMPHY008653	(8)-Gingerdione
Zingiber officinale	rhizome	IMPHY008690	[6]-Dehydrogingerdione
Zingiber officinale	rhizome	IMPHY008783	4',6-Dichloroflavan
Zingiber officinale	rhizome	IMPHY008936	alpha-Guaiene
Zingiber officinale	rhizome	IMPHY009368	Heptadecane
Zingiber officinale	rhizome	IMPHY009369	Nonadecane
Zingiber officinale	rhizome	IMPHY009375	Docosane
Zingiber officinale	rhizome	IMPHY009389	Pentadecane
Zingiber officinale	rhizome	IMPHY009463	6-Gingesulfonic acid
Zingiber officinale	rhizome	IMPHY009490	Tricosane
Zingiber officinale	rhizome	IMPHY009596	Pentyl acetate
Zingiber officinale	rhizome	IMPHY009618	Zingiberenol
Zingiber officinale	rhizome	IMPHY009626	2-Nonanol
Zingiber officinale	rhizome	IMPHY009642	2-Nonanone
Zingiber officinale	rhizome	IMPHY009718	Bulnesol
Zingiber officinale	rhizome	IMPHY009729	Verbenene
Zingiber officinale	rhizome	IMPHY009740	Camphene hydrate
Zingiber officinale	rhizome	IMPHY009743	beta-Gurjunene
Zingiber officinale	rhizome	IMPHY009751	1-Heptanol
Zingiber officinale	rhizome	IMPHY009760	Citronellyl propionate
Zingiber officinale	rhizome	IMPHY009762	Heptyl acetate
Zingiber officinale	rhizome	IMPHY009765	beta-Calacorene
Zingiber officinale	rhizome	IMPHY009840	Cyclosativene
Zingiber officinale	rhizome	IMPHY009880	p-Mentha-1,5-dien-8-ol
Zingiber officinale	rhizome	IMPHY009946	Benzaldehyde

Zingiber officinale	rhizome	IMPHY010005	Humulane-1,6-dien-3-ol
Zingiber officinale	rhizome	IMPHY010049	Artesin[sesquiterpene]
Zingiber officinale	rhizome	IMPHY010072	Eucalyptol
Zingiber officinale	rhizome	IMPHY010080	beta-Elemene
Zingiber officinale	rhizome	IMPHY010086	6-Methylhept-5-en-2-ol
Zingiber officinale	rhizome	IMPHY010093	Gingerglycolipid C
Zingiber officinale	rhizome	IMPHY010097	Benzyl benzoate
Zingiber officinale	rhizome	IMPHY010126	Zingiberol
Zingiber officinale	rhizome	IMPHY010507	(8)-Gingerol
Zingiber officinale	rhizome	IMPHY010609	(-)alpha-Himachalene
Zingiber officinale	rhizome	IMPHY010815	Thujopsene
Zingiber officinale	rhizome	IMPHY010995	Toluene
Zingiber officinale	rhizome	IMPHY011002	3-Methyl-2-pentanol
Zingiber officinale	rhizome	IMPHY011050	3-Buten-2-OL
Zingiber officinale	rhizome	IMPHY011215	Tetradecane
Zingiber officinale	rhizome	IMPHY011381	(4S)-1-Methyl-4-(prop-1-EN-2-YL)-7-oxabicyclo[4.1.0]heptane
Zingiber officinale	rhizome	IMPHY011392	3-Carene
Zingiber officinale	rhizome	IMPHY011396	4-Carvomenthenol
Zingiber officinale	rhizome	IMPHY011455	Cadina-1,4-diene
Zingiber officinale	rhizome	IMPHY011519	alpha-Terpinyl acetate
Zingiber officinale	rhizome	IMPHY011521	2-Undecanone
Zingiber officinale	rhizome	IMPHY011542	beta-Eudesmol
Zingiber officinale	rhizome	IMPHY011552	(1R)-2-methyl-5-propan-2-ylbicyclo[3.1.0]hex-2-ene
Zingiber officinale	rhizome	IMPHY011562	2-Hexenal
Zingiber officinale	rhizome	IMPHY011564	Germacra-1(10),5-dien-4-ol
Zingiber officinale	rhizome	IMPHY011568	alpha-Fenchyl acetate
Zingiber officinale	rhizome	IMPHY011581	alpha-Selinene
Zingiber officinale	rhizome	IMPHY011586	(S,1Z,6Z)-8-Isopropyl-1-methyl-5-methylenecyclodeca-1,6-diene
Zingiber officinale	rhizome	IMPHY011590	d-Borneol
Zingiber officinale	rhizome	IMPHY011599	Terpinolene
Zingiber officinale	rhizome	IMPHY011608	Gingerol
Zingiber officinale	rhizome	IMPHY011630	cis,cis-Farnesol
Zingiber officinale	rhizome	IMPHY011631	(E,Z)-farnesol
Zingiber officinale	rhizome	IMPHY011632	Farnesol
Zingiber officinale	rhizome	IMPHY011633	(2Z,6E)-Farnesol
Zingiber officinale	rhizome	IMPHY011640	Isoeugenol
Zingiber officinale	rhizome	IMPHY011643	alpha-Terpinene
Zingiber officinale	rhizome	IMPHY011647	Geranyl acetate
Zingiber officinale	rhizome	IMPHY011648	Neryl acetate
Zingiber officinale	rhizome	IMPHY011657	cis-beta-Farnesene
Zingiber officinale	rhizome	IMPHY011658	beta-Farnesene
Zingiber officinale	rhizome	IMPHY011659	alpha-Muurolene
Zingiber officinale	rhizome	IMPHY011660	(+)-alpha-Cadinene
Zingiber officinale	rhizome	IMPHY011709	alpha-Eudesmol

Zingiber officinale	rhizome	IMPHY011714	Methyl cinnamate
Zingiber officinale	rhizome	IMPHY011745	Zingiberene
Zingiber officinale	rhizome	IMPHY011746	alpha-Zingiberene
Zingiber officinale	rhizome	IMPHY011749	Humulene epoxide II
Zingiber officinale	rhizome	IMPHY011761	Humulene
Zingiber officinale	rhizome	IMPHY011789	Citral
Zingiber officinale	rhizome	IMPHY011790	Neral
Zingiber officinale	rhizome	IMPHY011792	gamma-Murolene
Zingiber officinale	rhizome	IMPHY011793	(+)-gamma-Cadinene
Zingiber officinale	rhizome	IMPHY011817	alpha-Farnesene
Zingiber officinale	rhizome	IMPHY011838	(E)-gamma-Bisabolene
Zingiber officinale	rhizome	IMPHY011839	(Z)-gamma-bisabolene
Zingiber officinale	rhizome	IMPHY011882	Cinnamaldehyde
Zingiber officinale	rhizome	IMPHY011890	Elemol
Zingiber officinale	rhizome	IMPHY011896	Valencene
Zingiber officinale	rhizome	IMPHY011902	beta-Thujone
Zingiber officinale	rhizome	IMPHY011932	(+)-alpha-Funebrene
Zingiber officinale	rhizome	IMPHY011938	gamma-Eudesmol
Zingiber officinale	rhizome	IMPHY011939	10-epi-gamma-Eudesmol
Zingiber officinale	rhizome	IMPHY011957	(+)-delta-Cadinene
Zingiber officinale	rhizome	IMPHY011965	(+)-beta-Phellandrene
Zingiber officinale	rhizome	IMPHY011973	(-)-cis-Carveol
Zingiber officinale	rhizome	IMPHY011983	cis-Cinnamaldehyde
Zingiber officinale	rhizome	IMPHY011999	Carveol
Zingiber officinale	rhizome	IMPHY012036	Camphor
Zingiber officinale	rhizome	IMPHY012058	Linalool
Zingiber officinale	rhizome	IMPHY012061	alpha-Pinene
Zingiber officinale	rhizome	IMPHY012070	o-Xylene
Zingiber officinale	rhizome	IMPHY012086	Citronellal
Zingiber officinale	rhizome	IMPHY012104	Citronellol
Zingiber officinale	rhizome	IMPHY012130	Dihydrocarveol
Zingiber officinale	rhizome	IMPHY012147	beta-Pinene
Zingiber officinale	rhizome	IMPHY012152	alpha-Fenchol
Zingiber officinale	rhizome	IMPHY012160	alpha-Terpineol
Zingiber officinale	rhizome	IMPHY012165	Sabinene
Zingiber officinale	rhizome	IMPHY012168	(1S,2S,6S,7R,8R)-1,3-dimethyl-8-propan-2-yltricyclo[4.4.0.02,7]dec-3-ene
Zingiber officinale	rhizome	IMPHY012178	p-Menthan-3-one
Zingiber officinale	rhizome	IMPHY012261	alpha-Bergamotene
Zingiber officinale	rhizome	IMPHY012279	alpha-Curcumene
Zingiber officinale	rhizome	IMPHY012362	P-Mentha-2,8-dien-1-ol
Zingiber officinale	rhizome	IMPHY012381	ar-Turmerone
Zingiber officinale	rhizome	IMPHY012402	Campesterol
Zingiber officinale	rhizome	IMPHY012587	tau-Cadinol
Zingiber officinale	rhizome	IMPHY012589	3-(1,5-Dimethyl-4-hexenyl)-6-methylene-1-cyclohexene

Zingiber officinale	rhizome	IMPHY012654	Nerol
Zingiber officinale	rhizome	IMPHY012665	Levomenol
Zingiber officinale	rhizome	IMPHY012667	Caryophyllene oxide
Zingiber officinale	rhizome	IMPHY012739	(Z)-beta-Ocimene
Zingiber officinale	rhizome	IMPHY012907	trans-Sesquisabinene hydrate
Zingiber officinale	rhizome	IMPHY012910	trans-Calamenene
Zingiber officinale	rhizome	IMPHY012920	2-Furanmethanol, 5-ethenyltetrahydro-alpha,alpha,5-trimethyl-, cis-
Zingiber officinale	rhizome	IMPHY012921	gamma-Elemene
Zingiber officinale	rhizome	IMPHY013093	delta-Elemene
Zingiber officinale	rhizome	IMPHY013133	(Z)-p-Menth-2-en-1-ol
Zingiber officinale	rhizome	IMPHY013815	1-Methylene-4-(1-methylvinyl)cyclohexane
Zingiber officinale	rhizome	IMPHY013982	1,3,3-Trimethyl-2-oxabicyclo[2.2.2]octan-6-ol
Zingiber officinale	rhizome	IMPHY014112	3,6-Octadienal, 3,7-dimethyl-
Zingiber officinale	rhizome	IMPHY014436	2,6-Dimethylocta-3,7-diene-1,6-diol
Zingiber officinale	rhizome	IMPHY014690	(-)Globulol
Zingiber officinale	rhizome	IMPHY014708	beta-Selinene
Zingiber officinale	rhizome	IMPHY014710	Farnesal
Zingiber officinale	rhizome	IMPHY014801	Zizanene
Zingiber officinale	rhizome	IMPHY014805	Cedr-8-ene
Zingiber officinale	rhizome	IMPHY014806	Caswell No. 264AB
Zingiber officinale	rhizome	IMPHY014811	alpha-Phellandrene
Zingiber officinale	rhizome	IMPHY014817	Aromadendrene
Zingiber officinale	rhizome	IMPHY014831	beta-Caryophyllene
Zingiber officinale	rhizome	IMPHY014835	(E)-beta-ocimene
Zingiber officinale	rhizome	IMPHY014847	Bornyl acetate
Zingiber officinale	rhizome	IMPHY014852	Camphene
Zingiber officinale	rhizome	IMPHY014857	Cedrol
Zingiber officinale	rhizome	IMPHY014863	cis-alpha-Bergamotene
Zingiber officinale	rhizome	IMPHY014865	Calamenene
Zingiber officinale	rhizome	IMPHY014867	Nerolic acid
Zingiber officinale	rhizome	IMPHY014871	cis-Nerolidol
Zingiber officinale	rhizome	IMPHY014874	cis-Sabinene hydrate
Zingiber officinale	rhizome	IMPHY014876	7-epi-cis-Sesquisabinene hydrate
Zingiber officinale	rhizome	IMPHY014877	(S)-cis-Verbenol
Zingiber officinale	rhizome	IMPHY014881	Copaene
Zingiber officinale	rhizome	IMPHY014885	1-Isopropyl-4,7-dimethyl-1,3,4,5,6,8a-hexahydro-4a(2H)-naphthalenol
Zingiber officinale	rhizome	IMPHY014906	Cedrelanol
Zingiber officinale	rhizome	IMPHY014907	6-Epi-beta-bisabolol
Zingiber officinale	rhizome	IMPHY014914	Fenchol
Zingiber officinale	rhizome	IMPHY014923	Geraniol
Zingiber officinale	rhizome	IMPHY014958	Italicene
Zingiber officinale	rhizome	IMPHY014988	Limonene
Zingiber officinale	rhizome	IMPHY014989	trans-Linalool oxide
Zingiber officinale	rhizome	IMPHY015003	Menthol

Zingiber officinale	rhizome	IMPHY015004	Menthone
Zingiber officinale	rhizome	IMPHY015016	alpha-Muurolol
Zingiber officinale	rhizome	IMPHY015022	Nerolidol
Zingiber officinale	rhizome	IMPHY015059	Rose oxide
Zingiber officinale	rhizome	IMPHY015082	gamma-Cadinene
Zingiber officinale	rhizome	IMPHY015098	trans-Verbenol
Zingiber officinale	rhizome	IMPHY015121	(-)Zingiberene
Zingiber officinale	rhizome	IMPHY015123	alpha-Copaene
Zingiber officinale	rhizome	IMPHY015637	3-Nonen-2-one
Zingiber officinale	rhizome	IMPHY015646	1-endo-Bourbonanol
Zingiber officinale	rhizome	IMPHY015810	gamma-Camphorene
Zingiber officinale	rhizome	IMPHY015972	trans-beta-Sesquiphellandrol
Zingiber officinale	rhizome	IMPHY015981	2-Methyl-6-(4-methylcyclohexa-1,3-dien-1-yl)hept-2-en-4-one
Zingiber officinale	rhizome	IMPHY016005	(2E)-2-methyl-6-[1S)-4-methylcyclohex-3-en-1-yl]hepta-2,6-dien-1-ol
Zingiber officinale	rhizome	IMPHY016012	Allo-Aromadendrene
Zingiber officinale	rhizome	IMPHY016014	Isobornyl acetate
Zingiber officinale	rhizome	IMPHY016053	Viridiflorol
Zingiber officinale	rhizome	IMPHY016054	trans-alpha-Bergamotene
Zingiber officinale	rhizome	IMPHY016155	1,1-Dicyclopropylethylene
Zingiber officinale	rhizome	IMPHY016447	4,4-Dimethylpent-2-enal
Zingiber officinale	rhizome	IMPHY016758	1-Hydroxydecan-3-one
Zingiber officinale	rhizome	IMPHY016821	Phenyl propionate
Zingiber officinale	rhizome	IMPHY016861	Tetradecyl acrylate
Zingiber officinale	rhizome	IMPHY016902	trans-beta-Bergamotene
Zingiber officinale	rhizome	IMPHY016920	Hexahydrocurcumin
Zingiber officinale	rhizome	IMPHY016953	omega-Cadinene
Zingiber officinale	rhizome	IMPHY016997	2,5-Dimethylbenzoic acid
Zingiber officinale	rhizome	IMPHY017351	trans-2-Hepten-1-ol
Zingiber officinale	rhizome	IMPHY017659	Dimethylionone
Zingiber officinale	rhizome	IMPHY017661	(8)-Shogaol
Zingiber officinale	rhizome	IMPHY017662	[10]-Shogaol
Zingiber officinale	rhizome	IMPHY017724	2-Ethyl-5-methylfuran
Zingiber officinale	rhizome	IMPHY017961	Tert-dodecylthiol

## **Step 6:**

Identify phytochemicals from Indian medicinal plants that may act on the targets associated with obesity. This was accomplished using the IMPPAT (Indian Medicinal Plants, Phytochemistry And Therapeutics) database (<http://www.serbinst.ac.in/IMPPAT/>), a comprehensive resource on Indian medicinal plants and their therapeutic applications.

The following steps were taken:

- a) Access the IMPPAT database homepage and navigate to the "Therapeutic Use Category" section.
- b) Select the "obesity" category, as it was listed as a specific condition.
- c) Retrieve the list of medicinal plants and their respective parts used for treating obesity.
- d) For each plant listed, copy the plant name and use the "Basic Search" option on the IMPPAT homepage to obtain the phytochemicals present in the specific plant part used for therapeutic purposes.
- e) Compile a list of the identified phytochemicals, along with their respective medicinal plant sources and plant parts.

The list of phytochemicals, their medicinal plant sources, and plant parts potentially active against obesity is provided below:

Indian medicinal plant	Plant part	IMPPAT Phytochemical identifier	
Acacia catechu		IMPHY002073	Aromadendrin
Acacia catechu		IMPHY002526	3-Methoxyflavone
Acacia catechu		IMPHY004188	beta-L-Arabinose
Acacia catechu		IMPHY004388	Kaempferol
Acacia catechu		IMPHY004619	Quercetin
Acacia catechu		IMPHY004841	7,3',4'-Trihydroxy-3,8-dimethoxyflavone
Acacia catechu		IMPHY005433	Fisetin
Acacia catechu		IMPHY008724	Isorhamnetin
Acacia catechu		IMPHY011597	Aldobiouronic acid
Acacia catechu		IMPHY011741	Tannic acid
Acacia catechu		IMPHY011967	Taxifolin
Acacia catechu		IMPHY011986	Afzelechin
Acacia catechu		IMPHY014854	Cianidanol
Acacia catechu		IMPHY014908	(-)Epicatechin
Achyranthes aspera	leaf	IMPHY003963	Betaine
Achyranthes aspera	leaf	IMPHY012847	20-Hydroxyecdysone
Achyranthes aspera	root	IMPHY000939	(2S,3R,5R,9R,10R,13R,14S,17S)-2,3,14-trihydroxy-10,13-dimethyl-17-[(2R,3R,6R)-2,3,7-trihydroxy-6-methyl-1-oxohexyl]heptadecane
Achyranthes aspera	root	IMPHY005295	Ecdysone
Achyranthes aspera	root	IMPHY011826	Oleanolic acid
Achyranthes aspera	root	IMPHY012847	20-Hydroxyecdysone
Achyranthes aspera	seed	IMPHY000060	Myristic acid
Achyranthes aspera	seed	IMPHY002186	Saponin A
Achyranthes aspera	seed	IMPHY003016	Lauric acid
Achyranthes aspera	seed	IMPHY004631	Stearic acid
Achyranthes aspera	seed	IMPHY005240	Saponin B
Achyranthes aspera	seed	IMPHY006384	3-Tritriacontanone
Achyranthes aspera	seed	IMPHY007212	Docosanoic acid
Achyranthes aspera	seed	IMPHY007327	Palmitic acid
Achyranthes aspera	seed	IMPHY008910	Hentriacontane
Achyranthes aspera	seed	IMPHY011394	Arachidic acid
Achyranthes aspera	seed	IMPHY011797	Oleic acid
Achyranthes aspera	seed	IMPHY011826	Oleanolic acid
Achyranthes aspera	seed	IMPHY012847	20-Hydroxyecdysone
Achyranthes aspera	seed	IMPHY014990	Linoleic acid
Achyranthes aspera	shoot	IMPHY001533	1-Tritriacontanol
Achyranthes aspera	shoot	IMPHY007079	17-Pentatriacontanol
Achyranthes aspera	stem	IMPHY003963	Betaine
Achyranthes aspera	stem	IMPHY009413	Triacontane
Achyranthes aspera	stem	IMPHY009483	Tritriacontane
Achyranthes aspera	stem	IMPHY009484	Hexatriacontane
Achyranthes aspera	stem	IMPHY009485	Pentatriacontane
Achyranthes aspera	stem	IMPHY012847	20-Hydroxyecdysone
Achyranthes aspera	stem	IMPHY014639	6-Pentatriacontanone
Achyranthes aspera	whole plant	IMPHY000060	Myristic acid
Achyranthes aspera	whole plant	IMPHY003016	Lauric acid
Achyranthes aspera	whole plant	IMPHY003522	1-Methylpyrrolidine-3-carboxylic acid
Achyranthes aspera	whole plant	IMPHY003963	Betaine

Achyranthes aspera	whole plant	IMPHY004631	Stearic acid
Achyranthes aspera	whole plant	IMPHY005295	Ecdysone
Achyranthes aspera	whole plant	IMPHY007079	17-Pentatriacontanol
Achyranthes aspera	whole plant	IMPHY007212	Docosanoic acid
Achyranthes aspera	whole plant	IMPHY007327	Palmitic acid
Achyranthes aspera	whole plant	IMPHY008910	Hentriaccontane
Achyranthes aspera	whole plant	IMPHY009413	Triacontane
Achyranthes aspera	whole plant	IMPHY009484	Hexatriacontane
Achyranthes aspera	whole plant	IMPHY009485	Pentatriacontane
Achyranthes aspera	whole plant	IMPHY011394	Arachidic acid
Achyranthes aspera	whole plant	IMPHY011797	Oleic acid
Achyranthes aspera	whole plant	IMPHY012847	20-Hydroxyecdysone
Achyranthes aspera	whole plant	IMPHY014639	6-Pentatriacontanone
Achyranthes aspera	whole plant	IMPHY014836	beta-Sitosterol
Achyranthes aspera	whole plant	IMPHY014990	Linoleic acid
Achyranthes aspera	whole plant	IMPHY016918	2-Tritriaccontanone
Achyranthes aspera		IMPHY000303	Andrachamine
Achyranthes aspera		IMPHY000572	Andrachcine
Achyranthes aspera		IMPHY000812	Triterpenoid
Achyranthes aspera		IMPHY001533	1-Tritriaccontanol
Achyranthes aspera		IMPHY002186	Saponin A
Achyranthes aspera		IMPHY003522	1-Methylpyrrolidine-3-carboxylic acid
Achyranthes aspera		IMPHY003963	Betaine
Achyranthes aspera		IMPHY006384	3-Tritriaccontanone
Achyranthes aspera		IMPHY007079	17-Pentatriacontanol
Achyranthes aspera		IMPHY008910	Hentriaccontane
Achyranthes aspera		IMPHY010293	10-Tricosanone
Achyranthes aspera		IMPHY011826	Oleanolic acid
Achyranthes aspera		IMPHY012029	Sterol
Achyranthes aspera		IMPHY012847	20-Hydroxyecdysone
Aegle marmelos	fruit	IMPHY003037	Methoxsalen
Aegle marmelos	fruit	IMPHY004187	L-(+)-Arabinose
Aegle marmelos	fruit	IMPHY005428	Bergapten
Aegle marmelos	fruit	IMPHY005587	Umbelliferone
Aegle marmelos	fruit	IMPHY006258	Marmin
Aegle marmelos	fruit	IMPHY006350	Psoralen
Aegle marmelos	fruit	IMPHY006581	Alloimperatorin
Aegle marmelos	fruit	IMPHY007161	Xanthotoxol
Aegle marmelos	fruit	IMPHY007197	Isopimpinellin
Aegle marmelos	fruit	IMPHY007198	Isoimperatorin
Aegle marmelos	fruit	IMPHY007199	Dictamnine
Aegle marmelos	fruit	IMPHY007363	Skimmin
Aegle marmelos	fruit	IMPHY008152	7H-Furo[3,2-g][1]benzopyran-7-one, 9-methoxy-4-(3-methyl-2-butenyl)-
Aegle marmelos	fruit	IMPHY008913	Imperatorin

Aegle marmelos	fruit	IMPHY009589	Marmeline
Aegle marmelos	fruit	IMPHY009808	Pyridine, 3-[5-[4-[(3-methyl-2-butenyl)oxy]phenyl]-2-oxazolyl]-
Aegle marmelos	fruit	IMPHY011395	Scoparone
Aegle marmelos	fruit	IMPHY011541	Scopoletin
Aegle marmelos	fruit	IMPHY011661	Marmesin
Aegle marmelos	fruit	IMPHY011741	Tannic acid
Aegle marmelos	fruit	IMPHY012050	D-Galactose
Aegle marmelos	fruit	IMPHY012076	(+)-alpha-Phellandrene
Aegle marmelos	fruit	IMPHY012643	Aegelinol
Aegle marmelos	fruit	IMPHY014836	beta-Sitosterol
Aegle marmelos	fruit	IMPHY014838	Daucosterol
Aegle marmelos	fruit	IMPHY014893	D-Glucose
Aegle marmelos	fruit	IMPHY015056	L-Rhamnose
Aegle marmelos	leaf	IMPHY000099	Myrtenol
Aegle marmelos	leaf	IMPHY001050	Carotol
Aegle marmelos	leaf	IMPHY001816	gamma-Terpineol
Aegle marmelos	leaf	IMPHY002030	Aegeline
Aegle marmelos	leaf	IMPHY002072	Pinocarvone
Aegle marmelos	leaf	IMPHY002103	Himachalol
Aegle marmelos	leaf	IMPHY002825	2-(4-Methylphenyl)propan-2-ol
Aegle marmelos	leaf	IMPHY003485	Myrcene
Aegle marmelos	leaf	IMPHY003495	2-Methoxy-4-vinylphenol
Aegle marmelos	leaf	IMPHY003536	Eugenol
Aegle marmelos	leaf	IMPHY003545	4-Isopropylbenzaldehyde
Aegle marmelos	leaf	IMPHY003602	Eudesm-7(11)-en-4-ol
Aegle marmelos	leaf	IMPHY003616	Bicyclogermacrene
Aegle marmelos	leaf	IMPHY003685	trans-1(7),8-p-Menthadien-2-ol
Aegle marmelos	leaf	IMPHY003798	(Z)-alpha-Bisabolene
Aegle marmelos	leaf	IMPHY003822	Cubebol
Aegle marmelos	leaf	IMPHY003956	(+)-gamma-Gurjunene
Aegle marmelos	leaf	IMPHY003977	(-)beta-Bourbonene
Aegle marmelos	leaf	IMPHY003982	gamma-Terpinene
Aegle marmelos	leaf	IMPHY004135	Cyclohexene, 6-ethenyl-6-methyl-1-(1-methylethyl)-3-(1-methylethylidene)-, (S)-
Aegle marmelos	leaf	IMPHY004832	Halfordinol
Aegle marmelos	leaf	IMPHY005166	Ammijin
Aegle marmelos	leaf	IMPHY006145	p-Cymene
Aegle marmelos	leaf	IMPHY006258	Marmin
Aegle marmelos	leaf	IMPHY007265	Skimmianine
Aegle marmelos	leaf	IMPHY007840	Spathulenol
Aegle marmelos	leaf	IMPHY008946	delta-Guaiene
Aegle marmelos	leaf	IMPHY009743	beta-Gurjunene
Aegle marmelos	leaf	IMPHY009808	Pyridine, 3-[5-[4-[(3-methyl-2-butenyl)oxy]phenyl]-2-oxazolyl]-
Aegle marmelos	leaf	IMPHY009874	Myrtenyl acetate
Aegle marmelos	leaf	IMPHY009961	Ethyl isovalerate

Aegle marmelos	leaf	IMPHY010072	Eucalyptol
Aegle marmelos	leaf	IMPHY010080	beta-Elemene
Aegle marmelos	leaf	IMPHY011004	p-Mentha-1,3,8-triene
Aegle marmelos	leaf	IMPHY011381	(4S)-1-Methyl-4-(prop-1-EN-2-YL)-7-oxabicyclo[4.1.0]heptane
Aegle marmelos	leaf	IMPHY011396	4-Carvomenthenol
Aegle marmelos	leaf	IMPHY011552	(1R)-2-methyl-5-propan-2-ylbicyclo[3.1.0]hex-2-ene
Aegle marmelos	leaf	IMPHY011557	4-Isopropylbenzyl alcohol
Aegle marmelos	leaf	IMPHY011581	alpha-Selinene
Aegle marmelos	leaf	IMPHY011586	(S,1Z,6Z)-8-Isopropyl-1-methyl-5-methylenecyclodeca-1,6-diene
Aegle marmelos	leaf	IMPHY011599	Terpinolene
Aegle marmelos	leaf	IMPHY011643	alpha-Terpinene
Aegle marmelos	leaf	IMPHY011761	Humulene
Aegle marmelos	leaf	IMPHY011789	Citral
Aegle marmelos	leaf	IMPHY011890	Elemol
Aegle marmelos	leaf	IMPHY011896	Valencene
Aegle marmelos	leaf	IMPHY011957	(+)-delta-Cadinene
Aegle marmelos	leaf	IMPHY011965	(+)-beta-Phellandrene
Aegle marmelos	leaf	IMPHY011973	(-) -cis-Carveol
Aegle marmelos	leaf	IMPHY011988	(-) -trans-Carveol
Aegle marmelos	leaf	IMPHY012058	Linalool
Aegle marmelos	leaf	IMPHY012061	alpha-Pinene
Aegle marmelos	leaf	IMPHY012076	(+)-alpha-Phellandrene
Aegle marmelos	leaf	IMPHY012086	Citronellal
Aegle marmelos	leaf	IMPHY012147	beta-Pinene
Aegle marmelos	leaf	IMPHY012160	alpha-Terpineol
Aegle marmelos	leaf	IMPHY012165	Sabinene
Aegle marmelos	leaf	IMPHY012175	D-Limonene
Aegle marmelos	leaf	IMPHY012256	p-Menth-1-en-3-ol
Aegle marmelos	leaf	IMPHY012279	alpha-Curcumene
Aegle marmelos	leaf	IMPHY012464	Clionasterol
Aegle marmelos	leaf	IMPHY012473	Lupeol
Aegle marmelos	leaf	IMPHY012598	Aristolene
Aegle marmelos	leaf	IMPHY012667	Caryophyllene oxide
Aegle marmelos	leaf	IMPHY012712	Phytol
Aegle marmelos	leaf	IMPHY012739	(Z)-beta-Ocimene
Aegle marmelos	leaf	IMPHY012772	Fenretinide
Aegle marmelos	leaf	IMPHY013674	N-[2-Hydroxy-2-(4-hydroxyphenyl)ethyl]cinnamide
Aegle marmelos	leaf	IMPHY014694	(1aS,4aS,7R,7aS,7bS)-1,1,7-Trimethyl-4-methylenedecahydro-1H-cyclopropa[e]azulen-7-ol
Aegle marmelos	leaf	IMPHY014708	beta-Selinene
Aegle marmelos	leaf	IMPHY014811	alpha-Phellandrene
Aegle marmelos	leaf	IMPHY014831	beta-Caryophyllene
Aegle marmelos	leaf	IMPHY014836	beta-Sitosterol
Aegle marmelos	leaf	IMPHY014838	Daucosterol
Aegle marmelos	leaf	IMPHY014852	Camphene

Aegle marmelos	leaf	IMPHY014874	cis-Sabinene hydrate
Aegle marmelos	leaf	IMPHY014988	Limonene
Aegle marmelos	leaf	IMPHY015022	Nerolidol
Aegle marmelos	leaf	IMPHY015042	Piperitone
Aegle marmelos	leaf	IMPHY015047	Rutin
Aegle marmelos	leaf	IMPHY015062	(+)-cis-Sabinol
Aegle marmelos	leaf	IMPHY015072	beta-Sitosterol-beta-D-glucoside
Aegle marmelos	leaf	IMPHY015123	alpha-Copaene
Aegle marmelos	leaf	IMPHY015752	Isoaromadendrene epoxide
Aegle marmelos	leaf	IMPHY015968	Longipinocarveol, trans-
Aegle marmelos	leaf	IMPHY016115	2-Cyclopenten-1-one, 2-(2-butenyl)-3-methyl-, (Z)-
Aegle marmelos	leaf	IMPHY016264	(2E)-2-Methyl-2-octenedial
Aegle marmelos	leaf	IMPHY016552	Calcitriol
Aegle marmelos	leaf	IMPHY016718	5-Isopropenyl-2-methyl-2-cyclohexen-1-yl pivalate
Aegle marmelos	leaf	IMPHY016796	4-Allyltoluene
Aegle marmelos	leaf	IMPHY017355	3-Fluorophenyl cyclohexanecarboxylate
Aegle marmelos	leaf	IMPHY017381	5-Isopropyl-6-methyl-hepta-3,5-dien-2-ol
Aegle marmelos	leaf	IMPHY017406	1-Benzoxirene-2,5-dione, 4-(3-oxobutyl)hexahydro-3,3,4-trimethyl
Aegle marmelos	leaf	IMPHY017572	2,3-Pinanediol
Aegle marmelos	leaf	IMPHY017948	3,9-Epoxy-p-menta-1,8(10)-diene
Allium sativum	bulb	IMPHY000005	Thiamine
Allium sativum	bulb	IMPHY000399	beta-Bisabolene
Allium sativum	bulb	IMPHY000846	Riboflavin
Allium sativum	bulb	IMPHY000870	Protopine
Allium sativum	bulb	IMPHY001218	Thymoquinone
Allium sativum	bulb	IMPHY001246	Carvacrol
Allium sativum	bulb	IMPHY001351	Elemicin
Allium sativum	bulb	IMPHY001658	Thymol methyl ether
Allium sativum	bulb	IMPHY001846	Dimethyl disulfide
Allium sativum	bulb	IMPHY001879	Diallyl sulfide
Alpinia galanga		IMPHY000028	Galanolactone
Alpinia galanga		IMPHY001278	Benzinemethanol, 4-(acetoxy)-alpha-ethenyl-3-methoxy-, acetate
Alpinia galanga		IMPHY001992	1'-Acetoxychavicol acetate
Alpinia galanga		IMPHY003536	Eugenol
Alpinia galanga		IMPHY003755	Caryophyllenol I
Alpinia galanga		IMPHY003756	Caryophyllenol II
Alpinia galanga		IMPHY003934	Galanal A
Alpinia galanga		IMPHY004083	Galanal B
Alpinia galanga		IMPHY004388	Kaempferol
Alpinia galanga		IMPHY004619	Quercetin
Alpinia galanga		IMPHY005434	Galangin
Alpinia galanga		IMPHY005462	Kaempferide
Alpinia galanga		IMPHY005504	(S)-4-(1-Hydroxallyl)phenyl acetate
Alpinia galanga		IMPHY006453	p-Coumaraldehyde

Alpinia galanga		IMPHY008721	Galangin 3-methyl ether
Alpinia galanga		IMPHY008724	Isorhamnetin
Alpinia galanga		IMPHY009356	4-Hydroxybenzaldehyde
Alpinia galanga		IMPHY009389	Pentadecane
Alpinia galanga		IMPHY010072	Eucalyptol
Alpinia galanga		IMPHY010924	Heptadec-7-ene
Alpinia galanga		IMPHY011396	4-Carvomenthenol
Alpinia galanga		IMPHY011714	Methyl cinnamate
Alpinia galanga		IMPHY012036	Camphor
Alpinia galanga		IMPHY012058	Linalool
Alpinia galanga		IMPHY012061	alpha-Pinene
Alpinia galanga		IMPHY012147	beta-Pinene
Alpinia galanga		IMPHY012160	alpha-Terpineol
Alpinia galanga		IMPHY012739	(Z)-beta-Ocimene
Alpinia galanga		IMPHY014857	Cedrol
Alpinia galanga		IMPHY014988	Limonene
Anogeissus latifolia	bark	IMPHY000783	1,3,6-tri-O-galloyl-beta-D-glucose
Anogeissus latifolia	bark	IMPHY004619	Quercetin
Anogeissus latifolia	bark	IMPHY005471	Myricetin
Anogeissus latifolia	bark	IMPHY005537	Ellagic acid
Anogeissus latifolia	bark	IMPHY005916	5,6,7,13,14-Pentahydroxy-2,9-dioxatetracyclo[6.6.2.04,16.011,15]hexadeca-1(15),4(16),5,7,11,13-h
Anogeissus latifolia	bark	IMPHY006945	Shikimic acid
Anogeissus latifolia	bark	IMPHY007156	Quinic acid
Anogeissus latifolia	bark	IMPHY014893	D-Glucose
Anogeissus latifolia	bark	IMPHY014916	D-Fructose
Anogeissus latifolia	fruit	IMPHY004619	Quercetin
Anogeissus latifolia	fruit	IMPHY005471	Myricetin
Anogeissus latifolia	fruit	IMPHY012021	Gallic acid
Argyreia nervosa		IMPHY001587	Isolysergic acid
Argyreia nervosa		IMPHY003458	Elymoclavine
Argyreia nervosa		IMPHY003786	Lysergol
Argyreia nervosa		IMPHY003811	Isolysergol
Argyreia nervosa		IMPHY004631	Stearic acid
Argyreia nervosa		IMPHY005478	Strychnine
Argyreia nervosa		IMPHY006558	1-Triacontanol
Argyreia nervosa		IMPHY007212	Docosanoic acid
Argyreia nervosa		IMPHY007327	Palmitic acid
Argyreia nervosa		IMPHY008887	Lysergic acid alpha-hydroxyethylamide
Argyreia nervosa		IMPHY009316	Lysergene
Argyreia nervosa		IMPHY010271	Setoclavine
Argyreia nervosa		IMPHY010285	Isosetoclavine
Argyreia nervosa		IMPHY010374	Festuclavine
Argyreia nervosa		IMPHY011444	Penniclavine
Argyreia nervosa		IMPHY011751	Ergometrine

Argyreia nervosa		IMPHY011760	Ergometrinine
Argyreia nervosa		IMPHY011797	Oleic acid
Argyreia nervosa		IMPHY011812	Lysergamide
Argyreia nervosa		IMPHY011832	Chanoclavine II
Argyreia nervosa		IMPHY011833	Chanoclavine
Argyreia nervosa		IMPHY011859	Epifriedelanol
Argyreia nervosa		IMPHY011912	Isolysergic acid amide
Argyreia nervosa		IMPHY011933	Caffeic acid
Argyreia nervosa		IMPHY012723	Linolenic acid
Argyreia nervosa		IMPHY014836	beta-Sitosterol
Argyreia nervosa		IMPHY014990	Linoleic acid
Artocarpus heterophyllus	fruit	IMPHY000795	Octanal
Artocarpus heterophyllus	fruit	IMPHY001109	Isovaleric acid
Artocarpus heterophyllus	fruit	IMPHY001215	Propanol
Artocarpus heterophyllus	fruit	IMPHY002120	Cycloartenone
Artocarpus heterophyllus	fruit	IMPHY002139	(-)-Butyrospermol
Artocarpus heterophyllus	fruit	IMPHY002915	Benzyl Alcohol
Artocarpus heterophyllus	fruit	IMPHY002949	1-Butanol
Artocarpus heterophyllus	fruit	IMPHY003301	Octanoic acid
Artocarpus heterophyllus	fruit	IMPHY003340	Acetoin
Artocarpus heterophyllus	fruit	IMPHY003486	Diacetone alcohol
Artocarpus heterophyllus	fruit	IMPHY003519	Isoamyl acetate
Artocarpus heterophyllus	fruit	IMPHY004038	Eriodictyol
Artocarpus heterophyllus	fruit	IMPHY004235	D-Glucuronic Acid
Artocarpus heterophyllus	fruit	IMPHY004388	Kaempferol
Artocarpus heterophyllus	fruit	IMPHY004624	2-Acetyl-1-pyrroline
Artocarpus heterophyllus	fruit	IMPHY004751	3-(Methylthio)propionaldehyde
Artocarpus heterophyllus	fruit	IMPHY004934	Tiglic aldehyde
Artocarpus heterophyllus	fruit	IMPHY006279	2-Phenylethanol
Artocarpus heterophyllus	fruit	IMPHY006383	Artocarpin
Artocarpus heterophyllus	fruit	IMPHY006666	3-(Methylthio)-1-hexanol
Artocarpus heterophyllus	fruit	IMPHY006674	Isopentyl benzoate
Artocarpus heterophyllus	fruit	IMPHY007041	Furfural
Artocarpus heterophyllus	fruit	IMPHY007354	Hexanoic acid
Artocarpus heterophyllus	fruit	IMPHY007539	Phenylacetaldehyde

<i>Artocarpus heterophyllus</i>	fruit	IMPHY007620	1-Octanol
<i>Artocarpus heterophyllus</i>	fruit	IMPHY008673	3-Phenyl-1-propanol
<i>Artocarpus heterophyllus</i>	fruit	IMPHY008726	3-Phenylpropanal
<i>Artocarpus heterophyllus</i>	fruit	IMPHY009642	2-Nonanone
<i>Artocarpus heterophyllus</i>	fruit	IMPHY009846	Methyl isovalerate
<i>Artocarpus heterophyllus</i>	fruit	IMPHY009946	Benzaldehyde
<i>Artocarpus heterophyllus</i>	fruit	IMPHY009961	Ethyl isovalerate
<i>Artocarpus heterophyllus</i>	fruit	IMPHY009990	Isopentyl isobutyrate
<i>Artocarpus heterophyllus</i>	fruit	IMPHY011033	Phenethyl isovalerate
<i>Artocarpus heterophyllus</i>	fruit	IMPHY011562	2-Hexenal
<i>Artocarpus heterophyllus</i>	fruit	IMPHY011642	Cycloartenol
<i>Artocarpus heterophyllus</i>	fruit	IMPHY011707	beta-Carotene
<i>Artocarpus heterophyllus</i>	fruit	IMPHY011729	Mannitol
<i>Artocarpus heterophyllus</i>	fruit	IMPHY012028	Propionic acid
<i>Artocarpus heterophyllus</i>	fruit	IMPHY012050	D-Galactose
<i>Artocarpus heterophyllus</i>	fruit	IMPHY012058	Linalool
<i>Artocarpus heterophyllus</i>	fruit	IMPHY012059	Isobutanol
<i>Artocarpus heterophyllus</i>	fruit	IMPHY012089	Valeric acid
<i>Artocarpus heterophyllus</i>	fruit	IMPHY013770	Propyl isovalerate
<i>Artocarpus heterophyllus</i>	fruit	IMPHY014836	beta-Sitosterol
<i>Artocarpus heterophyllus</i>	fruit	IMPHY014893	D-Glucose
<i>Artocarpus heterophyllus</i>	fruit	IMPHY015000	D-Mannose
<i>Artocarpus heterophyllus</i>	fruit	IMPHY015223	2,3-Pentanedione
<i>Artocarpus heterophyllus</i>	fruit	IMPHY015288	Isobutyl isovalerate
<i>Artocarpus heterophyllus</i>	fruit	IMPHY015522	Butyl isovalerate
<i>Artocarpus heterophyllus</i>	fruit	IMPHY015824	Methyl 3-hydroxy-3-methylbutanoate
<i>Artocarpus heterophyllus</i>	fruit	IMPHY015867	Propyl acetate
<i>Bauhinia variegata</i>	root	IMPHY001039	Peonidin acetyl 3,5-diglucoside
<i>Bauhinia variegata</i>	root	IMPHY001268	Peonidin-3-glucoside
<i>Bauhinia variegata</i>	root	IMPHY004619	Quercetin
<i>Bauhinia variegata</i>	root	IMPHY015054	Quercitrin
<i>Berberis aristata</i>	stem	IMPHY000342	Oxyberberine
<i>Berberis aristata</i>	stem	IMPHY001751	4H-Dibenzo(de,g)quinoline-1,10-diol, 5,6,6a,7-tetrahydro-2-methoxy-6-methyl-11-((4-(((1S)-1,2,3,
<i>Berberis aristata</i>	stem	IMPHY002379	Chitraline
<i>Berberis aristata</i>	stem	IMPHY003363	1-O-Methylpakistanine

Berberis aristata	stem	IMPHY003578	Oxyacanthine
Berberis aristata	stem	IMPHY005330	Palmatine
Berberis aristata	stem	IMPHY005665	Berberine
Berberis aristata	stem	IMPHY005761	Pakistanine
Berberis aristata	stem	IMPHY007190	Jatrorrhizine
Berberis aristata	stem	IMPHY008157	(+/-)-Karachine
Betula utilis		IMPHY004271	Betulin
Betula utilis		IMPHY011826	Oleanolic acid
Betula utilis		IMPHY011885	Leucodelphinin
Betula utilis		IMPHY012003	Betulinic acid
Betula utilis		IMPHY012473	Lupeol
Betula utilis		IMPHY014836	beta-Sitosterol
Cajanus cajan	seed	IMPHY000158	Pyridoxine
Cajanus cajan	seed	IMPHY000846	Riboflavin
Cajanus cajan	seed	IMPHY002139	(-)-Butyrospermol
Cajanus cajan	seed	IMPHY004538	Cajanin
Cajanus cajan	seed	IMPHY004566	Daidzein
Cajanus cajan	seed	IMPHY004631	Stearic acid
Cajanus cajan	seed	IMPHY007327	Palmitic acid
Cajanus cajan	seed	IMPHY007450	Oxalic acid
Cajanus cajan	seed	IMPHY009035	Formononetin
Cajanus cajan	seed	IMPHY009437	Simiarenol
Cajanus cajan	seed	IMPHY011393	24-Methylenecycloartanol
Cajanus cajan	seed	IMPHY011613	Fucosterol
Cajanus cajan	seed	IMPHY011619	alpha-Amyrin
Cajanus cajan	seed	IMPHY011642	Cycloartenol
Cajanus cajan	seed	IMPHY011677	Taraxerol
Cajanus cajan	seed	IMPHY011756	Eburicol
Cajanus cajan	seed	IMPHY011797	Oleic acid
Cajanus cajan	seed	IMPHY011853	Euphol
Cajanus cajan	seed	IMPHY011855	Tirucallol
Cajanus cajan	seed	IMPHY012223	beta-Amyrin
Cajanus cajan	seed	IMPHY012402	Campesterol
Cajanus cajan	seed	IMPHY012473	Lupeol
Cajanus cajan	seed	IMPHY012723	Linolenic acid
Cajanus cajan	seed	IMPHY012768	24-Epiclerosterol
Cajanus cajan	seed	IMPHY013101	Parkeol
Cajanus cajan	seed	IMPHY013135	Cyclobranol
Cajanus cajan	seed	IMPHY014836	beta-Sitosterol
Cajanus cajan	seed	IMPHY014842	Stigmasterol
Cajanus cajan	seed	IMPHY014990	Linoleic acid
Camellia sinensis	leaf	IMPHY000060	Myristic acid
Camellia sinensis	leaf	IMPHY000752	Theasinensin B
Camellia sinensis	leaf	IMPHY000795	Octanal

Camellia sinensis	leaf	IMPHY000846	Riboflavin
Camellia sinensis	leaf	IMPHY001089	Theasinensin A
Camellia sinensis	leaf	IMPHY001135	6,10,14-Trimethylpentadecan-2-one
Camellia sinensis	leaf	IMPHY001548	Geranylacetone
Camellia sinensis	leaf	IMPHY001962	Xanthine
Camellia sinensis	leaf	IMPHY002915	Benzyl Alcohol
Camellia sinensis	leaf	IMPHY002965	Caffeine
Camellia sinensis	leaf	IMPHY003050	Methyl salicylate
Camellia sinensis	leaf	IMPHY003676	(2S,4R)-p-Mentha-1(7),8-dien-2-ol
Camellia sinensis	leaf	IMPHY003689	cis-3-Hexenal
Camellia sinensis	leaf	IMPHY003725	Typhasterol
Camellia sinensis	leaf	IMPHY003727	Teasterone
Camellia sinensis	leaf	IMPHY003915	2-Decenal
Camellia sinensis	leaf	IMPHY003921	Brassinolide
Camellia sinensis	leaf	IMPHY004079	Catechol
Camellia sinensis	leaf	IMPHY004121	2-Heptanone
Camellia sinensis	leaf	IMPHY004187	L-(+)-Arabinose
Camellia sinensis	leaf	IMPHY004235	D-Glucuronic Acid
Camellia sinensis	leaf	IMPHY004388	Kaempferol
Camellia sinensis	leaf	IMPHY004536	Geranic acid
Camellia sinensis	leaf	IMPHY004619	Quercetin
Camellia sinensis	leaf	IMPHY004661	Apigenin
Camellia sinensis	leaf	IMPHY005089	Theaflavin monogallates
Camellia sinensis	leaf	IMPHY005364	2,2,6-Trimethylcyclohexanone
Camellia sinensis	leaf	IMPHY005526	2-Undecenal
Camellia sinensis	leaf	IMPHY005758	Theophylline
Camellia sinensis	leaf	IMPHY005824	Benzoic acid, 3,4,5-trimethoxy-, diester with 1,8-bis(3,4-dihydro-3,5,7-trihydroxy-2H-1-benzopyran
Camellia sinensis	leaf	IMPHY006032	2-Ethylhexanol
Camellia sinensis	leaf	IMPHY006220	Angelic acid
Camellia sinensis	leaf	IMPHY006221	Tiglic acid
Camellia sinensis	leaf	IMPHY006279	2-Phenylethanol
Camellia sinensis	leaf	IMPHY006322	Safranal
Camellia sinensis	leaf	IMPHY006362	Ascorbic acid
Camellia sinensis	leaf	IMPHY006394	Theobromine
Camellia sinensis	leaf	IMPHY006485	beta-Ionone
Camellia sinensis	leaf	IMPHY006558	1-Triacontanol
Camellia sinensis	leaf	IMPHY006947	1-Decanol
Camellia sinensis	leaf	IMPHY006970	Decanal
Camellia sinensis	leaf	IMPHY006971	Methyl palmitate
Camellia sinensis	leaf	IMPHY006978	2-Methylpyrazine
Camellia sinensis	leaf	IMPHY006988	Hypoxanthine
Camellia sinensis	leaf	IMPHY007041	Furfural
Camellia sinensis	leaf	IMPHY007076	Undecanal
Camellia sinensis	leaf	IMPHY007100	1-Dodecanol

Camellia sinensis	leaf	IMPHY007151	Pantothenic acid
Camellia sinensis	leaf	IMPHY007171	1-Hexanol
Camellia sinensis	leaf	IMPHY007186	Heptanal
Camellia sinensis	leaf	IMPHY007204	Dodecanal
Camellia sinensis	leaf	IMPHY007276	Nonan-1-ol
Camellia sinensis	leaf	IMPHY007327	Palmitic acid
Camellia sinensis	leaf	IMPHY007331	6-Methyl-5-hepten-2-one
Camellia sinensis	leaf	IMPHY007354	Hexanoic acid
Camellia sinensis	leaf	IMPHY007357	Nicotinic acid
Camellia sinensis	leaf	IMPHY007450	Oxalic acid
Camellia sinensis	leaf	IMPHY007539	Phenylacetaldehyde
Camellia sinensis	leaf	IMPHY007620	1-Octanol
Camellia sinensis	leaf	IMPHY008252	Inositol
Camellia sinensis	leaf	IMPHY009751	1-Heptanol
Camellia sinensis	leaf	IMPHY009752	beta-Cyclocitral
Camellia sinensis	leaf	IMPHY009946	Benzaldehyde
Camellia sinensis	leaf	IMPHY010225	Methyl 1-methoxy-1H-indole-3-carboxylate
Camellia sinensis	leaf	IMPHY010558	Castasterone
Camellia sinensis	leaf	IMPHY010961	Dextrin
Camellia sinensis	leaf	IMPHY010984	A1-Barrigenol
Camellia sinensis	leaf	IMPHY011396	4-Carvomenthenol
Camellia sinensis	leaf	IMPHY011453	3-Hexenoic acid
Camellia sinensis	leaf	IMPHY011541	Scopoletin
Camellia sinensis	leaf	IMPHY011609	alpha-Carotene
Camellia sinensis	leaf	IMPHY011670	Epigallocatechin gallate
Camellia sinensis	leaf	IMPHY011737	Epigallocatechin
Camellia sinensis	leaf	IMPHY011933	Caffeic acid
Camellia sinensis	leaf	IMPHY011960	Cinnamic acid
Camellia sinensis	leaf	IMPHY011974	4-Hydroxycinnamic acid
Camellia sinensis	leaf	IMPHY012021	Gallic acid
Camellia sinensis	leaf	IMPHY012050	D-Galactose
Camellia sinensis	leaf	IMPHY012058	Linalool
Camellia sinensis	leaf	IMPHY012080	Diphenyl ether
Camellia sinensis	leaf	IMPHY012089	Valeric acid
Camellia sinensis	leaf	IMPHY012100	Nonanoic acid
Camellia sinensis	leaf	IMPHY012160	alpha-Terpineol
Camellia sinensis	leaf	IMPHY012171	1,2-Dihydro-1,5,8-trimethylnaphthalene
Camellia sinensis	leaf	IMPHY012294	2-Hexyl-1-decanol
Camellia sinensis	leaf	IMPHY012435	Theasapogenol B
Camellia sinensis	leaf	IMPHY012626	Dihydro-beta-ionol
Camellia sinensis	leaf	IMPHY012654	Nerol
Camellia sinensis	leaf	IMPHY012723	Linolenic acid
Camellia sinensis	leaf	IMPHY012920	2-Furanmethanol, 5-ethenyltetrahydro-alpha,alpha,5-trimethyl-, cis-
Camellia sinensis	leaf	IMPHY012989	1,4,6-tri-O-galloyl-beta-D-glucose

Camellia sinensis	leaf	IMPHY013083	Theasapogenol E
Camellia sinensis	leaf	IMPHY014854	Cianidanol
Camellia sinensis	leaf	IMPHY014885	1-Isopropyl-4,7-dimethyl-1,3,4,5,6,8a-hexahydro-4a(2H)-naphthalenol
Camellia sinensis	leaf	IMPHY014906	Cedrelanol
Camellia sinensis	leaf	IMPHY014908	(-)Epicatechin
Camellia sinensis	leaf	IMPHY014923	Geraniol
Camellia sinensis	leaf	IMPHY014989	trans-Linalool oxide
Camellia sinensis	leaf	IMPHY015022	Nerolidol
Camellia sinensis	leaf	IMPHY015116	D-Xylose
Camellia sinensis	leaf	IMPHY015133	10-Methylnonadecane
Camellia sinensis	leaf	IMPHY015179	1-Dodecyne
Camellia sinensis	leaf	IMPHY015234	2,5-Octanedione
Camellia sinensis	leaf	IMPHY015271	2-Methyloctan-1-ol
Camellia sinensis	leaf	IMPHY015918	p-Xylene
Camellia sinensis	leaf	IMPHY016973	Diisopentyl ether
Camellia sinensis	leaf	IMPHY017020	3-Methyl-4-penten-1-ol acetate
Camellia sinensis	leaf	IMPHY017078	Cyclopentene, 1-heptyl-
Camellia sinensis	leaf	IMPHY017085	3-Ethylcyclopentanone
Camellia sinensis	leaf	IMPHY017092	3,3,4-Trimethylheptane
Camellia sinensis	leaf	IMPHY017107	3,5-Dimethyl-2-cyclohexen-1-one
Camellia sinensis	leaf	IMPHY017175	2-Cyclohexyloctane
Camellia sinensis	leaf	IMPHY017345	2,3,3-Trimethyl-1-hexene
Camellia sinensis	leaf	IMPHY017352	4-Hexen-2-one
Camellia sinensis	leaf	IMPHY017393	4-(2,4,4-Trimethyl-cyclohexa-1,5-dienyl)-but-3-en-2-one
Camellia sinensis	leaf	IMPHY017410	Hexanoic acid, 4-hexen-1-yl ester
Camellia sinensis	leaf	IMPHY017435	Heptadecenal
Camellia sinensis	leaf	IMPHY017452	(1-Methylbutyl)cyclohexane
Camellia sinensis	leaf	IMPHY017456	Henicosyl formate
Camellia sinensis	leaf	IMPHY017468	Propanoic acid, 2-methyl-, 3-hydroxy-2,4,4-trimethylpentyl ester
Camellia sinensis	leaf	IMPHY017481	3,3-Dimethylhexanal
Camellia sinensis	leaf	IMPHY017514	1-Ethyl-1H-pyrrole-2-carbaldehyde
Camellia sinensis	leaf	IMPHY017516	1-Cyclohexen-1-ol, 2,6-dimethyl-, acetate
Chlorophytum tuberosum	whole plant	IMPHY001431	Arjunic acid
Chlorophytum tuberosum	whole plant	IMPHY002542	Cerasidin
Chlorophytum tuberosum	whole plant	IMPHY003681	Diosgenin
Chlorophytum tuberosum	whole plant	IMPHY004033	Solasodine
Chlorophytum tuberosum	whole plant	IMPHY004110	Tomatidine
Chlorophytum tuberosum	whole plant	IMPHY005514	Arjunetin
Chlorophytum tuberosum	whole plant	IMPHY005537	Ellagic acid
Chlorophytum tuberosum	whole plant	IMPHY006362	Ascorbic acid
Chlorophytum tuberosum	whole plant	IMPHY008708	Arjunone

<i>Chlorophytum tuberosum</i>	whole plant	IMPHY011461	Methyl oleanolate
<i>Chlorophytum tuberosum</i>	whole plant	IMPHY012021	Gallic acid
<i>Chlorophytum tuberosum</i>	whole plant	IMPHY012273	Tigogenin
<i>Chlorophytum tuberosum</i>	whole plant	IMPHY012274	Sarsasapogenin
<i>Chlorophytum tuberosum</i>	whole plant	IMPHY014759	Neotigogenin
<i>Chlorophytum tuberosum</i>	whole plant	IMPHY014836	beta-Sitosterol
<i>Cissus quadrangularis</i>	aerial part	IMPHY001666	13(18)-Oleanen-3-one
<i>Cissus quadrangularis</i>	aerial part	IMPHY004075	Heptadecyl octadecanoate
<i>Cissus quadrangularis</i>	aerial part	IMPHY005559	23-Methyl-tetracosanoic acid
<i>Cissus quadrangularis</i>	aerial part	IMPHY007372	Taraxerol acetate
<i>Cissus quadrangularis</i>	aerial part	IMPHY011677	Taraxerol
<i>Cissus quadrangularis</i>	aerial part	IMPHY011688	Friedelin
<i>Cissus quadrangularis</i>	aerial part	IMPHY013105	delta-Amyrin
<i>Cissus quadrangularis</i>	aerial part	IMPHY013487	9-Methyloctadec-9-ene
<i>Cissus quadrangularis</i>	aerial part	IMPHY014836	beta-Sitosterol
<i>Cissus quadrangularis</i>	stem	IMPHY001666	13(18)-Oleanen-3-one
<i>Cissus quadrangularis</i>	stem	IMPHY003530	Calcium oxalate
<i>Cissus quadrangularis</i>	stem	IMPHY006362	Ascorbic acid
<i>Cissus quadrangularis</i>	stem	IMPHY011609	alpha-Carotene
<i>Cissus quadrangularis</i>	stem	IMPHY013105	delta-Amyrin
<i>Cissus quadrangularis</i>	stem	IMPHY014836	beta-Sitosterol
<i>Cissus quadrangularis</i>	whole plant	IMPHY006362	Ascorbic acid
<i>Cissus quadrangularis</i>	whole plant	IMPHY011273	alpha-Amyrenone
<i>Cissus quadrangularis</i>	whole plant	IMPHY011609	alpha-Carotene
<i>Cissus quadrangularis</i>	whole plant	IMPHY011619	alpha-Amyrin
<i>Cissus quadrangularis</i>	whole plant	IMPHY014836	beta-Sitosterol
<i>Cissus quadrangularis</i>		IMPHY001666	13(18)-Oleanen-3-one
<i>Cissus quadrangularis</i>		IMPHY003530	Calcium oxalate
<i>Cissus quadrangularis</i>		IMPHY004075	Heptadecyl octadecanoate
<i>Cissus quadrangularis</i>		IMPHY005023	quadrangularin A
<i>Cissus quadrangularis</i>		IMPHY005559	23-Methyl-tetracosanoic acid
<i>Cissus quadrangularis</i>		IMPHY006362	Ascorbic acid
<i>Cissus quadrangularis</i>		IMPHY007372	Taraxerol acetate
<i>Cissus quadrangularis</i>		IMPHY011609	alpha-Carotene
<i>Cissus quadrangularis</i>		IMPHY011619	alpha-Amyrin
<i>Cissus quadrangularis</i>		IMPHY011677	Taraxerol
<i>Cissus quadrangularis</i>		IMPHY011688	Friedelin
<i>Cissus quadrangularis</i>		IMPHY013105	delta-Amyrin
<i>Cissus quadrangularis</i>		IMPHY013487	9-Methyloctadec-9-ene
<i>Cissus quadrangularis</i>		IMPHY013522	Triterpenoids
<i>Cissus quadrangularis</i>		IMPHY014836	beta-Sitosterol
<i>Commiphora mukul</i>		IMPHY002174	Guggulsterol IV

Commiphora mukul		IMPHY005588	Neocembrene
Commiphora mukul		IMPHY007554	Guggulsterol V
Commiphora mukul		IMPHY008746	Guggulsterol III
Commiphora mukul		IMPHY008907	Guggulsterol I
Commiphora mukul		IMPHY008908	Guggulsterol II
Commiphora mukul		IMPHY014836	beta-Sitosterol
Commiphora wightii	plant exudate	IMPHY002189	alpha-Camphorene
Commiphora wightii	plant exudate	IMPHY003485	Myrcene
Commiphora wightii	plant exudate	IMPHY003654	E-Guggulsterone
Commiphora wightii	plant exudate	IMPHY003893	Mukulol
Commiphora wightii	plant exudate	IMPHY003895	(2E,6Z,10E)-3,7,11-trimethyl-14-propan-2-ylcyclotetradeca-2,6,10-trien-1-ol
Commiphora wightii	plant exudate	IMPHY003974	20-Hydroxypregn-4-en-3-one
Commiphora wightii	plant exudate	IMPHY004031	(8S,9R,10R,13R,14S,17Z)-17-ethylidene-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15-decahydrocyclo-
Commiphora wightii	plant exudate	IMPHY004048	(20R)-20-Hydroxypregn-4-en-3-one
Commiphora wightii	plant exudate	IMPHY005588	Neocembrene
Commiphora wightii	plant exudate	IMPHY006300	Cholesterol
Commiphora wightii	plant exudate	IMPHY006558	1-Triacontanol
Commiphora wightii	plant exudate	IMPHY006624	Pluviatilol
Commiphora wightii	plant exudate	IMPHY008746	Guggulsterol III
Commiphora wightii	plant exudate	IMPHY008907	Guggulsterol I
Commiphora wightii	plant exudate	IMPHY008908	Guggulsterol II
Commiphora wightii	plant exudate	IMPHY010189	Thumbergene
Commiphora wightii	plant exudate	IMPHY011802	Ferulic acid
Commiphora wightii	plant exudate	IMPHY014831	beta-Caryophyllene
Commiphora wightii	plant exudate	IMPHY014836	beta-Sitosterol
Commiphora wightii	plant exudate	IMPHY014842	Stigmasterol
Commiphora wightii	plant exudate	IMPHY014895	5-[3-(1,3-Benzodioxol-5-yl)-1,3,3a,4,6,6a-hexahydrofuro[3,4-c]furan-6-yl]-1,3-benzodioxole
Commiphora wightii		IMPHY002129	2,2-Dimethyl-3-(3-methylenepent-4-enyl)oxirane
Commiphora wightii		IMPHY002189	alpha-Camphorene
Commiphora wightii		IMPHY002937	16alpha-Hydroxyprogesterone
Commiphora wightii		IMPHY003437	Pelargonidin
Commiphora wightii		IMPHY003893	Mukulol
Commiphora wightii		IMPHY003895	(2E,6Z,10E)-3,7,11-trimethyl-14-propan-2-ylcyclotetradeca-2,6,10-trien-1-ol
Commiphora wightii		IMPHY003974	20-Hydroxypregn-4-en-3-one
Commiphora wightii		IMPHY004619	Quercetin
Commiphora wightii		IMPHY004631	Stearic acid
Commiphora wightii		IMPHY005537	Ellagic acid

<i>Commiphora wightii</i>		IMPHY005588	Neocembrene
<i>Commiphora wightii</i>		IMPHY006300	Cholesterol
<i>Commiphora wightii</i>		IMPHY006558	1-Triacontanol
<i>Commiphora wightii</i>		IMPHY006624	Pluviatilol
<i>Commiphora wightii</i>		IMPHY006931	Dimyrcene isomer # 2
<i>Commiphora wightii</i>		IMPHY007327	Palmitic acid
<i>Commiphora wightii</i>		IMPHY010189	Thunbergene
<i>Commiphora wightii</i>		IMPHY011797	Oleic acid
<i>Commiphora wightii</i>		IMPHY011802	Ferulic acid
<i>Commiphora wightii</i>		IMPHY012402	Campesterol
<i>Commiphora wightii</i>		IMPHY014836	beta-Sitosterol
<i>Commiphora wightii</i>		IMPHY014895	5-[3-(1,3-Benzodioxol-5-yl)-1,3,3a,4,6,6a-hexahydrofuro[3,4-c]furan-6-yl]-1,3-benzodioxole
<i>Commiphora wightii</i>		IMPHY014990	Linoleic acid
<i>Crithmum maritimum</i>	aerial part	IMPHY000022	Myrcenol
<i>Crithmum maritimum</i>	aerial part	IMPHY000041	1,4-Dimethylnaphthalene
<i>Crithmum maritimum</i>	aerial part	IMPHY000309	Dotriaccontane
<i>Crithmum maritimum</i>	aerial part	IMPHY000399	beta-Bisabolene
<i>Crithmum maritimum</i>	aerial part	IMPHY000795	Octanal
<i>Crithmum maritimum</i>	aerial part	IMPHY001144	Dillapiol
<i>Crithmum maritimum</i>	aerial part	IMPHY001246	Carvacrol
<i>Crithmum maritimum</i>	aerial part	IMPHY001351	Elemicin
<i>Crithmum maritimum</i>	aerial part	IMPHY001559	2'-Hydroxy-5'-methylacetophenone
<i>Crithmum maritimum</i>	aerial part	IMPHY001658	Thymol methyl ether
<i>Crithmum maritimum</i>	aerial part	IMPHY001896	Heptacosane
<i>Crithmum maritimum</i>	aerial part	IMPHY001915	Octadecane
<i>Crithmum maritimum</i>	aerial part	IMPHY002825	2-(4-Methylphenyl)propan-2-ol
<i>Crithmum maritimum</i>	aerial part	IMPHY003392	Butylated hydroxytoluene
<i>Crithmum maritimum</i>	aerial part	IMPHY003398	Myristicin
<i>Crithmum maritimum</i>	aerial part	IMPHY003485	Myrcene
<i>Crithmum maritimum</i>	aerial part	IMPHY003525	Nonanal
<i>Crithmum maritimum</i>	aerial part	IMPHY003760	2-Nonenal
<i>Crithmum maritimum</i>	aerial part	IMPHY003915	2-Decenal
<i>Crithmum maritimum</i>	aerial part	IMPHY003982	gamma-Terpinene
<i>Crithmum maritimum</i>	aerial part	IMPHY004077	Verbenone
<i>Crithmum maritimum</i>	aerial part	IMPHY005618	Germacrene B
<i>Crithmum maritimum</i>	aerial part	IMPHY006145	p-Cymene
<i>Crithmum maritimum</i>	aerial part	IMPHY006325	Myrtenal
<i>Crithmum maritimum</i>	aerial part	IMPHY006404	Damascenone
<i>Crithmum maritimum</i>	aerial part	IMPHY006417	2,6-Dimethyl-2,4,6-octatriene
<i>Crithmum maritimum</i>	aerial part	IMPHY006550	Thymol
<i>Crithmum maritimum</i>	aerial part	IMPHY006696	Methyleugenol
<i>Crithmum maritimum</i>	aerial part	IMPHY006932	Cuparene
<i>Crithmum maritimum</i>	aerial part	IMPHY006944	Estragole
<i>Crithmum maritimum</i>	aerial part	IMPHY006950	Tricyclene

Crithmum maritimum	aerial part	IMPHY007201	Carvacrol methyl ether
Crithmum maritimum	aerial part	IMPHY007276	Nonan-1-ol
Crithmum maritimum	aerial part	IMPHY007331	6-Methyl-5-hepten-2-one
Crithmum maritimum	aerial part	IMPHY007620	1-Octanol
Crithmum maritimum	aerial part	IMPHY007840	Spathulenol
Crithmum maritimum	aerial part	IMPHY008150	1-Methyl-4-(prop-1-en-2-yl)benzene
Crithmum maritimum	aerial part	IMPHY008910	Hentricontane
Crithmum maritimum	aerial part	IMPHY009355	Tetracosane
Crithmum maritimum	aerial part	IMPHY009359	Hexacosane
Crithmum maritimum	aerial part	IMPHY009375	Docosane
Crithmum maritimum	aerial part	IMPHY009377	Pentacosane
Crithmum maritimum	aerial part	IMPHY009382	Heneicosane
Crithmum maritimum	aerial part	IMPHY009413	Triaccontane
Crithmum maritimum	aerial part	IMPHY009481	Octacosane
Crithmum maritimum	aerial part	IMPHY009482	Nonacosane
Crithmum maritimum	aerial part	IMPHY009483	Tritriaccontane
Crithmum maritimum	aerial part	IMPHY009490	Tricosane
Crithmum maritimum	aerial part	IMPHY009763	Bornyl formate
Crithmum maritimum	aerial part	IMPHY009870	p-Mentha-1,4-dien-7-ol
Crithmum maritimum	aerial part	IMPHY009874	Myrtenyl acetate
Crithmum maritimum	aerial part	IMPHY009946	Benzaldehyde
Crithmum maritimum	aerial part	IMPHY010000	Dodecane
Crithmum maritimum	aerial part	IMPHY010002	Isoelemicin
Crithmum maritimum	aerial part	IMPHY010072	Eucalyptol
Crithmum maritimum	aerial part	IMPHY010815	Thujopsene
Crithmum maritimum	aerial part	IMPHY011331	trans-alpha-Bergamotol
Crithmum maritimum	aerial part	IMPHY011392	3-Carene
Crithmum maritimum	aerial part	IMPHY011396	4-Carvomenthol
Crithmum maritimum	aerial part	IMPHY011519	alpha-Terpinal acetate
Crithmum maritimum	aerial part	IMPHY011552	(1R)-2-methyl-5-propan-2-ylbicyclo[3.1.0]hex-2-ene
Crithmum maritimum	aerial part	IMPHY011558	Apiole
Crithmum maritimum	aerial part	IMPHY011586	(S,1Z,6Z)-8-Isopropyl-1-methyl-5-methylenecyclodeca-1,6-diene
Crithmum maritimum	aerial part	IMPHY011590	d-Borneol
Crithmum maritimum	aerial part	IMPHY011599	Terpinolene
Crithmum maritimum	aerial part	IMPHY011643	alpha-Terpinene
Crithmum maritimum	aerial part	IMPHY011647	Geranyl acetate
Crithmum maritimum	aerial part	IMPHY011648	Neryl acetate
Crithmum maritimum	aerial part	IMPHY011658	beta-Farnesene
Crithmum maritimum	aerial part	IMPHY011745	Zingiberene
Crithmum maritimum	aerial part	IMPHY011789	Citral
Crithmum maritimum	aerial part	IMPHY011790	Neral
Crithmum maritimum	aerial part	IMPHY011817	alpha-Farnesene
Crithmum maritimum	aerial part	IMPHY011965	(+)-beta-Phellandrene
Crithmum maritimum	aerial part	IMPHY011988	(-) -trans -Carveol

Crithmum maritimum	aerial part	IMPHY011999	Carveol
Crithmum maritimum	aerial part	IMPHY012036	Camphor
Crithmum maritimum	aerial part	IMPHY012058	Linalool
Crithmum maritimum	aerial part	IMPHY012061	alpha-Pinene
Crithmum maritimum	aerial part	IMPHY012086	Citronellal
Crithmum maritimum	aerial part	IMPHY012147	beta-Pinene
Crithmum maritimum	aerial part	IMPHY012160	alpha-Terpineol
Crithmum maritimum	aerial part	IMPHY012165	Sabinene
Crithmum maritimum	aerial part	IMPHY012246	Thujane
Crithmum maritimum	aerial part	IMPHY012255	(+)-trans-Piperitenol
Crithmum maritimum	aerial part	IMPHY012265	(1r,3s,5r)-6,6-Dimethyl-2-methylidenebicyclo[3.1.1]heptan-3-ol
Crithmum maritimum	aerial part	IMPHY012279	alpha-Curcumene
Crithmum maritimum	aerial part	IMPHY012592	(+)-Endo-beta-bergamotene
Crithmum maritimum	aerial part	IMPHY012712	Phytol
Crithmum maritimum	aerial part	IMPHY012739	(Z)-beta-Ocimene
Crithmum maritimum	aerial part	IMPHY012921	gamma-Elemene
Crithmum maritimum	aerial part	IMPHY013093	delta-Elemene
Crithmum maritimum	aerial part	IMPHY013133	(Z)-p-Menth-2-en-1-ol
Crithmum maritimum	aerial part	IMPHY013782	1-Ethyl-2,3-dimethylbenzene
Crithmum maritimum	aerial part	IMPHY013836	Fenchone
Crithmum maritimum	aerial part	IMPHY014690	(-)-Globulol
Crithmum maritimum	aerial part	IMPHY014805	Cedr-8-ene
Crithmum maritimum	aerial part	IMPHY014811	alpha-Phellandrene
Crithmum maritimum	aerial part	IMPHY014831	beta-Caryophyllene
Crithmum maritimum	aerial part	IMPHY014835	(E)-beta-ocimene
Crithmum maritimum	aerial part	IMPHY014847	Bornyl acetate
Crithmum maritimum	aerial part	IMPHY014852	Camphene
Crithmum maritimum	aerial part	IMPHY014873	2-Cyclohexen-1-ol, 3-methyl-6-(1-methylethyl)-, (1R,6S)-rel-
Crithmum maritimum	aerial part	IMPHY014874	cis-Sabinene hydrate
Crithmum maritimum	aerial part	IMPHY014988	Limonene
Crithmum maritimum	aerial part	IMPHY015042	Piperitone
Crithmum maritimum	aerial part	IMPHY015095	2-Cyclohexen-1-ol, 1-methyl-4-(1-methylethyl)-, trans-
Crithmum maritimum	aerial part	IMPHY015154	1,2-Dimethylnaphthalene
Crithmum maritimum	aerial part	IMPHY015232	Ethanol, 2-[4-(1,1-dimethylethyl)-2-methylphenoxy]-
Crithmum maritimum	aerial part	IMPHY015260	2-Ethyl-p-xylene
Crithmum maritimum	aerial part	IMPHY015629	1,2,4,5-Tetramethylbenzene
Crithmum maritimum	aerial part	IMPHY016012	Allo-Aromadendrene
Crithmum maritimum	aerial part	IMPHY016027	trans-Sabinene hydrate
Crithmum maritimum	aerial part	IMPHY016054	trans-alpha-Bergamotene
Crithmum maritimum	aerial part	IMPHY016262	(3E)-2-methyl-6-methylideneocta-3,7-dien-2-ol
Crithmum maritimum	aerial part	IMPHY016969	3-Methoxy-1-phenylpropan-1-one
Crithmum maritimum	flower	IMPHY000060	Myristic acid
Crithmum maritimum	flower	IMPHY000061	Patchouli alcohol
Crithmum maritimum	flower	IMPHY000399	beta-Bisabolene

Crithmum maritimum	flower	IMPHY000795	Octanal
Crithmum maritimum	flower	IMPHY001144	Dillapiol
Crithmum maritimum	flower	IMPHY001246	Carvacrol
Crithmum maritimum	flower	IMPHY001351	Elemicin
Crithmum maritimum	flower	IMPHY001548	Geranylacetone
Crithmum maritimum	flower	IMPHY001658	Thymol methyl ether
Crithmum maritimum	flower	IMPHY001896	Heptacosane
Crithmum maritimum	flower	IMPHY003016	Lauric acid
Crithmum maritimum	flower	IMPHY003104	Decanoic acid
Crithmum maritimum	flower	IMPHY003398	Myristicin
Crithmum maritimum	flower	IMPHY003485	Myrcene
Crithmum maritimum	flower	IMPHY003525	Nonanal
Crithmum maritimum	flower	IMPHY003536	Eugenol
Crithmum maritimum	flower	IMPHY003545	4-Isopropylbenzaldehyde
Crithmum maritimum	flower	IMPHY003710	(-)-Isopulegol
Crithmum maritimum	flower	IMPHY003915	2-Decenal
Crithmum maritimum	flower	IMPHY003982	gamma-Terpinene
Crithmum maritimum	flower	IMPHY004555	1,3,3-Trimethyl-2-oxabicyclo[2.2.2]oct-5-ene
Crithmum maritimum	flower	IMPHY004631	Stearic acid
Crithmum maritimum	flower	IMPHY006145	p-Cymene
Crithmum maritimum	flower	IMPHY006347	Hexanal
Crithmum maritimum	flower	IMPHY006417	2,6-Dimethyl-2,4,6-octatriene
Crithmum maritimum	flower	IMPHY006485	beta-Ionone
Crithmum maritimum	flower	IMPHY006550	Thymol
Crithmum maritimum	flower	IMPHY006696	Methyleugenol
Crithmum maritimum	flower	IMPHY006932	Cuparene
Crithmum maritimum	flower	IMPHY007186	Heptanal
Crithmum maritimum	flower	IMPHY007201	Carvacrol methyl ether
Crithmum maritimum	flower	IMPHY007299	Phellandral
Crithmum maritimum	flower	IMPHY007327	Palmitic acid
Crithmum maritimum	flower	IMPHY007539	Phenylacetaldehyde
Crithmum maritimum	flower	IMPHY007840	Spathulenol
Crithmum maritimum	flower	IMPHY009481	Octacosane
Crithmum maritimum	flower	IMPHY009482	Nonacosane
Crithmum maritimum	flower	IMPHY009642	2-Nonanone
Crithmum maritimum	flower	IMPHY009739	5-Isopropylbicyclo[3.1.0]hexan-2-one
Crithmum maritimum	flower	IMPHY009752	beta-Cyclocitral
Crithmum maritimum	flower	IMPHY009773	3-(Isopropyl)-6-methylcyclohex-2-en-1-one
Crithmum maritimum	flower	IMPHY010080	beta-Elemene
Crithmum maritimum	flower	IMPHY011004	p-Mentha-1,3,8-triene
Crithmum maritimum	flower	IMPHY011396	4-Carvomenthenol
Crithmum maritimum	flower	IMPHY011552	(1R)-2-methyl-5-propan-2-ylbicyclo[3.1.0]hex-2-ene
Crithmum maritimum	flower	IMPHY011557	4-Isopropylbenzyl alcohol
Crithmum maritimum	flower	IMPHY011599	Terpinolene

Crithmum maritimum	flower	IMPHY011643	alpha-Terpinene
Crithmum maritimum	flower	IMPHY011658	beta-Farnesene
Crithmum maritimum	flower	IMPHY011659	alpha-Muurolene
Crithmum maritimum	flower	IMPHY011746	alpha-Zingiberene
Crithmum maritimum	flower	IMPHY011761	Humulene
Crithmum maritimum	flower	IMPHY011792	gamma-Muurolene
Crithmum maritimum	flower	IMPHY011902	beta-Thujone
Crithmum maritimum	flower	IMPHY011957	(+)-delta-Cadinene
Crithmum maritimum	flower	IMPHY011965	(+)-beta-Phellandrene
Crithmum maritimum	flower	IMPHY012058	Linalool
Crithmum maritimum	flower	IMPHY012061	alpha-Pinene
Crithmum maritimum	flower	IMPHY012160	alpha-Terpineol
Crithmum maritimum	flower	IMPHY012165	Sabinene
Crithmum maritimum	flower	IMPHY012255	(+)-trans-Piperitenol
Crithmum maritimum	flower	IMPHY012279	alpha-Curcumene
Crithmum maritimum	flower	IMPHY012589	3-(1,5-Dimethyl-4-hexenyl)-6-methylene-1-cyclohexene
Crithmum maritimum	flower	IMPHY012739	(Z)-beta-Ocimene
Crithmum maritimum	flower	IMPHY012921	gamma-Elemene
Crithmum maritimum	flower	IMPHY014240	Sylvestrene
Crithmum maritimum	flower	IMPHY014805	Cedr-8-ene
Crithmum maritimum	flower	IMPHY014811	alpha-Phellandrene
Crithmum maritimum	flower	IMPHY014831	beta-Caryophyllene
Crithmum maritimum	flower	IMPHY014833	beta-Himachalene
Crithmum maritimum	flower	IMPHY014835	(E)-beta-ocimene
Crithmum maritimum	flower	IMPHY014847	Bornyl acetate
Crithmum maritimum	flower	IMPHY014852	Camphene
Crithmum maritimum	flower	IMPHY014863	cis-alpha-Bergamotene
Crithmum maritimum	flower	IMPHY014873	2-Cyclohexen-1-ol, 3-methyl-6-(1-methylethyl)-, (1R,6S)-rel-
Crithmum maritimum	flower	IMPHY014874	cis-Sabinene hydrate
Crithmum maritimum	flower	IMPHY014988	Limonene
Crithmum maritimum	flower	IMPHY015042	Piperitone
Crithmum maritimum	flower	IMPHY015095	2-Cyclohexen-1-ol, 1-methyl-4-(1-methylethyl)-, trans-
Crithmum maritimum	flower	IMPHY015123	alpha-Copaene
Crithmum maritimum	flower	IMPHY016027	trans-Sabinene hydrate
Crithmum maritimum	flower	IMPHY017329	alpha-Phellandrene epoxide
Crithmum maritimum	leaf	IMPHY000060	Myristic acid
Crithmum maritimum	leaf	IMPHY000061	Patchouli alcohol
Crithmum maritimum	leaf	IMPHY000399	beta-Bisabolene
Crithmum maritimum	leaf	IMPHY000795	Octanal
Crithmum maritimum	leaf	IMPHY001144	Dillapiol
Crithmum maritimum	leaf	IMPHY001246	Carvacrol
Crithmum maritimum	leaf	IMPHY001351	Elemicin
Crithmum maritimum	leaf	IMPHY001548	Geranylacetone
Crithmum maritimum	leaf	IMPHY001658	Thymol methyl ether

Crithmum maritimum	leaf	IMPHY001896	Heptacosane
Crithmum maritimum	leaf	IMPHY003016	Lauric acid
Crithmum maritimum	leaf	IMPHY003104	Decanoic acid
Crithmum maritimum	leaf	IMPHY003398	Myristicin
Crithmum maritimum	leaf	IMPHY003485	Myrcene
Crithmum maritimum	leaf	IMPHY003525	Nonanal
Crithmum maritimum	leaf	IMPHY003536	Eugenol
Crithmum maritimum	leaf	IMPHY003545	4-Isopropylbenzaldehyde
Crithmum maritimum	leaf	IMPHY003710	(-)Isopulegol
Crithmum maritimum	leaf	IMPHY003915	2-Decenal
Crithmum maritimum	leaf	IMPHY003982	gamma-Terpinene
Crithmum maritimum	leaf	IMPHY004555	1,3,3-Trimethyl-2-oxabicyclo[2.2.2]oct-5-ene
Crithmum maritimum	leaf	IMPHY004631	Stearic acid
Crithmum maritimum	leaf	IMPHY006145	p-Cymene
Crithmum maritimum	leaf	IMPHY006347	Hexanal
Crithmum maritimum	leaf	IMPHY006417	2,6-Dimethyl-2,4,6-octatriene
Crithmum maritimum	leaf	IMPHY006485	beta-Ionone
Crithmum maritimum	leaf	IMPHY006550	Thymol
Crithmum maritimum	leaf	IMPHY006696	Methyleugenol
Crithmum maritimum	leaf	IMPHY006932	Cuparene
Crithmum maritimum	leaf	IMPHY007186	Heptanal
Crithmum maritimum	leaf	IMPHY007201	Carvacrol methyl ether
Crithmum maritimum	leaf	IMPHY007299	Phellandral
Crithmum maritimum	leaf	IMPHY007327	Palmitic acid
Crithmum maritimum	leaf	IMPHY007539	Phenylacetaldehyde
Crithmum maritimum	leaf	IMPHY007840	Spathulenol
Crithmum maritimum	leaf	IMPHY009481	Octacosane
Crithmum maritimum	leaf	IMPHY009482	Nonacosane
Crithmum maritimum	leaf	IMPHY009642	2-Nonanone
Crithmum maritimum	leaf	IMPHY009739	5-Isopropylbicyclo[3.1.0]hexan-2-one
Crithmum maritimum	leaf	IMPHY009752	beta-Cyclocitral
Crithmum maritimum	leaf	IMPHY009773	3-(Isopropyl)-6-methylcyclohex-2-en-1-one
Crithmum maritimum	leaf	IMPHY010080	beta-Elemene
Crithmum maritimum	leaf	IMPHY011004	p-Mentha-1,3,8-triene
Crithmum maritimum	leaf	IMPHY011396	4-Carvomenthenol
Crithmum maritimum	leaf	IMPHY011552	(1R)-2-methyl-5-propan-2-ylbicyclo[3.1.0]hex-2-ene
Crithmum maritimum	leaf	IMPHY011557	4-Isopropylbenzyl alcohol
Crithmum maritimum	leaf	IMPHY011599	Terpinolene
Crithmum maritimum	leaf	IMPHY011643	alpha-Terpinene
Crithmum maritimum	leaf	IMPHY011658	beta-Farnesene
Crithmum maritimum	leaf	IMPHY011659	alpha-Muurolene
Crithmum maritimum	leaf	IMPHY011746	alpha-Zingiberene
Crithmum maritimum	leaf	IMPHY011761	Humulene
Crithmum maritimum	leaf	IMPHY011792	gamma-Muurolene

Crithmum maritimum	leaf	IMPHY011902	beta-Thujone
Crithmum maritimum	leaf	IMPHY011957	(+)-delta-Cadinene
Crithmum maritimum	leaf	IMPHY011965	(+)-beta-Phellandrene
Crithmum maritimum	leaf	IMPHY012058	Linalool
Crithmum maritimum	leaf	IMPHY012061	alpha-Pinene
Crithmum maritimum	leaf	IMPHY012160	alpha-Terpineol
Crithmum maritimum	leaf	IMPHY012165	Sabinene
Crithmum maritimum	leaf	IMPHY012255	(+)-trans-Piperitenol
Crithmum maritimum	leaf	IMPHY012279	alpha-Curcumene
Crithmum maritimum	leaf	IMPHY012589	3-(1,5-Dimethyl-4-hexenyl)-6-methylene-1-cyclohexene
Crithmum maritimum	leaf	IMPHY012739	(Z)-beta-Ocimene
Crithmum maritimum	leaf	IMPHY012921	gamma-Elemene
Crithmum maritimum	leaf	IMPHY013835	(+)-Fenchone
Crithmum maritimum	leaf	IMPHY014240	Sylvestrene
Crithmum maritimum	leaf	IMPHY014805	Cedr-8-ene
Crithmum maritimum	leaf	IMPHY014811	alpha-Phellandrene
Crithmum maritimum	leaf	IMPHY014831	beta-Caryophyllene
Crithmum maritimum	leaf	IMPHY014833	beta-Himachalene
Crithmum maritimum	leaf	IMPHY014835	(E)-beta-ocimene
Crithmum maritimum	leaf	IMPHY014847	Bornyl acetate
Crithmum maritimum	leaf	IMPHY014852	Camphene
Crithmum maritimum	leaf	IMPHY014863	cis-alpha-Bergamotene
Crithmum maritimum	leaf	IMPHY014873	2-Cyclohexen-1-ol, 3-methyl-6-(1-methylethyl)-, (1R,6S)-rel-
Crithmum maritimum	leaf	IMPHY014874	cis-Sabinene hydrate
Crithmum maritimum	leaf	IMPHY014988	Limonene
Crithmum maritimum	leaf	IMPHY015042	Piperitone
Crithmum maritimum	leaf	IMPHY015095	2-Cyclohexen-1-ol, 1-methyl-4-(1-methylethyl)-, trans-
Crithmum maritimum	leaf	IMPHY015123	alpha-Copaene
Crithmum maritimum	leaf	IMPHY016027	trans-Sabinene hydrate
Crithmum maritimum	leaf	IMPHY017329	alpha-Phellandrene epoxide
Crithmum maritimum	seed	IMPHY001144	Dillapiol
Crithmum maritimum	seed	IMPHY001351	Elemicin
Crithmum maritimum	seed	IMPHY001658	Thymol methyl ether
Crithmum maritimum	seed	IMPHY003398	Myristicin
Crithmum maritimum	seed	IMPHY003485	Myrcene
Crithmum maritimum	seed	IMPHY003982	gamma-Terpinene
Crithmum maritimum	seed	IMPHY006145	p-Cymene
Crithmum maritimum	seed	IMPHY006550	Thymol
Crithmum maritimum	seed	IMPHY007201	Carvacrol methyl ether
Crithmum maritimum	seed	IMPHY011396	4-Carvomenthenol
Crithmum maritimum	seed	IMPHY011552	(1R)-2-methyl-5-propan-2-ylbicyclo[3.1.0]hex-2-ene
Crithmum maritimum	seed	IMPHY011599	Terpinolene
Crithmum maritimum	seed	IMPHY011643	alpha-Terpinene
Crithmum maritimum	seed	IMPHY011746	alpha-Zingiberene

Crithmum maritimum	seed	IMPHY011965	(+)-beta-Phellandrene
Crithmum maritimum	seed	IMPHY012061	alpha-Pinene
Crithmum maritimum	seed	IMPHY012165	Sabinene
Crithmum maritimum	seed	IMPHY012589	3-(1,5-Dimethyl-4-hexenyl)-6-methylene-1-cyclohexene
Crithmum maritimum	stem	IMPHY000060	Myristic acid
Crithmum maritimum	stem	IMPHY000061	Patchouli alcohol
Crithmum maritimum	stem	IMPHY000399	beta-Bisabolene
Crithmum maritimum	stem	IMPHY000795	Octanal
Crithmum maritimum	stem	IMPHY001144	Dillapiol
Crithmum maritimum	stem	IMPHY001246	Carvacrol
Crithmum maritimum	stem	IMPHY001351	Elemicin
Crithmum maritimum	stem	IMPHY001548	Geranylacetone
Crithmum maritimum	stem	IMPHY001658	Thymol methyl ether
Crithmum maritimum	stem	IMPHY001896	Heptacosane
Crithmum maritimum	stem	IMPHY003016	Lauric acid
Crithmum maritimum	stem	IMPHY003104	Decanoic acid
Crithmum maritimum	stem	IMPHY003398	Myristicin
Crithmum maritimum	stem	IMPHY003485	Myrcene
Crithmum maritimum	stem	IMPHY003525	Nonanal
Crithmum maritimum	stem	IMPHY003536	Eugenol
Crithmum maritimum	stem	IMPHY003545	4-Isopropylbenzaldehyde
Crithmum maritimum	stem	IMPHY003710	(-)-Isopulegol
Crithmum maritimum	stem	IMPHY003915	2-Decenal
Crithmum maritimum	stem	IMPHY003982	gamma-Terpinene
Crithmum maritimum	stem	IMPHY004555	1,3,3-Trimethyl-2-oxabicyclo[2.2.2]oct-5-ene
Crithmum maritimum	stem	IMPHY004631	Stearic acid
Crithmum maritimum	stem	IMPHY006145	p-Cymene
Crithmum maritimum	stem	IMPHY006347	Hexanal
Crithmum maritimum	stem	IMPHY006417	2,6-Dimethyl-2,4,6-octatriene
Crithmum maritimum	stem	IMPHY006485	beta-Ionone
Crithmum maritimum	stem	IMPHY006550	Thymol
Crithmum maritimum	stem	IMPHY006696	Methyleugenol
Crithmum maritimum	stem	IMPHY006932	Cuparene
Crithmum maritimum	stem	IMPHY007186	Heptanal
Crithmum maritimum	stem	IMPHY007201	Carvacrol methyl ether
Crithmum maritimum	stem	IMPHY007299	Phellandral
Crithmum maritimum	stem	IMPHY007327	Palmitic acid
Crithmum maritimum	stem	IMPHY007539	Phenylacetaldehyde
Crithmum maritimum	stem	IMPHY007840	Spathulenol
Crithmum maritimum	stem	IMPHY009481	Octacosane
Crithmum maritimum	stem	IMPHY009482	Nonacosane
Crithmum maritimum	stem	IMPHY009642	2-Nonanone
Crithmum maritimum	stem	IMPHY009739	5-Isopropylbicyclo[3.1.0]hexan-2-one
Crithmum maritimum	stem	IMPHY009752	beta-Cyclocitral

Crithmum maritimum	stem	IMPHY009773	3-(Isopropyl)-6-methylcyclohex-2-en-1-one
Crithmum maritimum	stem	IMPHY010080	beta-Elemene
Crithmum maritimum	stem	IMPHY011004	p-Mentha-1,3,8-triene
Crithmum maritimum	stem	IMPHY011396	4-Carvomenthol
Crithmum maritimum	stem	IMPHY011552	(1R)-2-methyl-5-propan-2-ylbicyclo[3.1.0]hex-2-ene
Crithmum maritimum	stem	IMPHY011557	4-Isopropylbenzyl alcohol
Crithmum maritimum	stem	IMPHY011599	Terpinolene
Crithmum maritimum	stem	IMPHY011643	alpha-Terpinene
Crithmum maritimum	stem	IMPHY011658	beta-Farnesene
Crithmum maritimum	stem	IMPHY011659	alpha-Muurolene
Crithmum maritimum	stem	IMPHY011746	alpha-Zingiberene
Crithmum maritimum	stem	IMPHY011761	Humulene
Crithmum maritimum	stem	IMPHY011792	gamma-Muurolene
Crithmum maritimum	stem	IMPHY011902	beta-Thujone
Crithmum maritimum	stem	IMPHY011957	(+)-delta-Cadinene
Crithmum maritimum	stem	IMPHY011965	(+)-beta-Phellandrene
Crithmum maritimum	stem	IMPHY012058	Linalool
Crithmum maritimum	stem	IMPHY012061	alpha-Pinene
Crithmum maritimum	stem	IMPHY012160	alpha-Terpineol
Crithmum maritimum	stem	IMPHY012165	Sabinene
Crithmum maritimum	stem	IMPHY012255	(+)-trans-Piperitenol
Crithmum maritimum	stem	IMPHY012279	alpha-Curcumene
Crithmum maritimum	stem	IMPHY012589	3-(1,5-Dimethyl-4-hexenyl)-6-methylene-1-cyclohexene
Crithmum maritimum	stem	IMPHY012739	(Z)-beta-Ocimene
Crithmum maritimum	stem	IMPHY012921	gamma-Elemene
Crithmum maritimum	stem	IMPHY013835	(+)-Fenchone
Crithmum maritimum	stem	IMPHY014240	Sylvestrene
Crithmum maritimum	stem	IMPHY014805	Cedr-8-ene
Crithmum maritimum	stem	IMPHY014811	alpha-Phellandrene
Crithmum maritimum	stem	IMPHY014831	beta-Caryophyllene
Crithmum maritimum	stem	IMPHY014833	beta-Himachalene
Crithmum maritimum	stem	IMPHY014835	(E)-beta-ocimene
Crithmum maritimum	stem	IMPHY014847	Bornyl acetate
Crithmum maritimum	stem	IMPHY014852	Camphepane
Crithmum maritimum	stem	IMPHY014863	cis-alpha-Bergamotene
Crithmum maritimum	stem	IMPHY014873	2-Cyclohexen-1-ol, 3-methyl-6-(1-methylethyl)-, (1R,6S)-rel-
Crithmum maritimum	stem	IMPHY014874	cis-Sabinene hydrate
Crithmum maritimum	stem	IMPHY014988	Limonene
Crithmum maritimum	stem	IMPHY015042	Piperitone
Crithmum maritimum	stem	IMPHY015095	2-Cyclohexen-1-ol, 1-methyl-4-(1-methylethyl)-, trans-
Crithmum maritimum	stem	IMPHY015123	alpha-Copaene
Crithmum maritimum	stem	IMPHY016027	trans-Sabinene hydrate
Crithmum maritimum	stem	IMPHY017329	alpha-Phellandrene epoxide
Crithmum maritimum	whole plant	IMPHY000060	Myristic acid

Crithmum maritimum	whole plant	IMPHY000061	Patchouli alcohol
Crithmum maritimum	whole plant	IMPHY000399	beta-Bisabolene
Crithmum maritimum	whole plant	IMPHY000795	Octanal
Crithmum maritimum	whole plant	IMPHY001144	Dillapiol
Crithmum maritimum	whole plant	IMPHY001246	Carvacrol
Crithmum maritimum	whole plant	IMPHY001351	Elemicin
Crithmum maritimum	whole plant	IMPHY001548	Geranylacetone
Crithmum maritimum	whole plant	IMPHY001896	Heptacosane
Crithmum maritimum	whole plant	IMPHY003016	Lauric acid
Crithmum maritimum	whole plant	IMPHY003104	Decanoic acid
Crithmum maritimum	whole plant	IMPHY003485	Myrcene
Crithmum maritimum	whole plant	IMPHY003525	Nonanal
Crithmum maritimum	whole plant	IMPHY003536	Eugenol
Crithmum maritimum	whole plant	IMPHY003545	4-Isopropylbenzaldehyde
Crithmum maritimum	whole plant	IMPHY003710	(-)-Isopulegol
Crithmum maritimum	whole plant	IMPHY003915	2-Decenal
Crithmum maritimum	whole plant	IMPHY003982	gamma-Terpinene
Crithmum maritimum	whole plant	IMPHY004555	1,3,3-Trimethyl-2-oxabicyclo[2.2.2]oct-5-ene
Crithmum maritimum	whole plant	IMPHY004631	Stearic acid
Crithmum maritimum	whole plant	IMPHY006145	p-Cymene
Crithmum maritimum	whole plant	IMPHY006347	Hexanal
Crithmum maritimum	whole plant	IMPHY006417	2,6-Dimethyl-2,4,6-octatriene
Crithmum maritimum	whole plant	IMPHY006485	beta-Ionone
Crithmum maritimum	whole plant	IMPHY006550	Thymol
Crithmum maritimum	whole plant	IMPHY006696	Methyleugenol
Crithmum maritimum	whole plant	IMPHY006932	Cuparene
Crithmum maritimum	whole plant	IMPHY007186	Heptanal
Crithmum maritimum	whole plant	IMPHY007299	Phellandral
Crithmum maritimum	whole plant	IMPHY007327	Palmitic acid
Crithmum maritimum	whole plant	IMPHY007539	Phenylacetaldehyde
Crithmum maritimum	whole plant	IMPHY007840	Spathulenol
Crithmum maritimum	whole plant	IMPHY009481	Octacosane
Crithmum maritimum	whole plant	IMPHY009482	Nonacosane
Crithmum maritimum	whole plant	IMPHY009642	2-Nonanone
Crithmum maritimum	whole plant	IMPHY009739	5-Isopropylbicyclo[3.1.0]hexan-2-one
Crithmum maritimum	whole plant	IMPHY009752	beta-Cyclocitral
Crithmum maritimum	whole plant	IMPHY009773	3-(Isopropyl)-6-methylcyclohex-2-en-1-one
Crithmum maritimum	whole plant	IMPHY010080	beta-Elemene
Crithmum maritimum	whole plant	IMPHY011004	p-Mentha-1,3,8-triene
Crithmum maritimum	whole plant	IMPHY011396	4-Carvomenthenol
Crithmum maritimum	whole plant	IMPHY011552	(1R)-2-methyl-5-propan-2-ylbicyclo[3.1.0]hex-2-ene
Crithmum maritimum	whole plant	IMPHY011557	4-Isopropylbenzyl alcohol
Crithmum maritimum	whole plant	IMPHY011599	Terpinolene
Crithmum maritimum	whole plant	IMPHY011643	alpha-Terpinene

Crithmum maritimum	whole plant	IMPHY011658	beta-Farnesene
Crithmum maritimum	whole plant	IMPHY011659	alpha-Muurolene
Crithmum maritimum	whole plant	IMPHY011761	Humulene
Crithmum maritimum	whole plant	IMPHY011792	gamma-Muurolene
Crithmum maritimum	whole plant	IMPHY011902	beta-Thujone
Crithmum maritimum	whole plant	IMPHY011957	(+)-delta-Cadinene
Crithmum maritimum	whole plant	IMPHY011965	(+)-beta-Phellandrene
Crithmum maritimum	whole plant	IMPHY012058	Linalool
Crithmum maritimum	whole plant	IMPHY012061	alpha-Pinene
Crithmum maritimum	whole plant	IMPHY012160	alpha-Terpineol
Crithmum maritimum	whole plant	IMPHY012165	Sabinene
Crithmum maritimum	whole plant	IMPHY012255	(+)-trans-Piperitenol
Crithmum maritimum	whole plant	IMPHY012279	alpha-Curcumene
Crithmum maritimum	whole plant	IMPHY012589	3-(1,5-Dimethyl-4-hexenyl)-6-methylene-1-cyclohexene
Crithmum maritimum	whole plant	IMPHY012739	(Z)-beta-Ocimene
Crithmum maritimum	whole plant	IMPHY012921	gamma-Elemene
Crithmum maritimum	whole plant	IMPHY014240	Sylvestrene
Crithmum maritimum	whole plant	IMPHY014805	Cedr-8-ene
Crithmum maritimum	whole plant	IMPHY014811	alpha-Phellandrene
Crithmum maritimum	whole plant	IMPHY014831	beta-Caryophyllene
Crithmum maritimum	whole plant	IMPHY014833	beta-Himachalene
Crithmum maritimum	whole plant	IMPHY014835	(E)-beta-ocimene
Crithmum maritimum	whole plant	IMPHY014847	Bornyl acetate
Crithmum maritimum	whole plant	IMPHY014852	Camphene
Crithmum maritimum	whole plant	IMPHY014863	cis-alpha-Bergamotene
Crithmum maritimum	whole plant	IMPHY014873	2-Cyclohexen-1-ol, 3-methyl-6-(1-methylethyl)-, (1R,6S)-rel-
Crithmum maritimum	whole plant	IMPHY014874	cis-Sabinene hydrate
Crithmum maritimum	whole plant	IMPHY014988	Limonene
Crithmum maritimum	whole plant	IMPHY015042	Piperitone
Crithmum maritimum	whole plant	IMPHY015095	2-Cyclohexen-1-ol, 1-methyl-4-(1-methylethyl)-, trans-
Crithmum maritimum	whole plant	IMPHY015123	alpha-Copaene
Crithmum maritimum	whole plant	IMPHY016027	trans-Sabinene hydrate
Crithmum maritimum	whole plant	IMPHY017329	alpha-Phellandrene epoxide
Cyperus rotundus		IMPHY000060	Myristic acid
Cyperus rotundus		IMPHY000491	Pinene
Cyperus rotundus		IMPHY000614	beta-Cyperone
Cyperus rotundus		IMPHY001661	Cyperol
Cyperus rotundus		IMPHY002501	Sugetriol triacetate
Cyperus rotundus		IMPHY002629	Isocyperol
Cyperus rotundus		IMPHY002998	Isokobusone
Cyperus rotundus		IMPHY003969	(4aS,6R,8aS)-4a-hydroxy-4,8a-dimethyl-6-prop-1-en-2-yl-5,6,7,8-tetrahydro-1H-naphthalen-2-one
Cyperus rotundus		IMPHY004120	(-)Cyperene
Cyperus rotundus		IMPHY004257	beta-Rotunol
Cyperus rotundus		IMPHY004352	Patchoulenone

Cyperus rotundus		IMPHY004619	Quercetin
Cyperus rotundus		IMPHY004631	Stearic acid
Cyperus rotundus		IMPHY004660	Luteolin
Cyperus rotundus		IMPHY004681	Aureusidin
Cyperus rotundus		IMPHY004953	Cyperolone
Cyperus rotundus		IMPHY005516	Rotundone
Cyperus rotundus		IMPHY006362	Ascorbic acid
Cyperus rotundus		IMPHY006821	(1S,6S,8S)-1,5-dimethyl-8-propan-2-yltricyclo[4.4.0.02,7]dec-4-en-3-one
Cyperus rotundus		IMPHY007250	Kobusone
Cyperus rotundus		IMPHY007272	1-Methyl-5-methylidene-9-propan-2-yltricyclo[4.4.0.02,8]dec-3-ene
Cyperus rotundus		IMPHY009360	Nootkatone
Cyperus rotundus		IMPHY010072	Eucalyptol
Cyperus rotundus		IMPHY010089	Calamenone
Cyperus rotundus		IMPHY010560	1,2,3,4,5,6,7,8-Octahydro-1,4-dimethyl-7-(1-methylethylidene)azulene monoepoxide
Cyperus rotundus		IMPHY011395	Scoparone
Cyperus rotundus		IMPHY011515	4-Methoxybenzoic acid
Cyperus rotundus		IMPHY011598	Cyperotundone
Cyperus rotundus		IMPHY011712	alpha-Cyperone
Cyperus rotundus		IMPHY011761	Humulene
Cyperus rotundus		IMPHY011797	Oleic acid
Cyperus rotundus		IMPHY011826	Oleanolic acid
Cyperus rotundus		IMPHY011872	(4E,7E)-1,5,9,9-Tetramethyl-12-oxabicyclo[9.1.0]dodeca-4,7-diene
Cyperus rotundus		IMPHY011957	(+)-delta-Cadinene
Cyperus rotundus		IMPHY011969	Isopatchoulenone
Cyperus rotundus		IMPHY012147	beta-Pinene
Cyperus rotundus		IMPHY012305	beta-Patchoulene
Cyperus rotundus		IMPHY012667	Caryophyllene oxide
Cyperus rotundus		IMPHY012723	Linolenic acid
Cyperus rotundus		IMPHY014708	beta-Selinene
Cyperus rotundus		IMPHY014831	beta-Caryophyllene
Cyperus rotundus		IMPHY014836	beta-Sitosterol
Cyperus rotundus		IMPHY014852	Camphene
Cyperus rotundus		IMPHY014881	Copaene
Cyperus rotundus		IMPHY014990	Linoleic acid
Cyperus rotundus		IMPHY015490	Aristolone
Dalbergia latifolia	bark	IMPHY003554	Latifolin
Dalbergia latifolia	bark	IMPHY004840	Dalbergin
Dalbergia latifolia	bark	IMPHY005035	Dalbergichromene
Dalbergia latifolia	bark	IMPHY008910	Hentriaccontane
Dalbergia latifolia	bark	IMPHY009413	Triacontane
Dalbergia latifolia	bark	IMPHY009645	6,7-Dimethoxy-4-phenylcoumarin
Dalbergia latifolia	bark	IMPHY011741	Tannic acid
Dalbergia latifolia	bark	IMPHY012053	Sucrose
Dalbergia latifolia	bark	IMPHY012464	Clionasterol

Dalbergia latifolia	bark	IMPHY012473	Lupeol
Dalbergia latifolia	bark	IMPHY014836	beta-Sitosterol
Dalbergia latifolia		IMPHY001869	Liquiritigenin
Dalbergia latifolia		IMPHY006836	Xanthone
Dalbergia latifolia		IMPHY007519	Latinone
Dalbergia latifolia		IMPHY007862	Dalbin
Delphinium nudatum		IMPHY001417	Vilmorrianone
Delphinium nudatum		IMPHY002437	[(1S,2R,3S,6S,9R,10S,11R,14R,17S,18R)-12-ethyl-17-methoxy-14-methyl-4-oxo-5-oxa-12-azahexa
Delphinium nudatum		IMPHY006300	Cholesterol
Delphinium nudatum		IMPHY007058	Maltol
Delphinium nudatum		IMPHY010228	(1S,5R,8R,9R,10S,11R,13R,14S,15S,16R)-7-ethyl-5-methyl-12-methylidene-7-azahexacyclo[7.6.2.0]heptadecane
Delphinium nudatum		IMPHY010680	Condelphine
Delphinium nudatum		IMPHY011364	Panicutine
Delphinium nudatum		IMPHY014836	beta-Sitosterol
Delphinium nudatum		IMPHY014842	Stigmasterol
Delphinium nudatum		IMPHY014925	beta-D-Glucose
Desmodium oojeinense	wood	IMPHY004867	Homoferreirin
Desmodium oojeinense	wood	IMPHY009253	Ougenin
Diospyros malabarica	fruit	IMPHY002547	Karanjachromene
Diospyros malabarica	fruit	IMPHY004271	Betulin
Diospyros malabarica	fruit	IMPHY006812	Peregrinol
Diospyros malabarica	fruit	IMPHY007273	1-Hexacosanol
Diospyros malabarica	fruit	IMPHY007426	Taraxerone
Diospyros malabarica	fruit	IMPHY008639	Marsformosanone
Diospyros malabarica	fruit	IMPHY009359	Hexacosane
Diospyros malabarica	fruit	IMPHY012003	Betulinic acid
Diospyros malabarica	fruit	IMPHY012021	Gallic acid
Diospyros malabarica	fruit	IMPHY012223	beta-Amyrin
Diospyros malabarica	fruit	IMPHY012473	Lupeol
Diospyros malabarica	fruit	IMPHY013522	Triterpenoids
Diospyros malabarica	fruit	IMPHY014836	beta-Sitosterol
Diospyros malabarica	fruit	IMPHY014838	Daucosterol
Diospyros malabarica	fruit	IMPHY015072	beta-Sitosterol-beta-D-glucoside
Enicostema axillare	aerial part	IMPHY000526	Gentiocrucine
Enicostema axillare	aerial part	IMPHY000904	Saponarin
Enicostema axillare	aerial part	IMPHY004271	Betulin
Enicostema axillare	aerial part	IMPHY004661	Apigenin
Enicostema axillare	aerial part	IMPHY005316	Erythrocentaurin
Enicostema axillare	aerial part	IMPHY005435	Genkwanin
Enicostema axillare	aerial part	IMPHY005642	Enicoflavine
Enicostema axillare	aerial part	IMPHY008482	Isoswertisin
Enicostema axillare	aerial part	IMPHY008689	Isovitetexin
Enicostema axillare	aerial part	IMPHY009372	Swertisin
Enicostema axillare	aerial part	IMPHY010532	Swertiamarin

Enicostema axillare	leaf	IMPHY000687	Syringic acid
Enicostema axillare	leaf	IMPHY010083	4-Hydroxybenzoic acid
Enicostema axillare	leaf	IMPHY011802	Ferulic acid
Enicostema axillare	leaf	IMPHY011974	4-Hydroxycinnamic acid
Enicostema axillare	whole plant	IMPHY000060	Myristic acid
Enicostema axillare	whole plant	IMPHY000526	Gentiocrucine
Enicostema axillare	whole plant	IMPHY000904	Saponarin
Enicostema axillare	whole plant	IMPHY001763	Ternstroside F
Enicostema axillare	whole plant	IMPHY001896	Heptacosane
Enicostema axillare	whole plant	IMPHY003257	Gentianine
Enicostema axillare	whole plant	IMPHY004271	Betulin
Enicostema axillare	whole plant	IMPHY004631	Stearic acid
Enicostema axillare	whole plant	IMPHY004661	Apigenin
Enicostema axillare	whole plant	IMPHY005316	Erythrocentaurin
Enicostema axillare	whole plant	IMPHY005435	Genkwanin
Enicostema axillare	whole plant	IMPHY005642	Enicoflavine
Enicostema axillare	whole plant	IMPHY007273	1-Hexacosanol
Enicostema axillare	whole plant	IMPHY008689	Isovitetin
Enicostema axillare	whole plant	IMPHY009372	Swertisin
Enicostema axillare	whole plant	IMPHY009482	Nonacosane
Enicostema axillare	whole plant	IMPHY010532	Swertiajamarin
Enicostema axillare	whole plant	IMPHY011797	Oleic acid
Enicostema axillare	whole plant	IMPHY013424	Isoswertisin 5-O-glucoside
Enicostema axillare		IMPHY000060	Myristic acid
Enicostema axillare		IMPHY000526	Gentiocrucine
Enicostema axillare		IMPHY000904	Saponarin
Enicostema axillare		IMPHY001841	Amarogentin
Enicostema axillare		IMPHY001896	Heptacosane
Enicostema axillare		IMPHY003257	Gentianine
Enicostema axillare		IMPHY004271	Betulin
Enicostema axillare		IMPHY004631	Stearic acid
Enicostema axillare		IMPHY004661	Apigenin
Enicostema axillare		IMPHY005316	Erythrocentaurin
Enicostema axillare		IMPHY005435	Genkwanin
Enicostema axillare		IMPHY005642	Enicoflavine
Enicostema axillare		IMPHY007273	1-Hexacosanol
Enicostema axillare		IMPHY008689	Isovitetin
Enicostema axillare		IMPHY009372	Swertisin
Enicostema axillare		IMPHY009482	Nonacosane
Enicostema axillare		IMPHY010532	Swertiajamarin
Enicostema axillare		IMPHY011797	Oleic acid
Ficus benghalensis	bark	IMPHY002588	Flavyllum
Ficus benghalensis	bark	IMPHY003535	Leucopelargonidin
Ficus benghalensis	bark	IMPHY005737	20-Tetratriacontene-2-one

<i>Ficus benghalensis</i>	bark	IMPHY006221	Tiglic acid
<i>Ficus benghalensis</i>	bark	IMPHY006378	Pentatriacontan-5-one
<i>Ficus benghalensis</i>	bark	IMPHY011611	Leucocianidol
<i>Ficus benghalensis</i>	bark	IMPHY011885	Leucodelphinidin
<i>Ficus benghalensis</i>	bark	IMPHY014836	beta-Sitosterol
<i>Ficus benghalensis</i>	root	IMPHY011654	alpha1-Sitosterol
<i>Ficus benghalensis</i>	root	IMPHY011688	Friedelin
<i>Ficus racemosa</i>	root	IMPHY012473	Lupeol
<i>Ficus racemosa</i>	root	IMPHY014836	beta-Sitosterol
<i>Flemingia strobilifera</i>	root	IMPHY004643	Genistein
<i>Flemingia strobilifera</i>	root	IMPHY007268	Chalcone
<i>Flemingia strobilifera</i>	root	IMPHY009413	Triacontane
<i>Flemingia strobilifera</i>	root	IMPHY009483	Tritriaccontane
<i>Flemingia strobilifera</i>	root	IMPHY014836	beta-Sitosterol
<i>Gardenia gummifera</i>	bark	IMPHY001221	Oleanolic aldehyde
<i>Gardenia gummifera</i>	bark	IMPHY002190	Erythrodiol
<i>Gardenia gummifera</i>	bark	IMPHY009057	Oleanonic aldehyde
<i>Gardenia gummifera</i>	bark	IMPHY011729	Mannitol
<i>Gardenia gummifera</i>	bark	IMPHY011826	Oleanolic acid
<i>Gardenia gummifera</i>	bark	IMPHY014836	beta-Sitosterol
<i>Gardenia gummifera</i>	plant exudate	IMPHY001776	Nevadensin
<i>Gardenia gummifera</i>	plant exudate	IMPHY002905	Gardenin A
<i>Gardenia gummifera</i>	plant exudate	IMPHY003193	Demethoxysudachitin
<i>Gardenia gummifera</i>	plant exudate	IMPHY004661	Apigenin
<i>Gardenia gummifera</i>	plant exudate	IMPHY005461	Isoscutellarein
<i>Gardenia gummifera</i>	plant exudate	IMPHY005530	Wogonin
<i>Gardenia gummifera</i>	plant exudate	IMPHY008523	Gardenin E
<i>Gardenia gummifera</i>	plant exudate	IMPHY014474	Dikamaliartane D
<i>Gymnema sylvestre</i>	leaf	IMPHY000060	Myristic acid
<i>Gymnema sylvestre</i>	leaf	IMPHY001135	6,10,14-Trimethylpentadecan-2-one
<i>Gymnema sylvestre</i>	leaf	IMPHY001213	Conduritol A
<i>Gymnema sylvestre</i>	leaf	IMPHY001589	Gymnestrogenin
<i>Gymnema sylvestre</i>	leaf	IMPHY001808	2-Hydroxydodecyl methacrylate
<i>Gymnema sylvestre</i>	leaf	IMPHY001896	Heptacosane
<i>Gymnema sylvestre</i>	leaf	IMPHY001960	Gynosaponin TN-2
<i>Gymnema sylvestre</i>	leaf	IMPHY002109	Gymnemic acid I
<i>Gymnema sylvestre</i>	leaf	IMPHY002667	Pentadecanoic acid
<i>Gymnema sylvestre</i>	leaf	IMPHY002823	Gymnemic acid V
<i>Gymnema sylvestre</i>	leaf	IMPHY002846	Gymnemic acid IV
<i>Gymnema sylvestre</i>	leaf	IMPHY002859	Gymnemic acid III
<i>Gymnema sylvestre</i>	leaf	IMPHY002983	1-Hexadecanol
<i>Gymnema sylvestre</i>	leaf	IMPHY003536	Eugenol

Gymnema sylvestre	leaf	IMPHY003695	(-)-Germacrene A
Gymnema sylvestre	leaf	IMPHY003963	Betaine
Gymnema sylvestre	leaf	IMPHY003999	d-Tartaric acid
Gymnema sylvestre	leaf	IMPHY004055	Choline
Gymnema sylvestre	leaf	IMPHY004182	Gymnemagenin
Gymnema sylvestre	leaf	IMPHY004235	D-Glucuronic Acid
Gymnema sylvestre	leaf	IMPHY004399	Methyl linolenate
Gymnema sylvestre	leaf	IMPHY004631	Stearic acid
Gymnema sylvestre	leaf	IMPHY006220	Angelic acid
Gymnema sylvestre	leaf	IMPHY006315	2-Pentadecanone
Gymnema sylvestre	leaf	IMPHY006696	Methyleugenol
Gymnema sylvestre	leaf	IMPHY006898	Stearyl alcohol
Gymnema sylvestre	leaf	IMPHY006959	Hydroquinone
Gymnema sylvestre	leaf	IMPHY006971	Methyl palmitate
Gymnema sylvestre	leaf	IMPHY006981	Indole
Gymnema sylvestre	leaf	IMPHY007039	Acetophenone
Gymnema sylvestre	leaf	IMPHY007100	1-Dodecanol
Gymnema sylvestre	leaf	IMPHY007182	1-Tetradecanol
Gymnema sylvestre	leaf	IMPHY007327	Palmitic acid
Gymnema sylvestre	leaf	IMPHY007339	Gymnemic acid II
Gymnema sylvestre	leaf	IMPHY007365	Phytic acid
Gymnema sylvestre	leaf	IMPHY007620	1-Octanol
Gymnema sylvestre	leaf	IMPHY008221	Gymnemic acid VIII
Gymnema sylvestre	leaf	IMPHY008222	Gymnemic acid X
Gymnema sylvestre	leaf	IMPHY008223	Gymnemic acid xi
Gymnema sylvestre	leaf	IMPHY008228	Gymnemaside V
Gymnema sylvestre	leaf	IMPHY008244	Gymnemaside VI
Gymnema sylvestre	leaf	IMPHY008251	Gymnemaside II
Gymnema sylvestre	leaf	IMPHY008252	Inositol
Gymnema sylvestre	leaf	IMPHY008267	Gymnemaside VII
Gymnema sylvestre	leaf	IMPHY008268	Gymnemaside III
Gymnema sylvestre	leaf	IMPHY008275	Gymnemaside IV
Gymnema sylvestre	leaf	IMPHY008866	Gymnemic acid IX
Gymnema sylvestre	leaf	IMPHY008867	Gymnemic acid XII
Gymnema sylvestre	leaf	IMPHY008910	Hentriacontane
Gymnema sylvestre	leaf	IMPHY009355	Tetracosane
Gymnema sylvestre	leaf	IMPHY009367	1-Pentadecanol
Gymnema sylvestre	leaf	IMPHY009377	Pentacosane
Gymnema sylvestre	leaf	IMPHY009413	Triaccontane
Gymnema sylvestre	leaf	IMPHY009482	Nonacosane
Gymnema sylvestre	leaf	IMPHY009483	Tritriaccontane
Gymnema sylvestre	leaf	IMPHY009485	Pentatriaccontane
Gymnema sylvestre	leaf	IMPHY009510	Deacylgymnemic acid
Gymnema sylvestre	leaf	IMPHY009624	Ethyl palmitate

Gymnema sylvestre	leaf	IMPHY009717	Tetradeca-1,3-diene
Gymnema sylvestre	leaf	IMPHY009893	4-Methoxyphenol
Gymnema sylvestre	leaf	IMPHY010072	Eucalyptol
Gymnema sylvestre	leaf	IMPHY010080	beta-Elemene
Gymnema sylvestre	leaf	IMPHY010081	Butyric acid
Gymnema sylvestre	leaf	IMPHY011044	trans-2-Dodecen-1-ol
Gymnema sylvestre	leaf	IMPHY011802	Ferulic acid
Gymnema sylvestre	leaf	IMPHY011805	Quercitol
Gymnema sylvestre	leaf	IMPHY012014	3-Ethylphenol
Gymnema sylvestre	leaf	IMPHY012018	gamma-Aminobutyric acid
Gymnema sylvestre	leaf	IMPHY012223	beta-Amyrin
Gymnema sylvestre	leaf	IMPHY012473	Lupeol
Gymnema sylvestre	leaf	IMPHY012712	Phytol
Gymnema sylvestre	leaf	IMPHY012767	9,12,15-Octadecatrienal
Gymnema sylvestre	leaf	IMPHY013563	Gymnemic acid VII
Gymnema sylvestre	leaf	IMPHY013564	Gymnemic acid VI
Gymnema sylvestre	leaf	IMPHY014842	Stigmasterol
Gymnema sylvestre	leaf	IMPHY014911	Ethyl octadec-9-enoate
Gymnema sylvestre	leaf	IMPHY014919	D-Galacturonic Acid
Hemidesmus indicus	root	IMPHY000099	Myrtenol
Hemidesmus indicus	root	IMPHY000687	Syringic acid
Hemidesmus indicus	root	IMPHY001931	Vanillin
Hemidesmus indicus	root	IMPHY002072	Pinocarvone
Hemidesmus indicus	root	IMPHY002082	Isovanillin
Hemidesmus indicus	root	IMPHY002185	Hemidescine
Hemidesmus indicus	root	IMPHY003016	Lauric acid
Hemidesmus indicus	root	IMPHY003050	Methyl salicylate
Hemidesmus indicus	root	IMPHY003104	Decanoic acid
Hemidesmus indicus	root	IMPHY003239	2,5-Dihydroxybenzoic acid
Hemidesmus indicus	root	IMPHY003301	Octanoic acid
Hemidesmus indicus	root	IMPHY003482	4-Methoxybenzaldehyde
Hemidesmus indicus	root	IMPHY003520	Benzophenone
Hemidesmus indicus	root	IMPHY004039	beta-Amyrin acetate
Hemidesmus indicus	root	IMPHY004067	Dihydrocarvyl acetate
Hemidesmus indicus	root	IMPHY004077	Verbenone
Hemidesmus indicus	root	IMPHY004619	Quercetin
Hemidesmus indicus	root	IMPHY006175	4-Methoxysalicylic acid
Hemidesmus indicus	root	IMPHY006325	Myrtenal
Hemidesmus indicus	root	IMPHY006550	Thymol
Hemidesmus indicus	root	IMPHY006588	2-Hydroxy-4-methoxybenzaldehyde
Hemidesmus indicus	root	IMPHY006619	Salicylaldehyde
Hemidesmus indicus	root	IMPHY006959	Hydroquinone
Hemidesmus indicus	root	IMPHY007067	Linalyl acetate
Hemidesmus indicus	root	IMPHY007084	Vanillic acid

Hemidesmus indicus	root	IMPHY007327	Palmitic acid
Hemidesmus indicus	root	IMPHY007471	Oleanane
Hemidesmus indicus	root	IMPHY007480	(1S,3aR,5aR,5bR,7aS,11aS,11bR,13aR,13bR)-3a,5a,5b,8,8,11a-hexamethyl-1-propan-2-yl-1,2,3,4,5,
Hemidesmus indicus	root	IMPHY007610	Ursane
Hemidesmus indicus	root	IMPHY009484	Hexatriacontane
Hemidesmus indicus	root	IMPHY009764	2,10-Epoxy pinane
Hemidesmus indicus	root	IMPHY010072	Eucalyptol
Hemidesmus indicus	root	IMPHY010080	beta-Elemene
Hemidesmus indicus	root	IMPHY010097	Benzyl benzoate
Hemidesmus indicus	root	IMPHY010939	trans-2,cis-6-Nonadienal
Hemidesmus indicus	root	IMPHY011020	3-Methoxyphenol
Hemidesmus indicus	root	IMPHY011030	Phenethyl cinnamate
Hemidesmus indicus	root	IMPHY011067	Pentyl cinnamate
Hemidesmus indicus	root	IMPHY011396	4-Carvomenthenol
Hemidesmus indicus	root	IMPHY011409	Guaiacol
Hemidesmus indicus	root	IMPHY011519	alpha-Terpinal acetate
Hemidesmus indicus	root	IMPHY011590	d-Borneol
Hemidesmus indicus	root	IMPHY011619	alpha-Amyrin
Hemidesmus indicus	root	IMPHY011741	Tannic acid
Hemidesmus indicus	root	IMPHY011802	Ferulic acid
Hemidesmus indicus	root	IMPHY011883	3,4-Dihydroxybenzoic acid
Hemidesmus indicus	root	IMPHY011933	Caffeic acid
Hemidesmus indicus	root	IMPHY011960	Cinnamic acid
Hemidesmus indicus	root	IMPHY011974	4-Hydroxycinnamic acid
Hemidesmus indicus	root	IMPHY012021	Gallic acid
Hemidesmus indicus	root	IMPHY012036	Camphor
Hemidesmus indicus	root	IMPHY012160	alpha-Terpineol
Hemidesmus indicus	root	IMPHY012223	beta-Amyrin
Hemidesmus indicus	root	IMPHY012473	Lupeol
Hemidesmus indicus	root	IMPHY012665	Levomenol
Hemidesmus indicus	root	IMPHY012738	Isocaryophyllene
Hemidesmus indicus	root	IMPHY014708	beta-Selinene
Hemidesmus indicus	root	IMPHY014817	Aromadendrene
Hemidesmus indicus	root	IMPHY014836	beta-Sitosterol
Hemidesmus indicus	root	IMPHY014847	Bornyl acetate
Hemidesmus indicus	root	IMPHY014986	Ledol
Hemidesmus indicus	root	IMPHY014988	Limonene
Hemidesmus indicus	root	IMPHY014991	Lupeol acetate
Hemidesmus indicus	root	IMPHY015016	alpha-Muurolol
Hemidesmus indicus	root	IMPHY015022	Nerolidol
Hemidesmus indicus	root	IMPHY016014	Isobornyl acetate
Hibiscus cannabinus	seed	IMPHY000701	3-[(1S,4aS,4bR,7R,8aS,10aS)-4b,7,8a,10a-tetramethyl-7-(4-methylpent-3-enyl)-2-propan-2-ylidene-
Hibiscus cannabinus	seed	IMPHY002286	1'-OH-gamma-carotene glucoside/(Carotenoids B-G)
Hibiscus cannabinus	seed	IMPHY004631	Stearic acid

Hibiscus cannabinus	seed	IMPHY006026	4-Methylbenzaldehyde
Hibiscus cannabinus	seed	IMPHY007327	Palmitic acid
Hibiscus cannabinus	seed	IMPHY008652	L-alpha-lysophosphatidylinositol
Hibiscus cannabinus	seed	IMPHY008663	Lysophosphatidylcholine
Hibiscus cannabinus	seed	IMPHY008728	[3-[Hydroxy-(2,3,4,5,6-pentahydroxycyclohexyl)oxyphosphoryl]oxy-2-octadecanoyloxypropyl] octa-
Hibiscus cannabinus	seed	IMPHY009488	3-[2-(4-Aminophenyl)ethyl]-8-[4-(4-fluorophenyl)-4-oxobutyl]-1-phenyl-1,3,8-triazaspiro[4.5]deca-
Hibiscus cannabinus	seed	IMPHY009513	Tridecanoic acid
Hibiscus cannabinus	seed	IMPHY009570	Sterculic acid
Hibiscus cannabinus	seed	IMPHY009826	1-(11Z-icosenoyl)-2-(9Z,12Z-octadecadienoyl)-sn-glycero-3-phosphoethanolamine
Hibiscus cannabinus	seed	IMPHY011519	alpha-Terpinal acetate
Hibiscus cannabinus	seed	IMPHY011789	Citral
Hibiscus cannabinus	seed	IMPHY011797	Oleic acid
Hibiscus cannabinus	seed	IMPHY014811	alpha-Phellandrene
Hibiscus cannabinus	seed	IMPHY014988	Limonene
Hibiscus cannabinus	seed	IMPHY014990	Linoleic acid
Hibiscus rosa-sinensis		IMPHY000005	Thiamine
Hibiscus rosa-sinensis		IMPHY000846	Riboflavin
Hibiscus rosa-sinensis		IMPHY001097	Malvalic acid
Hibiscus rosa-sinensis		IMPHY001803	Methyl sterculate
Hibiscus rosa-sinensis		IMPHY002588	Flavylium
Hibiscus rosa-sinensis		IMPHY003979	beta-Sitostenone
Hibiscus rosa-sinensis		IMPHY004619	Quercetin
Hibiscus rosa-sinensis		IMPHY006362	Ascorbic acid
Hibiscus rosa-sinensis		IMPHY007357	Nicotinic acid
Hibiscus rosa-sinensis		IMPHY007372	Taraxerol acetate
Hibiscus rosa-sinensis		IMPHY008858	Methyl 9-methylene-8-oxoheptadecanoate
Hibiscus rosa-sinensis		IMPHY008889	Methyl 10-methylene-9-oxooctadecanoate
Hibiscus rosa-sinensis		IMPHY008910	Hentriacontane
Hibiscus rosa-sinensis		IMPHY008934	Cyanidin chloride
Hibiscus rosa-sinensis		IMPHY010218	Kaempferol 3-xylosylglucoside
Hibiscus rosa-sinensis		IMPHY011382	Methyl 10-oxo-11-octadecynoate
Hibiscus rosa-sinensis		IMPHY011609	alpha-Carotene
Hibiscus rosa-sinensis		IMPHY011616	Methyl 8-oxooctadec-9-ynoate
Hibiscus rosa-sinensis		IMPHY012524	Cyanin
Hibiscus rosa-sinensis		IMPHY014836	beta-Sitosterol
Hibiscus rosa-sinensis		IMPHY014925	beta-D-Glucose
Holoptelea integrifolia	bark	IMPHY006057	2-Amino-1,4-naphthoquinone
Holoptelea integrifolia	bark	IMPHY007224	Hederagenin
Holoptelea integrifolia	bark	IMPHY011688	Friedelin
Holoptelea integrifolia	bark	IMPHY011826	Oleanolic acid
Holoptelea integrifolia	bark	IMPHY011859	Epifriedelanol
Holoptelea integrifolia	bark	IMPHY011971	2alpha,3alpha-Dihydroxyolean-12-en-28-oic acid
Holoptelea integrifolia	bark	IMPHY014836	beta-Sitosterol
Holoptelea integrifolia	bark	IMPHY014838	Daucosterol

Holoptelea integrifolia	bark	IMPHY015072	beta-Sitosterol-beta-D-glucoside
Hordeum vulgare		IMPHY000109	Ubiquinone
Hordeum vulgare		IMPHY000138	Procyanidin C2
Hordeum vulgare		IMPHY000275	Mugineic acid
Hordeum vulgare		IMPHY000687	Syringic acid
Hordeum vulgare		IMPHY000735	Hordatine A
Hordeum vulgare		IMPHY000773	1,4-Benzoquinone
Hordeum vulgare		IMPHY000846	Riboflavin
Hordeum vulgare		IMPHY000853	Chlorophyll B
Hordeum vulgare		IMPHY000877	(1H-Indol-3-yl)methanamine
Hordeum vulgare		IMPHY000904	Saponarin
Hordeum vulgare		IMPHY002442	Corydine
Hordeum vulgare		IMPHY003441	2-Carboxy-D-arabinitol
Hordeum vulgare		IMPHY003499	Pyrrolidine
Hordeum vulgare		IMPHY004055	Choline
Hordeum vulgare		IMPHY004378	p-Coumaroylagmatine
Hordeum vulgare		IMPHY004433	Chrysoeriol
Hordeum vulgare		IMPHY004631	Stearic acid
Hordeum vulgare		IMPHY004660	Luteolin
Hordeum vulgare		IMPHY005150	Glaucine
Hordeum vulgare		IMPHY005329	2'-Deoxymugineic acid
Hordeum vulgare		IMPHY005455	Orientin
Hordeum vulgare		IMPHY005917	5,7-Dihydroxy-3',4',5'-trimethoxyflavone
Hordeum vulgare		IMPHY005961	Tyramine
Hordeum vulgare		IMPHY006310	Folic
Hordeum vulgare		IMPHY006362	Ascorbic acid
Hordeum vulgare		IMPHY006676	Hordatine B
Hordeum vulgare		IMPHY006962	1-(3-Aminopropyl)imidazole
Hordeum vulgare		IMPHY007130	Hordenine
Hordeum vulgare		IMPHY007135	5-Methylcytosine
Hordeum vulgare		IMPHY007151	Pantothenic acid
Hordeum vulgare		IMPHY007187	2-(2-Methoxyethoxy)ethanol
Hordeum vulgare		IMPHY007327	Palmitic acid
Hordeum vulgare		IMPHY007357	Nicotinic acid
Hordeum vulgare		IMPHY007365	Phytic acid
Hordeum vulgare		IMPHY007454	N-Methyltyramine
Hordeum vulgare		IMPHY008937	Vitamin E
Hordeum vulgare		IMPHY009529	N-(3-Carboxy-2,3-dihydroxypropyl)-4-((carboxymethyl)amino)threonine
Hordeum vulgare		IMPHY010922	Epiheterodendrin
Hordeum vulgare		IMPHY011518	Esculetin
Hordeum vulgare		IMPHY011554	beta-Tocopherol
Hordeum vulgare		IMPHY011559	Gibberellic acid
Hordeum vulgare		IMPHY011613	Fucosterol
Hordeum vulgare		IMPHY011652	(2Z,4E)-5-[(1S)-1-hydroxy-2,6,6-trimethyl-4-oxocyclohex-2-en-1-yl]-3-methylpenta-2,4-dienoic acid

Hordeum vulgare		IMPHY011797	Oleic acid
Hordeum vulgare		IMPHY011871	Procyanidin B3
Hordeum vulgare		IMPHY011933	Caffeic acid
Hordeum vulgare		IMPHY012042	Isopropyl alcohol
Hordeum vulgare		IMPHY012053	Sucrose
Hordeum vulgare		IMPHY012320	Raffinose
Hordeum vulgare		IMPHY012548	Carlinoside
Hordeum vulgare		IMPHY012713	Vitexin
Hordeum vulgare		IMPHY012723	Linolenic acid
Hordeum vulgare		IMPHY014836	beta-Sitosterol
Hordeum vulgare		IMPHY014842	Stigmasterol
Hordeum vulgare		IMPHY014854	Cianidanol
Hordeum vulgare		IMPHY014893	D-Glucose
Hordeum vulgare		IMPHY014908	(-)Epicatechin
Hordeum vulgare		IMPHY014916	D-Fructose
Hordeum vulgare		IMPHY014990	Linoleic acid
Hordeum vulgare		IMPHY014998	beta-Maltose
Iris versicolor	rhizome	IMPHY004571	Iridin
Iris versicolor	rhizome	IMPHY011523	Salicylic acid
Iris versicolor		IMPHY003016	Lauric acid
Iris versicolor		IMPHY004571	Iridin
Iris versicolor		IMPHY004631	Stearic acid
Iris versicolor		IMPHY006558	1-Triacontanol
Iris versicolor		IMPHY007006	Furfuryl alcohol
Iris versicolor		IMPHY007041	Furfural
Iris versicolor		IMPHY007327	Palmitic acid
Iris versicolor		IMPHY011523	Salicylic acid
Lagenaria siceraria	fruit	IMPHY000773	1,4-Benzoquinone
Lagenaria siceraria	fruit	IMPHY000795	Octanal
Lagenaria siceraria	fruit	IMPHY000960	Cucurbitacin H
Lagenaria siceraria	fruit	IMPHY002983	1-Hexadecanol
Lagenaria siceraria	fruit	IMPHY003016	Lauric acid
Lagenaria siceraria	fruit	IMPHY003340	Acetoin
Lagenaria siceraria	fruit	IMPHY003525	Nonanal
Lagenaria siceraria	fruit	IMPHY003759	(Z)-Non-2-enal
Lagenaria siceraria	fruit	IMPHY004139	3,4-Dimethoxycinnamic acid
Lagenaria siceraria	fruit	IMPHY004388	Kaempferol
Lagenaria siceraria	fruit	IMPHY004599	Cucurbitacin D
Lagenaria siceraria	fruit	IMPHY004619	Quercetin
Lagenaria siceraria	fruit	IMPHY004631	Stearic acid
Lagenaria siceraria	fruit	IMPHY005526	2-Undecenal
Lagenaria siceraria	fruit	IMPHY005988	22-Deoxoisocucurbitacin D
Lagenaria siceraria	fruit	IMPHY006032	2-Ethylhexanol
Lagenaria siceraria	fruit	IMPHY006193	Glycerol

Lagenaria siceraria	fruit	IMPHY006959	Hydroquinone
Lagenaria siceraria	fruit	IMPHY006970	Decanal
Lagenaria siceraria	fruit	IMPHY006971	Methyl palmitate
Lagenaria siceraria	fruit	IMPHY007182	1-Tetradecanol
Lagenaria siceraria	fruit	IMPHY007204	Dodecanal
Lagenaria siceraria	fruit	IMPHY007327	Palmitic acid
Lagenaria siceraria	fruit	IMPHY007852	Azulene
Lagenaria siceraria	fruit	IMPHY008160	Racemosol
Lagenaria siceraria	fruit	IMPHY011632	Farnesol
Lagenaria siceraria	fruit	IMPHY011826	Oleanolic acid
Lagenaria siceraria	fruit	IMPHY011883	3,4-Dihydroxybenzoic acid
Lagenaria siceraria	fruit	IMPHY011913	Cucurbitacin B
Lagenaria siceraria	fruit	IMPHY011930	Cucurbitacin E
Lagenaria siceraria	fruit	IMPHY011933	Caffeic acid
Lagenaria siceraria	fruit	IMPHY011956	(24E)-24-N-Propylidenecholesterol
Lagenaria siceraria	fruit	IMPHY012021	Gallic acid
Lagenaria siceraria	fruit	IMPHY012402	Campesterol
Lagenaria siceraria	fruit	IMPHY012599	2-Pentadecyn-1-ol
Lagenaria siceraria	fruit	IMPHY013751	Cyclohexanemethanol
Lagenaria siceraria	fruit	IMPHY014495	Methyl- <i>o</i> -D-galacturonate
Lagenaria siceraria	fruit	IMPHY014649	Stigmasta-7,22-dien-3beta,4beta-diol
Lagenaria siceraria	fruit	IMPHY014792	9,12-Octadecadienal
Lagenaria siceraria	fruit	IMPHY014836	beta-Sitosterol
Lagenaria siceraria	fruit	IMPHY014842	Stigmasterol
Luffa cylindrica	aerial part	IMPHY008429	Lucyoside E
Luffa cylindrica	aerial part	IMPHY008430	Lucyoside F
Luffa cylindrica	aerial part	IMPHY008431	Lucyoside H
Luffa cylindrica	aerial part	IMPHY010932	(3S,4S,5S,6R)-2-[(3R,4S,5S,6R)-2-[(3S,6S,8R,9R,10R,12R,17S)-3,12-dihydroxy-4,4,8,10,14-penta-
Luffa cylindrica	aerial part	IMPHY013115	Lucyoside B
Marsdenia tenacissima	root	IMPHY010260	14beta,17alpha-Pregn-5-en-20-one, 3beta,8,11alpha,12beta,14-pentahydroxy-
Marsdenia tenacissima	root	IMPHY010292	D-Olivose
Marsdenia tenacissima	root	IMPHY010416	14beta-Pregn-5-en-20-one, 3beta,8,11alpha,12beta,14-pentahydroxy-
Marsdenia tenacissima	root	IMPHY011960	Cinnamic acid
Moringa oleifera	bark	IMPHY009543	4-(Rhamnosyloxy)phenylacetonitrile
Moringa oleifera	bark	IMPHY012314	Bauerol
Moringa oleifera	leaf	IMPHY001105	Niazirinin
Moringa oleifera	leaf	IMPHY001931	Vanillin
Moringa oleifera	leaf	IMPHY004425	Gossypetin
Moringa oleifera	leaf	IMPHY004660	Luteolin
Moringa oleifera	leaf	IMPHY004661	Apigenin
Moringa oleifera	leaf	IMPHY005471	Myricetin
Moringa oleifera	leaf	IMPHY005537	Ellagic acid
Moringa oleifera	leaf	IMPHY005545	Quercetagetin
Moringa oleifera	leaf	IMPHY005839	Trigonelline

Moringa oleifera	leaf	IMPHY006362	Ascorbic acid
Moringa oleifera	leaf	IMPHY006750	Hesperetin
Moringa oleifera	leaf	IMPHY006941	Phenylacetonitrile
Moringa oleifera	leaf	IMPHY007327	Palmitic acid
Moringa oleifera	leaf	IMPHY008611	Niazinin
Moringa oleifera	leaf	IMPHY008612	Niazimicin A
Moringa oleifera	leaf	IMPHY009543	4-(Rhamnosyloxy)phenylacetonitrile
Moringa oleifera	leaf	IMPHY009624	Ethyl palmitate
Moringa oleifera	leaf	IMPHY011609	alpha-Carotene
Moringa oleifera	leaf	IMPHY011670	Epigallocatechin gallate
Moringa oleifera	leaf	IMPHY011735	(+)-Gallocatechin
Moringa oleifera	leaf	IMPHY011737	Epigallocatechin
Moringa oleifera	leaf	IMPHY011802	Ferulic acid
Moringa oleifera	leaf	IMPHY011844	Chlorogenic acid
Moringa oleifera	leaf	IMPHY011933	Caffeic acid
Moringa oleifera	leaf	IMPHY011974	4-Hydroxycinnamic acid
Moringa oleifera	leaf	IMPHY012021	Gallic acid
Moringa oleifera	leaf	IMPHY013843	1,7-Octadien-3-ol, 2,6-dimethyl-
Moringa oleifera	leaf	IMPHY014415	niaziminin B
Moringa oleifera	leaf	IMPHY014473	N,alpha-L-rhamnopyranosyl vincosamide
Moringa oleifera	leaf	IMPHY014854	Cianidanol
Moringa oleifera	leaf	IMPHY014908	(-)Epicatechin
Moringa oleifera	leaf	IMPHY015047	Rutin
Moringa oleifera	root	IMPHY005071	Benzyl isothiocyanate
Moringa oleifera	root	IMPHY005839	Trigonelline
Moringa oleifera	root	IMPHY006011	Benzylamine
Moringa oleifera	root	IMPHY006066	1,3-Dibenzylurea
Moringa oleifera	root	IMPHY006655	Pterygospermin
Moringa oleifera	root	IMPHY010589	Asperglaucide
Moringa oleifera	seed	IMPHY000060	Myristic acid
Moringa oleifera	seed	IMPHY000120	Heptadecanoic acid
Moringa oleifera	seed	IMPHY000165	Tetracosanoic acid
Moringa oleifera	seed	IMPHY003016	Lauric acid
Moringa oleifera	seed	IMPHY003661	24-Methylenecholesterol
Moringa oleifera	seed	IMPHY004302	Arachidonic acid
Moringa oleifera	seed	IMPHY004631	Stearic acid
Moringa oleifera	seed	IMPHY005537	Ellagic acid
Moringa oleifera	seed	IMPHY007212	Docosanoic acid
Moringa oleifera	seed	IMPHY007308	28-Isoavenasterol acetate
Moringa oleifera	seed	IMPHY007327	Palmitic acid
Moringa oleifera	seed	IMPHY009377	Pentacosane
Moringa oleifera	seed	IMPHY009481	Octacosane
Moringa oleifera	seed	IMPHY011394	Arachidic acid
Moringa oleifera	seed	IMPHY011545	delta7-Avenasterol

Moringa oleifera	seed	IMPHY011666	Palmitoleic acid
Moringa oleifera	seed	IMPHY011797	Oleic acid
Moringa oleifera	seed	IMPHY011802	Ferulic acid
Moringa oleifera	seed	IMPHY011844	Chlorogenic acid
Moringa oleifera	seed	IMPHY012021	Gallic acid
Moringa oleifera	seed	IMPHY012402	Campesterol
Moringa oleifera	seed	IMPHY013471	Roridin E
Moringa oleifera	seed	IMPHY013682	Moringyne
Moringa oleifera	seed	IMPHY014836	beta-Sitosterol
Moringa oleifera	seed	IMPHY014842	Stigmasterol
Moringa oleifera	seed	IMPHY014878	Clerosterol
Moringa oleifera	seed	IMPHY014990	Linoleic acid
Moringa oleifera	seed	IMPHY016053	Viridiflorol
Moringa pterygosperma	root	IMPHY005071	Benzyl isothiocyanate
Moringa pterygosperma	root	IMPHY006655	Pterygospermin
Moringa pterygosperma	seed	IMPHY004631	Stearic acid
Moringa pterygosperma	seed	IMPHY007212	Docosanoic acid
Moringa pterygosperma	seed	IMPHY007327	Palmitic acid
Moringa pterygosperma	seed	IMPHY011797	Oleic acid
Operculina turpethum	root	IMPHY011541	Scopoletin
Operculina turpethum		IMPHY000687	Syringic acid
Operculina turpethum		IMPHY001119	Turpethic acid B
Operculina turpethum		IMPHY001132	Turpethic acid C
Operculina turpethum		IMPHY001133	Turpethic acid A
Operculina turpethum		IMPHY003239	2,5-Dihydroxybenzoic acid
Operculina turpethum		IMPHY004660	Luteolin
Operculina turpethum		IMPHY006935	3-(2-Hydroxyphenyl)propanoic acid
Operculina turpethum		IMPHY007084	Vanillic acid
Operculina turpethum		IMPHY011541	Scopoletin
Operculina turpethum		IMPHY011802	Ferulic acid
Operculina turpethum		IMPHY011883	3,4-Dihydroxybenzoic acid
Operculina turpethum		IMPHY011974	4-Hydroxycinnamic acid
Oroxylum indicum		IMPHY000060	Myristic acid
Oroxylum indicum		IMPHY000333	Aloe emodin
Oroxylum indicum		IMPHY003016	Lauric acid
Oroxylum indicum		IMPHY003082	Oroxindin
Oroxylum indicum		IMPHY003301	Octanoic acid
Oroxylum indicum		IMPHY004115	Baicalin
Oroxylum indicum		IMPHY004601	Prunetin
Oroxylum indicum		IMPHY005513	Chrysin
Oroxylum indicum		IMPHY005607	Baicalein
Oroxylum indicum		IMPHY007327	Palmitic acid
Oroxylum indicum		IMPHY007483	Dihydrobaicalein
Oroxylum indicum		IMPHY011666	Palmitoleic acid

Oroxylum indicum		IMPHY011797	Oleic acid
Oroxylum indicum		IMPHY011974	4-Hydroxycinnamic acid
Oroxylum indicum		IMPHY012747	Scutellarein
Oroxylum indicum		IMPHY014836	beta-Sitosterol
Oroxylum indicum		IMPHY014990	Linoleic acid
Oryza sativa	seed	IMPHY000060	Myristic acid
Oryza sativa	seed	IMPHY000158	Pyridoxine
Oryza sativa	seed	IMPHY000275	Mugineic acid
Oryza sativa	seed	IMPHY000308	Hexadecane
Oryza sativa	seed	IMPHY001268	Peonidin-3-glucoside
Oryza sativa	seed	IMPHY001461	(2,3,4,5,6-pentahydroxycyclohexyl) 2-(1H-indol-3-yl)acetate
Oryza sativa	seed	IMPHY001516	Decane
Oryza sativa	seed	IMPHY001618	Oryzalexin A
Oryza sativa	seed	IMPHY001726	avenic acid B
Oryza sativa	seed	IMPHY001813	Trimethylamine
Oryza sativa	seed	IMPHY001856	Stachydrine
Oryza sativa	seed	IMPHY001915	Octadecane
Oryza sativa	seed	IMPHY001931	Vanillin
Oryza sativa	seed	IMPHY001962	Xanthine
Oryza sativa	seed	IMPHY002875	Undecane
Oryza sativa	seed	IMPHY002938	[1-Hexadecanoyloxy-3-[3,4,5-trihydroxy-6-[[3,4,5-trihydroxy-6-(hydroxymethyl)oxan-2-yl]oxymethyl]oxy]propanoate
Oryza sativa	seed	IMPHY003128	Triacontanal
Oryza sativa	seed	IMPHY003500	Citric acid
Oryza sativa	seed	IMPHY004631	Stearic acid
Oryza sativa	seed	IMPHY005139	5-(12-Heptadecenyl)-resorcinol
Oryza sativa	seed	IMPHY005282	Oryzalexin B
Oryza sativa	seed	IMPHY005289	Dotriacontanal
Oryza sativa	seed	IMPHY005370	Momilactone A
Oryza sativa	seed	IMPHY005501	Allantoin
Oryza sativa	seed	IMPHY005601	Tricin
Oryza sativa	seed	IMPHY005797	3-Hydroxymugineic acid
Oryza sativa	seed	IMPHY005839	Trigonelline
Oryza sativa	seed	IMPHY006039	1,2,4-Trimethylbenzene
Oryza sativa	seed	IMPHY006399	vitamin B1
Oryza sativa	seed	IMPHY006884	(1S,2R,5R,9R,12R,13S,18R)-5-ethenyl-13-hydroxy-5,12-dimethyl-10,14-dioxapentacyclo[11.2.2.11.11.1]dodecane
Oryza sativa	seed	IMPHY006919	oryzalexin D
Oryza sativa	seed	IMPHY006920	oryzalexin E
Oryza sativa	seed	IMPHY006951	Eicosane
Oryza sativa	seed	IMPHY006971	Methyl palmitate
Oryza sativa	seed	IMPHY006972	1-Octacosanol
Oryza sativa	seed	IMPHY006988	Hypoxanthine
Oryza sativa	seed	IMPHY007124	Delphinidin
Oryza sativa	seed	IMPHY007151	Pantothenic acid
Oryza sativa	seed	IMPHY007202	Nonane

Oryza sativa	seed	IMPHY007327	Palmitic acid
Oryza sativa	seed	IMPHY007385	Nicotinamide
Oryza sativa	seed	IMPHY007450	Oxalic acid
Oryza sativa	seed	IMPHY007903	Dibutyl phthalate
Oryza sativa	seed	IMPHY008728	[3-[Hydroxy-(2,3,4,5,6-pentahydroxycyclohexyl)oxyphosphoryl]oxy-2-octadecanoyloxypropyl] octa-
Oryza sativa	seed	IMPHY008937	Vitamin E
Oryza sativa	seed	IMPHY009368	Heptadecane
Oryza sativa	seed	IMPHY009389	Pentadecane
Oryza sativa	seed	IMPHY009419	Tridecane
Oryza sativa	seed	IMPHY009624	Ethyl palmitate
Oryza sativa	seed	IMPHY009826	1-(11Z-icosenoyl)-2-(9Z,12Z-octadecadienoyl)-sn-glycero-3-phosphoethanolamine
Oryza sativa	seed	IMPHY010000	Dodecane
Oryza sativa	seed	IMPHY010072	Eucalyptol
Oryza sativa	seed	IMPHY010579	1-Eicosene
Oryza sativa	seed	IMPHY010904	(S,S,S)-avenic acid A
Oryza sativa	seed	IMPHY011215	Tetradecane
Oryza sativa	seed	IMPHY011217	5,7-dihydroxy-2-(4-hydroxyphenyl)-6-[(2R,3R,4R,5S,6R)-3,4,5-trihydroxy-6-(hydroxymethyl)oxan-
Oryza sativa	seed	IMPHY011393	24-Methylenecycloartanol
Oryza sativa	seed	IMPHY011394	Arachidic acid
Oryza sativa	seed	IMPHY011642	Cycloartenol
Oryza sativa	seed	IMPHY011666	Palmitoleic acid
Oryza sativa	seed	IMPHY011759	Neoschaftoside
Oryza sativa	seed	IMPHY011761	Humulene
Oryza sativa	seed	IMPHY011797	Oleic acid
Oryza sativa	seed	IMPHY011974	4-Hydroxycinnamic acid
Oryza sativa	seed	IMPHY012025	Glycerophosphoric acid
Oryza sativa	seed	IMPHY012232	Sakuranetin
Oryza sativa	seed	IMPHY012723	Linolenic acid
Oryza sativa	seed	IMPHY013730	Rizolipase
Oryza sativa	seed	IMPHY014890	Cyanidin 3-glucoside
Oryza sativa	seed	IMPHY014899	Stigmastanol
Oryza sativa	seed	IMPHY014988	Limonene
Oryza sativa	seed	IMPHY014990	Linoleic acid
Oryza sativa	seed	IMPHY015000	D-Mannose
Oryza sativa	seed	IMPHY015020	Neocarlinoside
Oryza sativa	seed	IMPHY015099	Tricin 7-glucoside
Oryza sativa	seed	IMPHY015241	2,6,10-Trimethyltetradecane
Oryza sativa	seed	IMPHY015918	p-Xylene
Oryza sativa	seed	IMPHY016159	1,1,2,3-Tetramethylcyclohexane
Oryza sativa	seed	IMPHY016165	Decahydro-1,2-dimethylnaphthalene
Oryza sativa	seed	IMPHY016170	1,2,3,5-Tetramethylcyclohexane
Oryza sativa	seed	IMPHY016193	Naphthalene, decahydro-1,5-dimethyl-
Oryza sativa	seed	IMPHY016196	Naphthalene, decahydro-1,6-dimethyl-
Oryza sativa	seed	IMPHY016302	Naphthalene, decahydro-2,3-dimethyl-

Oryza sativa	seed	IMPHY016339	2,6-Dimethyldecalin
Oryza sativa	seed	IMPHY016529	1,2,3,6-Tetramethylbicyclo[2.2.2]octane
Oryza sativa	seed	IMPHY016588	Pentylcyclohexane
Oryza sativa	seed	IMPHY016589	1-Ethyl-2-methylcyclohexane
Oryza sativa	seed	IMPHY016590	1-Ethyl-4-methylcyclohexane
Oryza sativa	seed	IMPHY016591	1-Methyl-2-propylcyclohexane
Oryza sativa	seed	IMPHY016592	trans-1,1,3,5-Tetramethylcyclohexane
Oryza sativa	seed	IMPHY016860	Tetradecanoic acid, trimethylsilyl ester
Oryza sativa	seed	IMPHY017077	3,3-Dimethyloctane
Oryza sativa	seed	IMPHY017680	2,6-Dimethylpiperidine
Pennisetum glaucum		IMPHY007365	Phytic acid
Phyllanthus emblica	fruit	IMPHY000103	Pyrogallol
Phyllanthus emblica	fruit	IMPHY000783	1,3,6-tri-O-galloyl-beta-D-glucose
Phyllanthus emblica	fruit	IMPHY000846	Riboflavin
Phyllanthus emblica	fruit	IMPHY001099	Furosin
Phyllanthus emblica	fruit	IMPHY003139	Terchebin
Phyllanthus emblica	fruit	IMPHY003265	Phloroglucinol
Phyllanthus emblica	fruit	IMPHY003906	trans-Zeatin
Phyllanthus emblica	fruit	IMPHY004079	Catechol
Phyllanthus emblica	fruit	IMPHY004619	Quercetin
Phyllanthus emblica	fruit	IMPHY004799	Chebulagic acid
Phyllanthus emblica	fruit	IMPHY005537	Ellagic acid
Phyllanthus emblica	fruit	IMPHY006139	Methyl gallate
Phyllanthus emblica	fruit	IMPHY006362	Ascorbic acid
Phyllanthus emblica	fruit	IMPHY008800	Kzeyiyxacmutrm-uhfffaoysa-
Phyllanthus emblica	fruit	IMPHY009335	Phyllantidine
Phyllanthus emblica	fruit	IMPHY009606	Ethyl gallate
Phyllanthus emblica	fruit	IMPHY010070	beta-Glucogallin
Phyllanthus emblica	fruit	IMPHY010404	Galactaric acid
Phyllanthus emblica	fruit	IMPHY010827	Chebulinic acid
Phyllanthus emblica	fruit	IMPHY010965	Corilagin
Phyllanthus emblica	fruit	IMPHY010998	Chebulic acid
Phyllanthus emblica	fruit	IMPHY011473	Geraniin
Phyllanthus emblica	fruit	IMPHY011741	Tannic acid
Phyllanthus emblica	fruit	IMPHY012021	Gallic acid
Phyllanthus emblica	fruit	IMPHY013560	Trigalloylgucose
Phyllanthus emblica	fruit	IMPHY014049	Tryptase
Phyllanthus reticulatus		IMPHY002605	Glochidonol
Phyllanthus reticulatus		IMPHY004271	Betulin
Phyllanthus reticulatus		IMPHY010004	21alpha-Hydroxyfriedelan-3-one
Phyllanthus reticulatus		IMPHY012003	Betulinic acid
Phyllanthus reticulatus		IMPHY014836	beta-Sitosterol
Picrorhiza kurroa	root	IMPHY000962	Cucurbitacin P
Picrorhiza kurroa	root	IMPHY001310	Picracin

Picrorhiza kurroa	root	IMPHY001578	8-Epiiridotrial glucoside
Picrorhiza kurroa	root	IMPHY001991	Specioside
Picrorhiza kurroa	root	IMPHY002001	Cucurbitacin S
Picrorhiza kurroa	root	IMPHY002024	Minecoside
Picrorhiza kurroa	root	IMPHY002026	Vermiloside
Picrorhiza kurroa	root	IMPHY002095	Bartsioside
Picrorhiza kurroa	root	IMPHY002311	Arvenin II
Picrorhiza kurroa	root	IMPHY002361	Piscrocin B
Picrorhiza kurroa	root	IMPHY002663	Veronicoside
Picrorhiza kurroa	root	IMPHY002888	4-Fluoro-2-methoxyphenol
Picrorhiza kurroa	root	IMPHY002929	Picroside III
Picrorhiza kurroa	root	IMPHY002946	Picroside IV
Picrorhiza kurroa	root	IMPHY003428	23,24-dihydrocucurbitacin D
Picrorhiza kurroa	root	IMPHY003566	Formocortol
Picrorhiza kurroa	root	IMPHY004079	Catechol
Picrorhiza kurroa	root	IMPHY004590	Cucurbitacin I
Picrorhiza kurroa	root	IMPHY004599	Cucurbitacin D
Picrorhiza kurroa	root	IMPHY005175	Mussaenosidic acid
Picrorhiza kurroa	root	IMPHY005350	Androsin
Picrorhiza kurroa	root	IMPHY005579	Cucurbitacin Q
Picrorhiza kurroa	root	IMPHY005715	Acetovanillone
Picrorhiza kurroa	root	IMPHY005719	arvenin III
Picrorhiza kurroa	root	IMPHY006208	Arvenin I
Picrorhiza kurroa	root	IMPHY007084	Vanillic acid
Picrorhiza kurroa	root	IMPHY007835	Picein
Picrorhiza kurroa	root	IMPHY009587	Kutkin
Picrorhiza kurroa	root	IMPHY009615	beta-D-Glucopyranoside, (3R,5S,5aS,6R,7S,8R,8aS)-hexahydro-8,8a-dihydroxy-7-((4-hydroxy-3-
Picrorhiza kurroa	root	IMPHY010099	Picroside I
Picrorhiza kurroa	root	IMPHY010333	Cucurbitacin F
Picrorhiza kurroa	root	IMPHY010334	Cucurbitacin O
Picrorhiza kurroa	root	IMPHY010632	Kutkosid
Picrorhiza kurroa	root	IMPHY011496	Catalpol
Picrorhiza kurroa	root	IMPHY011516	Aucubin
Picrorhiza kurroa	root	IMPHY011603	Picroside II
Picrorhiza kurroa	root	IMPHY011729	Mannitol
Picrorhiza kurroa	root	IMPHY011913	Cucurbitacin B
Picrorhiza kurroa	root	IMPHY011930	Cucurbitacin E
Picrorhiza kurroa	root	IMPHY011960	Cinnamic acid
Picrorhiza kurroa	root	IMPHY014460	6-O-Cinnamoylcatalpol
Picrorhiza kurroa	root	IMPHY014836	beta-Sitosterol
Plumbago zeylanica		IMPHY000398	Isozeylanone
Plumbago zeylanica		IMPHY000467	Plumbazeylanone
Plumbago zeylanica		IMPHY001191	Plumbagin
Plumbago zeylanica		IMPHY001293	Indole-3-carboxaldehyde

Plumbago zeylanica		IMPHY001307	Isoshinanolone
Plumbago zeylanica		IMPHY002828	(2,2'-Binaphthalene)-5,5',8,8'-tetrone, 1,1'-dihydroxy-6,6'-dimethyl-
Plumbago zeylanica		IMPHY003551	3-Chloro-5-hydroxy-2-methylnaphthalene-1,4-dione
Plumbago zeylanica		IMPHY004515	Zeylanone
Plumbago zeylanica		IMPHY004866	Droserone
Plumbago zeylanica		IMPHY007084	Vanillic acid
Plumbago zeylanica		IMPHY007396	Plumbagic acid
Plumbago zeylanica		IMPHY007957	Chitranone
Plumbago zeylanica		IMPHY009356	4-Hydroxybenzaldehyde
Plumbago zeylanica		IMPHY011619	alpha-Amyrin
Plumbago zeylanica		IMPHY011960	Cinnamic acid
Plumbago zeylanica		IMPHY012223	beta-Amyrin
Plumbago zeylanica		IMPHY012473	Lupeol
Plumbago zeylanica		IMPHY014057	7-Hydroxy-2,5-dimethyl-4H-1-benzopyran-4-one
Plumbago zeylanica		IMPHY014836	beta-Sitosterol
Plumbago zeylanica		IMPHY015081	Taraxasterol
Rauvolfia serpentina	leaf	IMPHY000788	Papaverine
Rauvolfia serpentina	leaf	IMPHY003226	Serpentine
Rauvolfia serpentina	leaf	IMPHY003717	Tetraphylline
Rauvolfia serpentina	leaf	IMPHY003823	Serpentine (alkaloid)
Rauvolfia serpentina	leaf	IMPHY004306	Reserpiline
Rauvolfia serpentina	leaf	IMPHY004641	Rescinnamine
Rauvolfia serpentina	leaf	IMPHY005776	Sarpagine
Rauvolfia serpentina	leaf	IMPHY006462	Ajmalan-17-ol, 19,20-didehydro-, (17R,19E)-(9CI)
Rauvolfia serpentina	leaf	IMPHY007089	Deserpidine
Rauvolfia serpentina	leaf	IMPHY011950	Ajmalicine
Rauvolfia serpentina	leaf	IMPHY011996	Isorauhimbine
Rauvolfia serpentina	leaf	IMPHY011997	Yohimbine
Rauvolfia serpentina	leaf	IMPHY012000	Corynanthine
Rauvolfia serpentina	leaf	IMPHY012049	Reserpine
Rauvolfia serpentina	leaf	IMPHY012468	Ajmaline
Rauvolfia serpentina	leaf	IMPHY014842	Stigmasterol
Rauvolfia serpentina	leaf	IMPHY014939	Isoajmaline
Senna insularis	seed	IMPHY001917	(3R,7R,11R,15R)-3,11-bis[(5R)-2-amino-4,5-dihydro-1H-imidazol-5-yl]-7,15-dimethyl-1,9-dioxacy
Senna tora		IMPHY000220	Chrysophanol
Senna tora		IMPHY000333	Aloe emodin
Senna tora		IMPHY001550	Aurantio-obtusin
Senna tora		IMPHY001685	Questin
Senna tora		IMPHY002013	Obtusin
Senna tora		IMPHY002014	Chrysoobtusin
Senna tora		IMPHY002157	Rhein
Senna tora		IMPHY002358	Chrysophanol-1-beta-gentioside
Senna tora		IMPHY003223	Obtusifolin
Senna tora		IMPHY003999	d-Tartaric acid



Sesamum indicum	seed	IMPHY005544	Biotin
Sesamum indicum	seed	IMPHY005562	Hexadecenoic acid
Sesamum indicum	seed	IMPHY005670	2,3-Dimethylpyrazine
Sesamum indicum	seed	IMPHY006310	Folic
Sesamum indicum	seed	IMPHY006362	Ascorbic acid
Sesamum indicum	seed	IMPHY006445	Cerotate
Sesamum indicum	seed	IMPHY007006	Furfuryl alcohol
Sesamum indicum	seed	IMPHY007129	Sesamol
Sesamum indicum	seed	IMPHY007151	Pantothenic acid
Sesamum indicum	seed	IMPHY007327	Palmitic acid
Sesamum indicum	seed	IMPHY007357	Nicotinic acid
Sesamum indicum	seed	IMPHY007365	Phytic acid
Sesamum indicum	seed	IMPHY007398	Pyrazine
Sesamum indicum	seed	IMPHY007464	4-Aminobenzoic acid
Sesamum indicum	seed	IMPHY008252	Inositol
Sesamum indicum	seed	IMPHY008937	Vitamin E
Sesamum indicum	seed	IMPHY010130	4-(5-Methyl-2-furyl)-3-buten-2-one
Sesamum indicum	seed	IMPHY011237	gamma-Tocopherol
Sesamum indicum	seed	IMPHY011252	2,4-Undecadienal
Sesamum indicum	seed	IMPHY011261	Pedaliin
Sesamum indicum	seed	IMPHY011394	Arachidic acid
Sesamum indicum	seed	IMPHY011409	Guaiacol
Sesamum indicum	seed	IMPHY011545	delta7-Avenasterol
Sesamum indicum	seed	IMPHY011554	beta-Tocopherol
Sesamum indicum	seed	IMPHY011797	Oleic acid
Sesamum indicum	seed	IMPHY012050	D-Galactose
Sesamum indicum	seed	IMPHY012091	Furan
Sesamum indicum	seed	IMPHY012320	Raffinose
Sesamum indicum	seed	IMPHY012402	Campesterol
Sesamum indicum	seed	IMPHY012971	Sesaminol
Sesamum indicum	seed	IMPHY013334	1-Methyldithio-2-propanone
Sesamum indicum	seed	IMPHY013525	Sesaminol glucoside
Sesamum indicum	seed	IMPHY014836	beta-Sitosterol
Sesamum indicum	seed	IMPHY014842	Stigmasterol
Sesamum indicum	seed	IMPHY014895	5-[3-(1,3-Benzodioxol-5-yl)-1,3,3a,4,6,6a-hexahydrofuro[3,4-c]furan-6-yl]-1,3-benzodioxole
Sesamum indicum	seed	IMPHY014990	Linoleic acid
Sesamum indicum		IMPHY000005	Thiamine
Sesamum indicum		IMPHY000060	Myristic acid
Sesamum indicum		IMPHY000144	(+)-Episesaminone
Sesamum indicum		IMPHY000158	Pyridoxine
Sesamum indicum		IMPHY000165	Tetracosanoic acid
Sesamum indicum		IMPHY000795	Octanal
Sesamum indicum		IMPHY000846	Riboflavin
Sesamum indicum		IMPHY000873	Sesamose

Sesamum indicum		IMPHY001688	2-Acetylpyrrole
Sesamum indicum		IMPHY001854	3-Methylbutanal
Sesamum indicum		IMPHY002105	1-(3-Methylfuran-2-yl)ethan-1-one
Sesamum indicum		IMPHY002205	Sesamolin
Sesamum indicum		IMPHY002750	2-Acetyl furan
Sesamum indicum		IMPHY002950	2-Ethylpyrazine
Sesamum indicum		IMPHY003004	2,5-Diethylpyrazine
Sesamum indicum		IMPHY003015	Acetylpyrazine
Sesamum indicum		IMPHY003379	2-(4-Methylpent-3-en-1-yl)-1,4-dihydroanthracene-9,10-dione
Sesamum indicum		IMPHY003484	2,5-Dimethylpyrazine
Sesamum indicum		IMPHY003647	Esculetin acid
Sesamum indicum		IMPHY003715	Pinoresinol
Sesamum indicum		IMPHY003781	Acetoside
Sesamum indicum		IMPHY004055	Choline
Sesamum indicum		IMPHY004121	2-Heptanone
Sesamum indicum		IMPHY004631	Stearic acid
Sesamum indicum		IMPHY004897	Sesamolinol
Sesamum indicum		IMPHY005544	Biotin
Sesamum indicum		IMPHY005562	Hexadecenoic acid
Sesamum indicum		IMPHY005670	2,3-Dimethylpyrazine
Sesamum indicum		IMPHY006279	2-Phenylethanol
Sesamum indicum		IMPHY006310	Folic
Sesamum indicum		IMPHY006362	Ascorbic acid
Sesamum indicum		IMPHY006445	Cerotate
Sesamum indicum		IMPHY007102	Isoacteoside
Sesamum indicum		IMPHY007129	Sesamol
Sesamum indicum		IMPHY007151	Pantothenic acid
Sesamum indicum		IMPHY007327	Palmitic acid
Sesamum indicum		IMPHY007357	Nicotinic acid
Sesamum indicum		IMPHY007365	Phytic acid
Sesamum indicum		IMPHY007464	4-Aminobenzoic acid
Sesamum indicum		IMPHY008213	4-Ethyl-2-methoxyphenol
Sesamum indicum		IMPHY008252	Inositol
Sesamum indicum		IMPHY009906	Decaffeoyl-acteoside
Sesamum indicum		IMPHY010130	4-(5-Methyl-2-furyl)-3-buten-2-one
Sesamum indicum		IMPHY011252	2,4-Undecadienal
Sesamum indicum		IMPHY011409	Guaiacol
Sesamum indicum		IMPHY011738	Kobusin
Sesamum indicum		IMPHY011797	Oleic acid
Sesamum indicum		IMPHY012050	D-Galactose
Sesamum indicum		IMPHY012053	Sucrose
Sesamum indicum		IMPHY012320	Raffinose
Sesamum indicum		IMPHY013628	Cistanoside F
Sesamum indicum		IMPHY014893	D-Glucose

Sesamum indicum		IMPHY014895	5-[3-(1,3-Benzodioxol-5-yl)-1,3,3a,4,6,6a-hexahydrofuro[3,4-c]furan-6-yl]-1,3-benzodioxole
Sesamum indicum		IMPHY014990	Linoleic acid
Shorea robusta	plant exudate	IMPHY003657	Asiatic acid
Shorea robusta	plant exudate	IMPHY005724	Hydroxyhopanone
Shorea robusta	plant exudate	IMPHY011292	Dipterocarpol
Shorea robusta	plant exudate	IMPHY011494	Dammarenolic acid
Shorea robusta	plant exudate	IMPHY011591	Dammarenediol II
Shorea robusta	plant exudate	IMPHY011607	Bergenin
Shorea robusta	plant exudate	IMPHY011619	alpha-Amyrin
Shorea robusta	plant exudate	IMPHY011880	Ursolic acid
Shorea robusta	plant exudate	IMPHY014836	beta-Sitosterol
Solanum melongena	fruit	IMPHY001646	Incanumine
Solanum melongena	fruit	IMPHY003681	Diosgenin
Solanum melongena	fruit	IMPHY003709	Solasonine
Solanum melongena	fruit	IMPHY003711	Yamogenin
Solanum melongena	fruit	IMPHY004033	Solasodine
Solanum melongena	fruit	IMPHY005524	Carpesterol
Solanum melongena	fruit	IMPHY011358	Khasianine
Solanum melongena	fruit	IMPHY011625	Solamargine
Solanum melongena	fruit	IMPHY011802	Ferulic acid
Solanum melongena	fruit	IMPHY011880	Ursolic acid
Solanum melongena	fruit	IMPHY012402	Campesterol
Solanum melongena	fruit	IMPHY014836	beta-Sitosterol
Tecomella undulata	bark	IMPHY001896	Heptacosane
Tecomella undulata	bark	IMPHY002299	Tecoside
Tecomella undulata	bark	IMPHY003002	Lapachol
Tecomella undulata	bark	IMPHY004090	Dehydrotectol
Tecomella undulata	bark	IMPHY004462	Undulatoside A
Tecomella undulata	bark	IMPHY006558	1-Triacontanol
Tecomella undulata	bark	IMPHY006695	3,4-Dimethoxybenzoic acid
Tecomella undulata	bark	IMPHY006972	1-Octacosanol
Tecomella undulata	bark	IMPHY009413	Triacontane
Tecomella undulata	bark	IMPHY009482	Nonacosane
Tecomella undulata	bark	IMPHY010105	Tecomelloside
Tecomella undulata	bark	IMPHY011802	Ferulic acid
Tecomella undulata	bark	IMPHY014836	beta-Sitosterol
Tecomella undulata	bark	IMPHY014838	Daucosterol
Tecomella undulata	bark	IMPHY015047	Rutin
Tecomella undulata	bark	IMPHY015072	beta-Sitosterol-beta-D-glucoside
Terminalia chebula	fruit	IMPHY000601	Triacontanoic acid
Terminalia chebula	fruit	IMPHY000687	Syringic acid

Terminalia chebula	fruit	IMPHY002419	Ellagitannin
Terminalia chebula	fruit	IMPHY003139	Terchebin
Terminalia chebula	fruit	IMPHY004631	Stearic acid
Terminalia chebula	fruit	IMPHY004799	Chebulagic acid
Terminalia chebula	fruit	IMPHY005412	(12R,15R,32S,33R)-4,5,6,14,20,21,22,25,26,27,38,39,40,43,44,55-hexadecahydroxy-2,10,13,16,31,
Terminalia chebula	fruit	IMPHY005537	Ellagic acid
Terminalia chebula	fruit	IMPHY006362	Ascorbic acid
Terminalia chebula	fruit	IMPHY006904	Punicalagin
Terminalia chebula	fruit	IMPHY006945	Shikimic acid
Terminalia chebula	fruit	IMPHY007084	Vanillic acid
Terminalia chebula	fruit	IMPHY007192	Anthraquinone
Terminalia chebula	fruit	IMPHY007212	Docosanoic acid
Terminalia chebula	fruit	IMPHY007327	Palmitic acid
Terminalia chebula	fruit	IMPHY009606	Ethyl gallate
Terminalia chebula	fruit	IMPHY010827	Chebulinic acid
Terminalia chebula	fruit	IMPHY010998	Chebulic acid
Terminalia chebula	fruit	IMPHY011394	Arachidic acid
Terminalia chebula	fruit	IMPHY011627	Arjunolic acid
Terminalia chebula	fruit	IMPHY011741	Tannic acid
Terminalia chebula	fruit	IMPHY011797	Oleic acid
Terminalia chebula	fruit	IMPHY011802	Ferulic acid
Terminalia chebula	fruit	IMPHY011933	Caffeic acid
Terminalia chebula	fruit	IMPHY011970	Maslinic acid
Terminalia chebula	fruit	IMPHY011974	4-Hydroxycinnamic acid
Terminalia chebula	fruit	IMPHY012021	Gallic acid
Terminalia chebula	fruit	IMPHY012650	Arjungenin
Terminalia chebula	fruit	IMPHY014353	terflavin A
Terminalia chebula	fruit	IMPHY014693	Sennoside A
Terminalia chebula	fruit	IMPHY014836	beta-Sitosterol
Terminalia chebula	fruit	IMPHY014838	Daucosterol
Terminalia chebula	fruit	IMPHY014990	Linoleic acid
Trichosanthes dioica	fruit	IMPHY000005	Thiamine
Trichosanthes dioica	fruit	IMPHY000846	Riboflavin
Trichosanthes dioica	fruit	IMPHY004653	Serotonin
Trichosanthes dioica	fruit	IMPHY006362	Ascorbic acid
Trichosanthes dioica	fruit	IMPHY007357	Nicotinic acid
Triticum aestivum	seed	IMPHY008937	Vitamin E
Triticum aestivum	seed	IMPHY012566	Ergosterol
Ziziphus jujuba	leaf	IMPHY000870	Protopine
Ziziphus jujuba	leaf	IMPHY000942	Ziziphin
Ziziphus jujuba	leaf	IMPHY001505	Coclaurine
Ziziphus jujuba	leaf	IMPHY001768	Asimilobine
Ziziphus jujuba	leaf	IMPHY002219	Alphitolic acid
Ziziphus jujuba	leaf	IMPHY002577	Norisoboldine

Ziziphus jujuba	leaf	IMPHY004009	Juziphine
Ziziphus jujuba	leaf	IMPHY004038	Eriodictyol
Ziziphus jujuba	leaf	IMPHY004187	L-(+)-Arabinose
Ziziphus jujuba	leaf	IMPHY004619	Quercetin
Ziziphus jujuba	leaf	IMPHY005543	Rhamnetin
Ziziphus jujuba	leaf	IMPHY005665	Berberine
Ziziphus jujuba	leaf	IMPHY006960	Yuzirin
Ziziphus jujuba	leaf	IMPHY006972	1-Octacosanol
Ziziphus jujuba	leaf	IMPHY007882	Ebelin lactone
Ziziphus jujuba	leaf	IMPHY008277	2-amino-9-(2,7-dihydroxy-2-oxo-4a,6,7,7a-tetrahydro-4H-furo[3,2-d][1,3,2]dioxaphosphinin-6-yl)-3-
Ziziphus jujuba	leaf	IMPHY009673	Isoboldine
Ziziphus jujuba	leaf	IMPHY011670	Epigallocatechin gallate
Ziziphus jujuba	leaf	IMPHY014893	D-Glucose
Ziziphus jujuba	leaf	IMPHY015047	Rutin

## **Step 7:**

Create a combined list of unique phytochemicals for sarcopenia and obesity by removing any duplicates present in the individual lists obtained from the IMPPAT database.

The phytochemical lists for sarcopenia (based on the "muscle weakness" proxy) and obesity were compiled in a Microsoft Excel spreadsheet. The following steps were performed:

- a) Merge the two lists into a single sheet, ensuring that all phytochemicals and their corresponding plant sources and plant parts were included.
- b) Use the "Remove Duplicates" function in Excel to identify and eliminate any duplicate entries of phytochemicals present in the combined list.
- c) After removing duplicates, a final list of unique phytochemicals was obtained, representing the consolidated set of phytochemicals potentially active against both sarcopenia and obesity.

The list of unique phytochemicals, their medicinal plant sources, and plant parts is provided below:

**Phytochemical name**

Kaempferol
Quercetin
Oleanolic acid
Lauric acid
Docosanoic acid
Hentriacontane
1-Tritriacontanol
17-Pentatriacontanol
Pentatriacontane
Marmin
Scoparone
Scopoletin
(+)-alpha-Phellandrene
Daucosterol
D-Glucose
Myrtenol
Myrcene
Eugenol
4-Isopropylbenzaldehyde
gamma-Terpinene
p-Cymene
Spathulenol
Myrtenyl acetate
beta-Elemene
p-Mentha-1,3,8-triene
4-Carvomenthenol
4-Isopropylbenzyl alcohol
(S,1Z,6Z)-8-Isopropyl-1-methyl-5-methylenecyclodeca-1,6-diene
Terpinolene
alpha-Terpinene
Humulene
(+)-delta-Cadinene
(+)-beta-Phellandrene
alpha-Pinene
Citronellal
beta-Pinene
Sabinene
alpha-Curcumene
Clionasterol
Lupeol
Caryophyllene oxide
Phytol
(Z)-beta-Ocimene

alpha-Phellandrene

cis-Sabinene hydrate

Limonene

alpha-Copaene

Thiamine

beta-Bisabolene

Riboflavin

4-Hydroxybenzaldehyde

Camphor

Gallic acid

Epifriedelanol

Linolenic acid

(-)-Butyrospermol

Benzyl Alcohol

Acetoin

Eriodictyol

Furfural

Hexanoic acid

Phenylacetaldehyde

Benzaldehyde

Cycloartenol

Valeric acid

D-Mannose

Peonidin-3-glucoside

Berberine

Betulin

alpha-Amyrin

beta-Amyrin

Geranylacetone

Xanthine

Catechol

Apigenin

Tiglic acid

Ascorbic acid

beta-Ionone

Methyl palmitate

Hypoxanthine

1-Dodecanol

Pantothenic acid

Heptanal

Dodecanal

Nonan-1-ol

6-Methyl-5-hepten-2-one

Nicotinic acid

alpha-Carotene
Cinnamic acid
4-Hydroxycinnamic acid
13(18)-Oleanen-3-one
23-Methyl-tetracosanoic acid
Friedelin
delta-Amyrin
Guggulsterol II
alpha-Camphorene
Mukulol
(2E,6Z,10E)-3,7,11-trimethyl-14-propan-2-ylcyclotetradeca-2,6,10-trien-1-ol
Pluviatilol
Thunbergene
5-[3-(1,3-Benzodioxol-5-yl)-1,3,3a,4,6,6a-hexahydrofuro[3,4-c]furan-6-yl]-1,3-benzodioxole
Heptacosane
Octadecane
Myristicin
Nonanal
Verbenone
Thymol
Methyleugenol
Cuparene
Carvacrol methyl ether
Pentacosane
Nonacosane
Dodecane
d-Borneol
(+)-trans-Piperitenol
gamma-Elemene
(E)-beta-ocimene
trans-Sabinene hydrate
Patchouli alcohol
Decanoic acid
(-)-Isopulegol
5-Isopropylbicyclo[3.1.0]hexan-2-one
beta-Thujone
Sylvestrene
beta-Himachalene
cis-alpha-Bergamotene
alpha-Phellandrene epoxide
(+)-Fenchone
Luteolin
Sucrose
Genkwanin

Enicoflavine
Isovitexin
Swertisin
Swertiamarin
Syringic acid
1-Hexadecanol
d-Tartaric acid
1-Tetradecanol
3-Methylbutanal
2,3-Dimethylpyrazine
beta-L-Arabinose
Psoralen
Isopimpinellin
Isoimperatorin
Dictamnine
delta-Guaiene
(4S)-1-Methyl-4-(prop-1-en-2-YL)-7-oxabicyclo[4.1.0]heptane
Elemol
p-Menth-1-en-3-ol
(1aS,4aS,7R,7aS,7bS)-1,1,7-Trimethyl-4-methylenedecahydro-1H-cyclopropa[e]azulen-7-ol
Longipinocarveol, trans-
2-Cyclopenten-1-one, 2-(2-butenyl)-3-methyl-, (Z)-
5-Isopropenyl-2-methyl-2-cyclohexen-1-yl pivalate
1-Benzoxirene-2,5-dione, 4-(3-oxobutyl)hexahydro-3,3,4-trimethyl
3,9-Epoxy-p-menta-1,8(10)-diene
Heptadec-7-ene
Lysergol
Lysergene
Setoclavine
Festuclavine
Lysergamide
Cycloartenone
Artocarpin
3-Phenylpropanal
Methyl 3-hydroxy-3-methylbutanoate
Oxyberberine
1-O-Methylpakistanine
Oxyacanthine
Jatrorrhizine
Eburicol
Euphol
Tirucallol
24-Epiclerosterol
Cyclobranol

(2S,4R)-p-Mentha-1(7),8-dien-2-ol

Brassinolide

Geranic acid

2,2,6-Trimethylcyclohexanone

Theophylline

2-Methylpyrazine

Methyl 1-methoxy-1H-indole-3-carboxylate

Castasterone

3-Hexenoic acid

Diphenyl ether

Nonanoic acid

Nerol

Theasapogenol E

Cedrelanol

Geraniol

trans-Linalool oxide

D-Xylose

10-Methylnonadecane

Diisopentyl ether

3-Ethylcyclopentanone

3,3,4-Trimethylheptane

3,5-Dimethyl-2-cyclohexen-1-one

4-(2,4,4-Trimethyl-cyclohexa-1,5-dienyl)-but-3-en-2-one

Henicosyl formate

Tomatidine

Arjunetin

Arjunone

Methyl oleanolate

Isorhamnetin

Tannic acid

Cianidanol

(-)-Epicatechin

Betaine

20-Hydroxyecdysone

Ecdysone

Myristic acid

Saponin A

Stearic acid

3-Trihexadecanone

Palmitic acid

Arachidic acid

Oleic acid

Linoleic acid

Triacontane

Tritriacontane
Hexatriacontane
6-Pentatriacontanone
1-Methylpyrrolidine-3-carboxylic acid
beta-Sitosterol
L-(+)-Arabinose
Pyridine, 3-[5-[4-[(3-methyl-2-butenyl)oxy]phenyl]-2-oxazolyl]-
D-Galactose
Pinocarvone
2-(4-Methylphenyl)propan-2-ol
Ethyl isovalerate
Eucalyptol
(1R)-2-methyl-5-propan-2-ylbicyclo[3.1.0]hex-2-ene
Citral
(-)-trans-Carveol
Linalool
alpha-Terpineol
beta-Selinene
beta-Caryophyllene
Camphene
Nerolidol
Piperitone
Rutin
beta-Sitosterol-beta-D-glucoside
Protopine
Carvacrol
Elemicin
Thymol methyl ether
Pentadecane
1,3,6-tri-O-galloyl-beta-D-glucose
Myricetin
Ellagic acid
Shikimic acid
D-Fructose
1-Triacontanol
Caffeic acid
Octanal
Octanoic acid
D-Glucuronic Acid
2-Phenylethanol
1-Octanol
2-Nonanone
Mannitol
Leucodelphinidin

Betulinic acid
Pyridoxine
Oxalic acid
24-Methylenecycloartanol
Fucosterol
Taraxerol
Campesterol
Stigmasterol
6,10,14-Trimethylpentadecan-2-one
Methyl salicylate
2-Decenal
2-Heptanone
2-Undecenal
2-Ethylhexanol
Angelic acid
Decanal
Inositol
beta-Cyclotriterpenes
Epigallocatechin gallate
Epigallocatechin
p-Xylene
Diosgenin
Solasodine
Heptadecyl octadecanoate
Taraxerol acetate
9-Methyloctadec-9-ene
Calcium oxalate
Triterpenoids
Neocembrene
Guggulsterol III
Guggulsterol I
20-Hydroxy pregn-4-en-3-one
Cholesterol
Ferulic acid
Dillapiol
Myrtenal
2,6-Dimethyl-2,4,6-octatriene
Tetracosane
Hexacosane
Octacosane
alpha-Terpinyl acetate
beta-Farnesene
Cedr-8-ene
Bornyl acetate

2-Cyclohexen-1-ol, 3-methyl-6-(1-methylethyl)-, (1R,6S)-rel-
2-Cyclohexen-1-ol, 1-methyl-4-(1-methylethyl)-, trans-
1,3,3-Trimethyl-2-oxabicyclo[2.2.2]oct-5-ene
Hexanal
Phellandral
3-(Isopropyl)-6-methylcyclohex-2-en-1-one
alpha-Murolene
alpha-Zingiberene
gamma-Murolene
3-(1,5-Dimethyl-4-hexenyl)-6-methylene-1-cyclohexene
beta-D-Glucose
1-Hexacosanol
Gentiocrucine
Saponarin
Erythrocentaurin
Gentianine
Flavyllum
Choline
Hydroquinone
Phytic acid
Ethyl palmitate
Vanillin
2,5-Dihydroxybenzoic acid
Vanillic acid
Guaiacol
3,4-Dihydroxybenzoic acid
[3-[Hydroxy-(2,3,4,5,6-pentahydroxycyclohexyl)oxyphosphoryl]oxy-2-octadecanoyloxypropyl] octadecanoate
1-(11Z-icosenoyl)-2-(9Z,12Z-octadecadienoyl)-sn-glycero-3-phosphoethanolamine
Mugineic acid
1,4-Benzoquinone
Folic
Vitamin E
beta-Tocopherol
Raffinose
Iridin
Salicylic acid
Furfuryl alcohol
Cucurbitacin D
Cucurbitacin B
Cucurbitacin E
4-(Rhamnosyloxy)phenylacetonitrile
Trigonelline
Chlorogenic acid
Benzyl isothiocyanate

Pterygospermin
Tetracosanoic acid
delta7-Avenasterol
Palmitoleic acid
Aloe emodin
1-Octacosanol
Terchebin
Chebulagic acid
Ethyl gallate
Chebulinic acid
Chebulic acid
2-Acetylpyrrole
1-(3-Methylfuran-2-yl)ethan-1-one
Sesamolin
2-Ethylpyrazine
2,5-Diethylpyrazine
Acetylpyrazine
2,5-Dimethylpyrazine
Pinoresinol
Sesamolinol
Biotin
Hexadecenoic acid
Cerotate
Sesamol
4-Aminobenzoic acid
4-(5-Methyl-2-furyl)-3-buten-2-one
2,4-Undecadienal
Ursolic acid
Aromadendrin
3-Methoxyflavone
7,3',4'-Trihydroxy-3,8-dimethoxyflavone
Fisetin
Aldobiouronic acid
Taxifolin
Afzelechin
(2S,3R,5R,9R,10R,13R,14S,17S)-2,3,14-trihydroxy-10,13-dimethyl-17-[(2R,3R,6R)-2,3,7-trihydroxy-6-methylheptan-2-yl]-2,3,4,5,9,11,12,15,16,17-decahydro-1H-
Saponin B
2-Tritriacantanone
Andrachamine
Andrachcine
Triterpenoid
10-Tricosanone
Sterol
Methoxsalen

Bergapten
Umbelliferone
Alloimperatorin
Xanthotoxol
Skimmin
7H-Furo[3,2-g][1]benzopyran-7-one, 9-methoxy-4-(3-methyl-2-butenyl)-
Imperatorin
Marmeline
Marmesin
Aegelinol
L-Rhamnose
Carotol
gamma-Terpineol
Aegeline
Himachalol
2-Methoxy-4-vinylphenol
Eudesm-7(11)-en-4-ol
Bicyclogermacrene
trans-1(7),8-p-Menthadien-2-ol
(Z)-alpha-Bisabolene
Cubebol
(+)-gamma-Gurjunene
(-)-beta-Bourbonene
Cyclohexene, 6-ethenyl-6-methyl-1-(1-methylethyl)-3-(1-methylethylidene)-, (S)-
Halfordinol
Ammijin
Skimmianine
beta-Gurjunene
alpha-Selinene
Valencene
(-)-cis-Carveol
D-Limonene
Aristolene
Fenretinide
N-[2-Hydroxy-2-(4-hydroxyphenyl)ethyl]cinnamide
(+)-cis-Sabinol
Isoaromadendrene epoxide
(2E)-2-Methyl-2-octenedial
Calcitriol
4-Allyltoluene
3-Fluorophenyl cyclohexanecarboxylate
5-Isopropyl-6-methyl-hepta-3,5-dien-2-ol
2,3-Pinanediol
Thymoquinone

Dimethyl disulfide
Diallyl sulfide
Galanolactone
Benzinemethanol, 4-(acetyloxy)-alpha-ethenyl-3-methoxy-, acetate
1'-Acetoxychavicol acetate
Caryophyllenol I
Caryophyllenol II
Galanal A
Galanal B
Galangin
Kaempferide
(S)-4-(1-Hydroxyallyl)phenyl acetate
p-Coumaraldehyde
Galangin 3-methyl ether
Methyl cinnamate
Cedrol
5,6,7,13,14-Pentahydroxy-2,9-dioxatetracyclo[6.6.2.04,16.011,15]hexadeca-1(15),4(16),5,7,11,13-hexaene-3,10-dione
Quinic acid
Isolysergic acid
Elymoclavine
Isolysergol
Strychnine
Lysergic acid alpha-hydroxyethylamide
Isosetoclavine
Penniclavine
Ergometrine
Ergometrinine
Chanoclavine II
Chanoclavine
Isolysergic acid amide
Isovaleric acid
Propanol
1-Butanol
Diacetone alcohol
Isoamyl acetate
2-Acetyl-1-pyrroline
3-(Methylthio)propionaldehyde
Tiglic aldehyde
3-(Methylthio)-1-hexanol
Isopentyl benzoate
3-Phenyl-1-propanol
Methyl isovalerate
Isopentyl isobutyrate
Phenethyl isovalerate

2-Hexenal
beta-Carotene
Propionic acid
Isobutanol
Propyl isovalerate
2,3-Pentanedione
Isobutyl isovalerate
Butyl isovalerate
Propyl acetate
Peonidin acetyl 3,5-diglucoside
Quercitrin
4H-Dibenzo(de,g)quinoline-1,10-diol, 5,6,6a,7-tetrahydro-2-methoxy-6-methyl-11-(4-(((1S)-1,2,3,4-tetrahydro-6,7-dimethoxy-2-methyl-1-isoquinolinyl)methyl)phenoxy)
Chitraline
Palmatine
Pakistanine
(+/-)-Karachine
Cajanin
Daidzein
Formononetin
Simiarenol
Parkeol
Theasinensin B
Theasinensin A
Caffeine
cis-3-Hexenal
Typhasterol
Teasterone
Theaflavin monogallates
Benzoic acid, 3,4,5-trimethoxy-, diester with 1,8-bis(3,4-dihydro-3,5,7-trihydroxy-2H-1-benzopyran-2-yl)-3,4,6-trihydroxy-5H-benzocyclohepten-5-one
Safranal
Theobromine
1-Decanol
Undecanol
1-Hexanol
1-Heptanol
Dextrin
A1-Barrigenol
1,2-Dihydro-1,5,8-trimethylnaphthalene
2-Hexyl-1-decanol
Theasapogenol B
Dihydro-beta-ionol
2-Furanmethanol, 5-ethenyltetrahydro-alpha,alpha,5-trimethyl-, cis-
1,4,6-tri-O-galloyl-beta-D-glucose
1-Isopropyl-4,7-dimethyl-1,3,4,5,6,8a-hexahydro-4a(2H)-naphthalenol

1-Dodecyne
2,5-Octanedione
2-Methyloctan-1-ol
3-Methyl-4-penten-1-ol acetate
Cyclopentene, 1-heptyl-
2-Cyclohexyloctane
2,3,3-Trimethyl-1-hexene
4-Hexen-2-one
Hexanoic acid, 4-hexen-1-yl ester
Heptadecenal
(1-Methylbutyl)cyclohexane
Propanoic acid, 2-methyl-, 3-hydroxy-2,4,4-trimethylpentyl ester
3,3-Dimethylhexanal
1-Ethyl-1H-pyrrole-2-carbaldehyde
1-Cyclohexen-1-ol, 2,6-dimethyl-, acetate
Arjunic acid
Cerasidin
Tigogenin
Sarsasapogenin
Neotigogenin
alpha-Amyrenone
quadrangularin A
Guggulsterol IV
Guggulsterol V
E-Guggulsterone
(8S,9R,10R,13R,14S,17Z)-17-ethylidene-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15-deahydrocyclopenta[a]phenanthrene-3,16-dione
(20R)-20-Hydroxypregn-4-en-3-one
2,2-Dimethyl-3-(3-methylenepent-4-enyl)oxirane
16alpha-Hydroxyprogesterone
Pelargonidin
Dimyrcene isomer # 2
Myrcenol
1,4-Dimethylnaphthalene
Dotriaccontane
2'-Hydroxy-5'-methylacetophenone
Butylated hydroxytoluene
2-Nonenal
Germacrene B
Damascenone
Estragole
Tricyclene
1-Methyl-4-(prop-1-en-2-yl)benzene
Docosane
Heneicosane
Tricosane

Bornyl formate
p-Mentha-1,4-dien-7-ol
Isoelemicin
Thujopsene
trans-alpha-Bergamotol
3-Carene
Apiole
Geranyl acetate
Neryl acetate
Zingiberene
Neral
alpha-Farnesene
Carveol
Thujane
(1r,3s,5r)-6,6-Dimethyl-2-methylidenebicyclo[3.1.1]heptan-3-ol
(+)-Endo-beta-bergamotene
delta-Elemene
(Z)-p-Menth-2-en-1-ol
1-Ethyl-2,3-dimethylbenzene
Fenchone
(-)-Globulol
1,2-Dimethylnaphthalene
Ethanol, 2-[4-(1,1-dimethylethyl)-2-methylphenoxy]-
2-Ethyl-p-xylene
1,2,4,5-Tetramethylbenzene
Allo-Aromadendrene
trans-alpha-Bergamotene
(3E)-2-methyl-6-methylideneocta-3,7-dien-2-ol
3-Methoxy-1-phenylpropan-1-one
Pinene
beta-Cyperone
Cyperol
Sugetriol triacetate
Isocyperol
Isokobusone
(4aS,6R,8aS)-4a-hydroxy-4,8a-dimethyl-6-prop-1-en-2-yl-5,6,7,8-tetrahydro-1H-naphthalen-2-one
(-)-Cyperene
beta-Rotunol
Patchoulenone
Aureusidin
Cyperolone
Rotundone
(1S,6S,8S)-1,5-dimethyl-8-propan-2-yltricyclo[4.4.0.02,7]dec-4-en-3-one
Kobusone
1-Methyl-5-methylidene-9-propan-2-yltricyclo[4.4.0.02,8]dec-3-ene
Nootkatone

Calamenone
1,2,3,4,5,6,7,8-Octahydro-1,4-dimethyl-7-(1-methylethylidene)azulene monoepoxide
4-Methoxybenzoic acid
Cyperotundone
alpha-Cyperone
(4E,7E)-1,5,9,9-Tetramethyl-12-oxabicyclo[9.1.0]dodeca-4,7-diene
Isopatchoulenone
beta-Patchoulene
Copaene
Aristolone
Latifolin
Dalbergin
Dalbergichromene
6,7-Dimethoxy-4-phenylcoumarin
Liquiritigenin
Xanthone
Latinone
Dalbin
Vilmorrianone
[(1S,2R,3S,6S,9R,10S,11R,14R,17S,18R)-12-ethyl-17-methoxy-14-methyl-4-oxo-5-oxa-12-azahexacyclo[8.7.2.12,6.01,11.03,9.014,18]icosan-9-yl] acetate
Maltol
(1S,5R,8R,9R,10S,11R,13R,14S,15S,16R)-7-ethyl-5-methyl-12-methylidene-7-azahexacyclo[7.6.2.210,13.01,8.05,16.010,15]nonadecane-11,14-diol
Condophiline
Panicutine
Homoferreirin
Ougenin
Karanjachromene
Peregrinol
Taraxerone
Marsformosanone
Isoswertisin
4-Hydroxybenzoic acid
Ternstroside F
Isoswertisin 5-O-glucoside
Amarogentin
Leucopelargonidin
20-Tetratriacontene-2-one
Pentatriacontan-5-one
Leucocianidol
alpha1-Sitosterol
Genistein
Chalcone
Oleanolic aldehyde
Erythrodiol
Oleanonic aldehyde
Nevadensin

Gardenin A
Demethoxysudachitin
Isoscutellarein
Wogonin
Gardenin E
Dikamaliartane D
Conduritol A
Gymnestrogenin
2-Hydroxydodecyl methacrylate
Gynosaponin TN-2
Gymnemic acid I
Pentadecanoic acid
Gymnemic acid V
Gymnemic acid IV
Gymnemic acid III
(-)Germacrene A
Gymnemagenin
Methyl linolenate
2-Pentadecanone
Stearyl alcohol
Indole
Acetophenone
Gymnemic acid II
Gymnemic acid VIII
Gymnemic acid X
Gymnemic acid xi
Gymnemaside V
Gymnemaside VI
Gymnemaside II
Gymnemaside VII
Gymnemaside III
Gymnemaside IV
Gymnemic acid IX
Gymnemic acid XII
1-Pentadecanol
Deacylgymnemic acid
Tetradeca-1,3-diene
4-Methoxyphenol
Butyric acid
trans-2-Dodecen-1-ol
Quercitol
3-Ethylphenol
gamma-Aminobutyric acid
9,12,15-Octadecatrienal
Gymnemic acid VII
Gymnemic acid VI

Ethyl octadec-9-enoate
D-Galacturonic Acid
Isovanillin
Hemidescine
4-Methoxybenzaldehyde
Benzophenone
beta-Amyrin acetate
Dihydrocarvyl acetate
4-Methoxysalicylic acid
2-Hydroxy-4-methoxybenzaldehyde
Salicylaldehyde
Linalyl acetate
Oleanane
(1S,3aR,5aR,5bR,7aS,11aS,11bR,13aR,13bR)-3a,5a,5b,8,8,11a-hexamethyl-1-propan-2-yl-1,2,3,4,5,6,7,7a,9,10,11,11b,12,13,13a,13b-hexadecahydrocyclopenta[a]heptadecene
Ursane
2,10-Epoxy pinane
Benzyl benzoate
trans-2,cis-6-Nonadienal
3-Methoxyphenol
Phenethyl cinnamate
Pentyl cinnamate
Levomenol
Isocaryophyllene
Aromadendrene
Ledol
Lupeol acetate
alpha-Muurolol
Isobornyl acetate
3-[(1S,4aS,4bR,7R,8aS,10aS)-4b,7,8a,10a-tetramethyl-7-(4-methylpent-3-enyl)-2-propan-2-ylidene-3,4,4a,5,6,8,9,10-octahydro-1H-phenanthren-1-yl]propan-1-ol
1'-OH-gamma-carotene glucoside/(Carotenoids B-G)
4-Methylbenzaldehyde
L-alpha-lysophosphatidylinositol
Lysophosphatidylcholine
3-[2-(4-Aminophenyl)ethyl]-8-[4-(4-fluorophenyl)-4-oxobutyl]-1-phenyl-1,3,8-triazaspiro[4.5]decan-4-one
Tridecanoic acid
Sterculic acid
Malvalic acid
Methyl sterculate
beta-Sitostenone
Methyl 9-methylene-8-oxoheptadecanoate
Methyl 10-methylene-9-oxooctadecanoate
Cyanidin chloride
Kaempferol 3-xylosylglucoside
Methyl 10-oxo-11-octadecenoate
Methyl 8-oxooctadec-9-ynoate
Cyanin

2-Amino-1,4-naphthoquinone
Hederagenin
2alpha,3alpha-Dihydroxyolean-12-en-28-oic acid
Ubiquinone
Procyanidin C2
Hordatine A
Chlorophyll B
(1H-Indol-3-yl)methanamine
Corydine
2-Carboxy-D-arabinitol
Pyrrolidine
p-Coumaroylagmatine
Chrysoeriol
Glaucine
2'-Deoxymugineic acid
Orientin
5,7-Dihydroxy-3',4',5'-trimethoxyflavone
Tyramine
Hordatine B
1-(3-Aminopropyl)imidazole
Hordenine
5-Methylcytosine
2-(2-Methoxyethoxy)ethanol
N-Methyltyramine
N-(3-Carboxy-2,3-dihydroxypropyl)-4-((carboxymethyl)amino)threonine
Epiheterodendrin
Esculetin
Gibberellic acid
(2Z,4E)-5-[(1S)-1-hydroxy-2,6,6-trimethyl-4-oxocyclohex-2-en-1-yl]-3-methylpenta-2,4-dienoic acid
Procyanidin B3
Isopropyl alcohol
Carlinoside
Vitexin
beta-Maltose
Cucurbitacin H
(Z)-Non-2-enal
3,4-Dimethoxycinnamic acid
22-Deoxoisocucurbitacin D
Glycerol
Azulene
Racemosol
Farnesol
(24E)-24-N-Propylidenecholesterol
2-Pentadecyn-1-ol
Cyclohexanemethanol
Methyl- <i>o</i> -D-galacturonate

Stigmasta-7,22-dien-3beta,4beta-diol
9,12-Octadecadienal
Lucyoside E
Lucyoside F
Lucyoside H
(3S,4S,5S,6R)-2-[(3R,4S,5S,6R)-2-[[3S,6S,8R,9R,10R,12R,17S)-3,12-dihydroxy-4,4,8,10,14-pentamethyl-17-[(2S)-6-methyl-2-[(3R,4S,5S,6R)-3,4,5-trihydroxy-
Lucyoside B
14beta,17alpha-Pregn-5-en-20-one, 3beta,8,11alpha,12beta,14-pentahydroxy-
D-Olivose
14beta-Pregn-5-en-20-one, 3beta,8,11alpha,12beta,14-pentahydroxy-
Bauerenol
Niazirinin
Gossypetin
Quercetagetin
Hesperetin
Phenylacetonitrile
Niazinin
Niaziminic A
(+)-Gallocatechin
1,7-Octadien-3-ol, 2,6-dimethyl-
niaziminin B
N,alpha-L-rhamnopyranosyl vincosamide
Benzylamine
1,3-Dibenzylurea
Asperglaucide
Heptadecanoic acid
24-Methylenecholesterol
Arachidonic acid
28-Isoavenasterol acetate
Roridin E
Moringyne
Clerosterol
Viridiflorol
Turpethic acid B
Turpethic acid C
Turpethic acid A
3-(2-Hydroxyphenyl)propanoic acid
Oroxindin
Baicalin
Prunetin
Chrysin
Baicalein
Dihydrobaicalein
Scutellarein
Hexadecane
(2,3,4,5,6-pentahydroxycyclohexyl) 2-(1H-indol-3-yl)acetate

Decane
Oryzalexin A
avenic acid B
Trimethylamine
Stachydrine
Undecane
[1-Hexadecanoyloxy-3-[3,4,5-trihydroxy-6-[[3,4,5-trihydroxy-6-(hydroxymethyl)oxan-2-yl]oxymethyl]oxan-2-yl]oxypopropan-2-yl] octadeca-9,12-dienoate
Triacontanal
Citric acid
5-(12-Heptadecenyl)-resorcinol
Oryzalexin B
Dotriacontanal
Momilactone A
Allantoin
Tricin
3-Hydroxymugineic acid
1,2,4-Trimethylbenzene
vitamin B1
(1S,2R,5R,9R,12R,13S,18R)-5-ethenyl-13-hydroxy-5,12-dimethyl-10,14-dioxapentacyclo[11.2.2.11,9.02,7.012,18]octadec-7-en-11-one
oryzalexin D
oryzalexin E
Eicosane
Delphinidin
Nonane
Nicotinamide
Dibutyl phthalate
Heptadecane
Tridecane
1-Eicosene
(S,S,S)-avenic acid A
Tetradecane
5,7-dihydroxy-2-(4-hydroxyphenyl)-6-[(2R,3R,4R,5S,6R)-3,4,5-trihydroxy-6-(hydroxymethyl)oxan-2-yl]-8-[(2S,3R,4S,5S)-3,4,5-trihydroxyoxan-2-yl]chromen-4-
Neoschaftoside
Glycerophosphoric acid
Sakuranetin
Rizolipase
Cyanidin 3-glucoside
Stigmastanol
Neocarlinoside
Tricin 7-glucoside
2,6,10-Trimethyltetradecane
1,1,2,3-Tetramethylcyclohexane
Decahydro-1,2-dimethylnaphthalene
1,2,3,5-Tetramethylcyclohexane
Naphthalene, decahydro-1,5-dimethyl-
Naphthalene, decahydro-1,6-dimethyl-

Naphthalene, decahydro-2,3-dimethyl-
2,6-Dimethyldecalin
1,2,3,6-Tetramethylbicyclo[2.2.2]octane
Pentylcyclohexane
1-Ethyl-2-methylcyclohexane
1-Ethyl-4-methylcyclohexane
1-Methyl-2-propylcyclohexane
trans-1,1,3,5-Tetramethylcyclohexane
Tetradecanoic acid, trimethylsilyl ester
3,3-Dimethyloctane
2,6-Dimethylpiperidine
Pyrogallol
Furosin
Phloroglucinol
trans-Zeatin
Methyl gallate
Kzeyiyxacmutrm-uhfffaoya-
Phyllantidine
beta-Glucogallin
Galactaric acid
Corilagin
Geraniin
Trigalloylglucose
Tryptase
Glochidonal
21alpha-Hydroxyfriedelan-3-one
Cucurbitacin P
Picracin
8-Epiiridotrial glucoside
Specioside
Cucurbitacin S
Minecoside
Verminoside
Bartsioside
Arvenin II
Piscrocin B
Veronicoside
4-Fluoro-2-methoxyphenol
Picroside III
Picroside IV
23,24-dihydrocucurbitacin D
Formocortol
Cucurbitacin I
Mussaenosidic acid
Androsin
Cucurbitacin Q

Acetovanillone
arvenin III
Arvenin I
Picein
Kutkin
beta-D-Glucopyranoside, (3R,5S,5aS,6R,7S,8R,8aS)-hexahydro-8,8a-dihydroxy-7-((4-hydroxy-3-methoxybenzoyl)oxy)-3,6-methano-1H-cyclopenta(e)(1,3)dioxepan-2-one
Picroside I
Cucurbitacin F
Cucurbitacin O
Kutkosid
Catalpol
Aucubin
Picroside II
6-O-Cinnamoylcatalpol
Isozeylanone
Plumbazeylanone
Plumbagin
Indole-3-carboxaldehyde
Isoshinanolone
(2,2'-Binaphthalene)-5,5',8,8'-tetrone, 1,1'-dihydroxy-6,6'-dimethyl-
3-Chloro-5-hydroxy-2-methylnaphthalene-1,4-dione
Zeylanone
Droserone
Plumbagic acid
Chitranone
7-Hydroxy-2,5-dimethyl-4H-1-benzopyran-4-one
Taraxasterol
Papaverine
Serpentine
Tetraphylline
Serpentine (alkaloid)
Reserpiline
Rescinnamine
Sarpagine
Ajmalan-17-ol, 19,20-didehydro-, (17R,19E)-(9CI)
Deserpidine
Ajmalicine
Isorauhimbine
Yohimbine
Corynanthine
Reserpine
Ajmaline
Isoajmaline
(3R,7R,11R,15R)-3,11-bis[(5R)-2-amino-4,5-dihydro-1H-imidazol-5-yl]-7,15-dimethyl-1,9-dioxacyclohexadecane-2,10-dione
Chrysophanol
Aurantio-obtusin

Questin
Obtusin
Chrysoobtusin
Rhein
Chrysophanol-1-beta-gentiobioside
Obtusifolin
Norrbrofusarin
1-[1-hydroxy-6-methoxy-3-methyl-8-[(2S,3R,4S,5S,6R)-3,4,5-trihydroxy-6-[(2R,3R,4S,5S,6R)-3,4,5-trihydroxy-6-(hydroxymethyl)tetrahydropyran-2-yl]oxymethyl]anthrone
Obtusifolin 2-glucoside
Torachrysone
Toralactone
Cassiaside
Rubrofusarin
Anthrone
Chrysophanol-9-anthrone
Anthraquinone-2-carboxylic acid
7-Hydroxyemodin
Emodin
Silibinin
Sophoraflavonoloside
Physcion
Stigmast-5-en-3-ol
3-Methyl-2-butanone
Retinol
Planteose
Astaxanthin
1-Octen-3-OL
Pyrazine
gamma-Tocopherol
Pedaliin
Furan
Sesaminol
1-Methyldithio-2-propanone
Sesaminol glucoside
(+)-Episesaminone
Sesamose
2-Acetyl furan
2-(4-Methylpent-3-en-1-yl)-1,4-dihydroanthracene-9,10-dione
Esculetic acid
Acetoside
Isoacteoside
4-Ethyl-2-methoxyphenol
Decaffeoyl-acteoside
Kobusin
Cistanoside F
Asiatic acid

Hydroxyhopanone
Dipterocarpol
Dammarenolic acid
Dammarenediol II
Bergenin
Incanumine
Solasonine
Yamogenin
Carpesterol
Khasianine
Solamargine
Tecoside
Lapachol
Dehydrotectol
Undulatoside A
3,4-Dimethoxybenzoic acid
Tecomelloside
Triacontanoic acid
Ellagitannin (12R,15R,32S,33R)-4,5,6,14,20,21,22,25,26,27,38,39,40,43,44,55-hexadecahydroxy-2,10,13,16,31,34,46,53-octaoxaundecacyclo[46.7.1.03,8.012,33.015,32.018,23.017]triaconta-4,5,10,13,16,31,34,46,53-octenoate
Punicalagin
Anthraquinone
Arjunolic acid
Maslinic acid
Arjungenin
terflavin A
Sennoside A
Serotonin
Ergosterol
Ziziphin
Coclaurine
Asimilobine
Alphitolic acid
Norisoboldine
Juziphine
Rhamnetin
Yuzirin
Ebelin lactone
2-amino-9-(2,7-dihydroxy-2-oxo-4a,6,7,7a-tetrahydro-4H-furo[3,2-d][1,3,2]dioxaphosphinin-6-yl)-3H-purin-6-one
Isoboldine
Procyanidin
Resveratrol
3,6,7-Trihydroxy-2-(4-hydroxy-3-methoxyphenyl)chromen-4-one
Hippophaenin B
1-Hexacosene
2,6,11-Trimethyldodecane

Dehydroascorbic acid
6-methoxy-2H-chromene
Sinapic acid
Harmalol
Physicalien
beta-Cryptoxanthin
Isorhamnetin 3-sophoroside
(10R,11S)-11-[(10R,11R)-3,4,5,17,18,19-hexahydroxy-8,14-dioxo-11-(3,4,5-trihydroxybenzoyl)oxy-9,13-dioxatricyclo[13.4.0.02,7]nonadeca-1(19),2,4,6,15,17-he
Phloionolic acid
Harman
2,6-Di-tert-butyl-4-ethylphenol
trans-2-Nonen-1-ol
2,3-Butanedione
Pentanal
Harmol
Butyl glyoxylate
18-Hydroxy-9-octadecenoic acid
10,16-Dihydroxyhexadecanoic acid
isorhamnetin-3-O-glucoside
Zeaxanthin
Narcissin
Astragalin
alpha-Amyrenyl acetate
O-Cymene
Methyl tridecanoate
Methyl heptadecanoate
3-Octanol
3-Octanone
Isoamyl alcohol
Methyl tetradecanoate
Tetradecanal
o-Cresol
(1S,6R,7R)-1-methyl-3-methylidene-8-propan-2-yltricyclo[4.4.0.02,7]decane
2,4-Decadienal
Neryl formate
Geranyl formate
(1S,2R,5S)-2-isopropyl-5-methylcyclohexyl acetate
3,7-Dimethylocta-1,3,7-triene
Juglanin
Dimethyl trisulfide
Phenethyl acetate
Citronellyl formate
Ethyl butyrate
1-Docosene
Methyl geranate
Linalyl propionate

Nerol oxide
Isophorone
1-Octadecene
beta-Terpineol
2-Pentanone
1-Dodecene
Perillene
Methyl stearate
Methyl dodecanoate
Methyl decanoate
(Z)-3,7-Dimethylocta-2,6-dien-1-yl dodecanoate
1-Octene
beta-Terpinene
Hexyl acetate
Citronellyl acetate
Hexadecanal
Cadinane
Methyl ursolate
Methyl pentadecanoate
alpha-Guaiene
Butyl acetate
Benzyl acetate
Phytane
Nonadecane
2-Nonanol
Methyl behenate
Benzothiazole
Naphthalene
Ethylbenzene
Isogeraniol
Geranyl isovalerate
Phenylethyl beta-D-glucopyranoside
6-Methylhept-5-en-2-ol
Tiliroside
(1aR,7R,7aR,7bS)-1,1,7,7a-tetramethyl-2,3,5,6,7,7b-hexahydro-1aH-cyclopropa[a]naphthalene
1-Heptadecene
1-Nonadecene
9-Eicosene, (E)-
alpha-Damascenone
beta-Eudesmol
(2Z,6E)-Farnesyl acetate
cis-3-Hexen-1-ol
(E,Z)-farnesol
(+)-alpha-Cadinene
alpha-Eudesmol
(+)-gamma-Cadinene

cis-3-Hexenyl acetate
Pulegone
Afzelin
Acetone
o-Xylene
Methyl octanoate
Citronellol
1-Hexadecene
p-Menthan-3-one
(2S,4R)-4-methyl-2-(2-methylprop-1-en-1-yl)tetrahydro-2H-pyran
Methyl pentacosanoate
Methyl tetracosanoate
Pulegol
2-Methyltricosane
Menthofuran
(-)alpha-Cadinol
Cyanine
Methyl nonadecanoate
1-Tricosene
1-Heneicosene
1,2-Epithiohumulene
(+)-Isomenthol
Trifolin
Menthol
Menthone
Rose oxide
10-Heneicosene (c,t)
1-Tridecene
2,6,10-Trimethylpentadecane
5-Methyltridecane
9-Hexacosene
9-Tetracosene
Citronellyl octanoate
Ethyl decanoate
Methyl nonanoate
3,7-Dimethyl-5-octene-1,7-diol
Aciphylene
Cyclopentanone
Methyl heptacosanoate
Methyl hexacosanoate
Methyl octacosanoate
Methyl tricosanoate
3-Methyl-2-hexanol
(S)-3,4-Dimethylpentanol
1,4-Dichlorobenzene
4-Ethyl-5-methylnonane

(E)-3-Octadecene
(2E,5e)-3,7-dimethyl-2,5-octadien-1,7-diol
(+)-Condylomarpine
Pseudo-alpha-colubrine
(4aR,5aR,8aS,13aS,15aS,15bR)-5a-hydroxy-10-methoxy-2,4a,5,7,8,13a,15,15a,15b,16-decahydro4,6-methanoindolo[3,2,1-ij]oxepino[2,3,4-de]pyrrolo[2,3-h]quinone
Brucine
Salidroside
1-[(12S,13R,14R,19R,21S)-14-hydroxy-15-oxa-1,11-diazahexacyclo[16.3.1.04,12.04,21.05,10.013,19]docosa-5,7,9,17-tetraen-11-yl]ethanone
alpha-COLUBRINE
(10S,22R,23R,24S)-4-methyl-9-oxa-4,13-diazahexacyclo[11.6.5.01,24.06,22.010,23.014,19]tetracosa-6,14,16,18-tetraene-12,20-dione
(1S,13S,14Z,19S,21S)-14-(2-hydroxyethylidene)-4,5-dimethoxy-16-oxido-8-aza-16-azoniahexacyclo[11.5.2.11,8.02,7.016,19.012,21]henicos-2,4,6,11-tetraen-9-one
Vomicine
beta-COLUBRINE
Loganin
2-Hydroxy-3-methoxystrychnine
Pseudostrychnine
4-Hydroxystrychnine
Corynan-16-carboxylic acid, 16,17,19,20-tetrahydro-17-hydroxy-, methyl ester, (16E,19E)-
(1R,13S,14Z,19S,21S)-14-(2-hydroxyethylidene)-8,16-diazahexacyclo[11.5.2.11,8.02,7.016,19.012,21]henicos-2,4,6,11-tetraen-9-one
(1R,13S,14Z,19S,21S)-14-(2-hydroxyethylidene)-4,5-dimethoxy-8,16-diazahexacyclo[11.5.2.11,8.02,7.016,19.012,21]henicos-2,4,6,11-tetraen-9-one
Strychnine N-oxide
Cuchiloside
Novacine
(4aR,5aS,6R,8aS,13aS,15aS,15bR)-10,11-dimethoxy-6-oxido-4a,5,5a,7,8,13a,15,15a,15b,16-decahydro-2H-4,6-methanoindolo[3,2,1-ij]oxepino[2,3,4-de]pyrrolo[2,3-h]quinone
Isostrychnine N-oxide
Rosmarinic acid
Ibogamine
methyl (1S,17R)-17-(1-hydroxyethyl)-3,13-diazapentacyclo[13.3.1.02,10.04,9.013,18]nonadeca-2(10),4,6,8-tetraene-1-carboxylate
Coronaridine
Voacangine
Voaluteine
Isovoacristine
Voacamime
Benzoic acid
Coronaridine,19-oxo-
3-Oxo-coronaridine
(-)-Dregamine
Tabernaemontanine
Olivaccine
Iso-voacangine
methyl (1S,10S,15R,17S,18S)-17-ethyl-10-hydroxy-3,13-diazapentacyclo[13.3.1.02,10.04,9.013,18]nonadeca-2,4,6,8-tetraene-1-carboxylate
Hecubine
Mehranine
Pseudovobparicine
9beta-Hydroxy-9-hydro-16-dehydro-12-methoxyibogamine-18-carboxylic acid methyl ester
2-Acetylindole

Voaphylline hydroxyindolenine
Methyl 10-hydroxy-17-(1-hydroxyethyl)-7-methoxy-3,13-diazapentacyclo[13.3.1.02,10.04,9.013,18]nonadeca-2,4(9),5,7-tetraene-1-carboxylate
Ervaticine
methyl (1S,14R,15Z,18S)-15-ethylidene-17-methyl-12-oxo-10,17-diazatetracyclo[12.3.1.03,11.04,9]octadeca-3(11),4,6,8-tetraene-18-carboxylate
Gomezine
Voacristine
Withasomidienone
Somniferine
Withanolide M
Hygrine
Withanolide D
Withaferin A
Withanolide E
Withasomnine
Withanolide G
Withanolide P
Withanone
Sitoindoside IX
Nicotine
Withanolide S
Withanolide C
Anahygrine
Withanolide L
Tropine
4-Hydroxy-1,26-dioxo-5,6:22,26-diepoxyergosta-2,24-dien-27-yl 6-O-hexadecanoylhexopyranoside
Galactitol
(2R)-2-[(1S)-1-[(8R,9S,10R,13S,14R,17S)-14,17-dihydroxy-10,13-dimethyl-1-oxo-4,7,8,9,11,12,15,16-octahydrocyclopenta[a]phenanthren-17-yl]-1-hydroxyethyl]
Withanolide J
Cuscohygrine
2-Heptanol
Thujyl alcohol
1,4-Cineole
Gingerglycolipid B
Gingerglycolipid A
p-Menth-3-en-1-ol
2-Hexanone
[10]-Gingerdione
Sesquisabinene
Zingerone
beta-Copaene
6-Gingerdiol
Bicyclo(3.1.0)hex-2-ene, 5-(1,5-dimethyl-4-hexenyl)-2-methyl-
7-Epi-sesquithujene
(R)-4-Isopropylcyclohex-2-enone
alpha-Santalol
Cinnamyl acetate

Isogingerenone B
Gingerenone B
Longifolene
Dehydrozingerone
Gingerenone A
Shogaol
Seychellene
p-Mentha-1,5-dien-7-ol
Cinnamyl alcohol
[6]-Gingerdiol 3,5-diacetate
1-(4-hydroxy-3-methoxyphenyl)-7-(4-hydroxyphenyl)-(4E)-4-hepten-3-one
(10)-Gingerol
Gingerdione
Geranylgeraniol
2-Octanol
Curlone
Eudesmane
Longicyclene
2-Pentanol
Geranylinalool
Geranyl tiglate
Hedycaryol
Acetyleugenol
4'-Methylacetophenone
Furan, 3-methyl-2-(3-methyl-2-butenyl)-
2-Methyl-3-buten-2-OL
Heptane
Paradol
beta-Cubebene
(2S,3R,4R,5S,6S)-2-(hydroxymethyl)-6-(((2S,3R,4R,5S,6R)-3,4,5-trihydroxy-6-(((4aR,8aS)-4-isopropyl-1,7-dimethyl-1,2,3,4,4a,5,8,8a-octahydronaphthalen-1-yl)
(Z)-beta-Ocimenol
Cedr-8-en-13-ol
(8)-Gingerdione
[6]-Dehydrogingerdione
4',6-Dichloroflavan
6-Gingesulfonic acid
Pentyl acetate
Zingiberenol
Bulnesol
Verbenene
Camphene hydrate
Citronellyl propionate
Heptyl acetate
beta-Calacorene
Cyclosativene
p-Mentha-1,5-dien-8-ol

Humulane-1,6-dien-3-ol
Artesin[sesquiterpene]
Gingerglycolipid C
Zingiberol
(8)-Gingerol
(-)alpha-Himachalene
Toluene
3-Methyl-2-pentanol
3-Buten-2-OL
Cadina-1,4-diene
2-Undecanone
Germacra-1(10),5-dien-4-ol
alpha-Fenchyl acetate
Gingerol
cis,cis-Farnesol
(2Z,6E)-Farnesol
Isoeugenol
cis-beta-Farnesene
Humulene epoxide II
(E)-gamma-Bisabolene
(Z)-gamma-bisabolene
Cinnamaldehyde
(+)-alpha-Funebrene
gamma-Eudesmol
10-epi-gamma-Eudesmol
cis-Cinnamaldehyde
Dihydrocarveol
alpha-Fenchol
(1S,2S,6S,7R,8R)-1,3-dimethyl-8-propan-2-yltricyclo[4.4.0.02,7]dec-3-ene
alpha-Bergamotene
P-Mentha-2,8-dien-1-ol
ar-Turmerone
tau-Cadinol
trans-Sesquisabinene hydrate
trans-Calamenene
1-Methylene-4-(1-methylvinyl)cyclohexane
1,3,3-Trimethyl-2-oxabicyclo[2.2.2]octan-6-ol
3,6-Octadienal, 3,7-dimethyl-
2,6-Dimethylocta-3,7-diene-1,6-diol
Farnesal
Zizanene
Caswell No. 264AB
Calamenene
Nerolic acid
cis-Nerolidol
7-epi-cis-Sesquisabinene hydrate

(S)-cis-Verbenol
6-Epi-beta-bisabolol
Fenchol
Italicene
gamma-Cadinene
trans-Verbenol
(-)Zingiberene
3-Nonen-2-one
1-endo-Bourbonanol
gamma-Camphorene
trans-beta-Sesquiphellandrol
2-Methyl-6-(4-methylcyclohexa-1,3-dien-1-yl)hept-2-en-4-one
(2E)-2-methyl-6-[(1S)-4-methylcyclohex-3-en-1-yl]hepta-2,6-dien-1-ol
1,1-Dicyclopropylethylene
4,4-Dimethylpent-2-enal
1-Hydroxydecan-3-one
Phenyl propionate
Tetradecyl acrylate
trans-beta-Bergamotene
Hexahydrocurcumin
omega-Cadinene
2,5-Dimethylbenzoic acid
trans-2-Hepten-1-ol
Dimethylionone
(8)-Shogaol
[10]-Shogaol
2-Ethyl-5-methylfuran
Tert-dodecylthiol

## **Step 8:**

Determine the specific phytochemicals from the compiled list that may act on the identified protein targets associated with sarcopenia and obesity. This was achieved by cross-referencing the phytochemical information with the IMPPAT and SwissProt databases.

For each phytochemical in the list, search the IMPPAT database to retrieve any available information on its potential target proteins or biological activities related to sarcopenia and obesity.

- b) If the target information was not available in IMPPAT, the SwissProt knowledgebase (<http://www.swisstargetprediction.ch/>) was utilized to search for the phytochemical and obtain any reported data on its interactions with proteins or involvement in relevant biological pathways.
- c) Compile a list of phytochemicals with their corresponding target proteins and relevant functional information from IMPPAT and SwissProt.
- d) Phytochemicals for which no target information could be obtained from either database were excluded from further analysis.

The list of phytochemicals, their potential target proteins, and relevant functional annotations is provided below:

Phytochemical	Target
beta-Sitosterol	APOE
	ABCG5
	ABCB11
	ICAM1
	ABCG8
	CYP7A1
	CASP3
	SREBF1
	SREBF2
	DHCR24
Kaempferol	ESR1
	MAPK1
	HMOX1
	NFKBIA
	MMP2
	CCL2
	IL2
	AHR
	ALOX12
	CYP1B1
	MAPK3
	STAT3
	ABCB1
	CDK2
	RB1
	IGF1R
	TP53
	AKT1
	UGT3A1
	ATM
	ITGA2
	CSF2
	TNFRSF11B
	UGT1A1
	CASP3
	MMP1
	CYP2B6
	NOS2
	CASP9
	NR1I2
	NOS1
	CYP3A4
	CYP1A2

	PTGES
	UGT1A10
	ESR2
	UGT1A9
	SRC
	STAT1
	NRII3
	CHUK
	JUN
	UGT1A7
	UGT1A8
	H2AFX
	RPS6KA3
	CYP1A1
	CDK1
	GSTP1
	ABCC1
	IGF2
	SLC2A1
	UGT1A3
	DIO2
Lupeol	TP53
	MITF
	CTNNB1
	PTEN
Hexadecane	CD1D
	B2M
Octanal	ADH1A
	ADH4
	ADH5
	FOS
	ADH1B
	LIPT2
	MBOAT4
	GBA
	ALDH3A2
	ALDH9A1
	ALDH1B1
	ADH6
	ADH7
Carvacrol	TRPA1
	HSPA4

	CASP3
	TRPM7
	HSPD1
	UGT2B15
	HTR2A
	TRPV3
Decane	GLTP
Undecane	KCNK1
	CD1D
	B2M
1-Hexadecanol	FAR2
	AGPS
	FAR1
	GNPAT
Lauric acid	UTS2
	GNA11
	P2RY10
	BDKRB1
	PROKR2
	OXT
	MLNR
	DECRL
	C8G
	GNRHR
	LTF
	APOB
	KISS1R
	RGS2
	ACOT2
	KALRN
	GHSR
	GNRH2
	FFAR2
	FFAR1
	F2RL3
	MCHR1
	CYP2E1
	NMUR2
	CHRM3
	NTS
	GRP
	ANXA1

	NMBR
	HTR2B
	TLR2
	PLCB2
	CYP2C9
	GNA15
	PIK3CA
	NMU
	KNG1
	NPFF
	GPR65
	PROK1
	GPR17
	AGTR1
	PIK3R1
	HTR2C
	GNRH1
	PAEP
	NPFFR1
	PLCB3
	MCHR2
	CYSLTR2
	GRM1
	LY96
	APP
	GNAQ
	PTGER1
	HCRT
	CCKAR
	PROK2
	ALB
	ADH5
	F2RL2
	F2RL1
	AVPR1A
	TAC3
	PTAFR
	TACR3
	TRH
	TACR1
	NTSR2
	PROKR1
	P2RY1
	NMUR1
	GRM5
	CHRM1

	IL8
	ADRA1B
	LTB4R
	BDKRB2
	NPFFR2
	PCSK1
	GPRC6A
	P2RY6
	TRHR
	P2RY2
	XCR1
	CYP4A11
	ACOT1
	ADRBK1
	HNF4A
	EDNRA
	GLTP
	CD55
	GPR4
	TAC1
	F2R
	ACOT4
	UTS2R
	OXTR
	LPAR5
	FFAR3
	GPR132
	GAST
	PMCH
	RGS19
	PLCB4
	CYP4Z1
	GNG2
	CCKBR
	CCK
	UNC119
	EDN3
	PLCB1
	TRIO
	FPR2
	UTS2B
	LPAR6
	QRFP
	SAA1
	GM2A

	GIP
	LPAR1
	NPSR1
	AGT
	KISS1
	RGS18
	PTGS2
	XCL1
	XCL2
	NTSR1
	LPAR3
	PTGFR
	HCRTR2
	OPN4
	EDN2
	CYSLTR1
	TACR2
	HCRTR1
	TLR4
	PLA2G2A
	GNA14
	NMS
	EDNRB
	ACOT7
	OLAH
	HTR2A
	EDN1
	ADRA1D
	GRPR
	AVP
	ADRA1A
	VLDLR
	CHRM5
	GRK5
	QRFPR
	NMB
	HRH1
	NPS
	GCGR
	RELA
	LPAR2
	GCG
	MLN

	TBXA2R
	UGT1A3
	CASR
	LTB4R2
	GPR68
	MTRNR2L12
Methyl salicylate	CES3
	CES2
	UGT1A10
	CES1
	UGT1A7
	UGT1A8
	UGT1A3
	CES5A
	CES4A
Nonanal	TFPI2
	RDH12
	AKR1B1
Eugenol	CCL3
	KCNA5
	CYP1B1
	TRPA1
	TMPRSS11D
	UGT1A1
	CASP3
	NQO1
	UGT2B17
	CASP9
	CACNA1H
	FIP1L1
	MAOA
	UGT2B15
	UGT1A10
	UGT1A9
	CACNA1G
	CYP2D6
	UGT1A7
	UGT1A8
	ALOX5
	CYP1A1
	TRPV1
2,4-Decadienal	AKR1B1

Verbenone	CYP2A6
	CYP2B6
Quercetin	CFTR
	NOX3
	PYGM
	ESR1
	SIRT1
	SERPIND1
	MAPK1
	XBP1
	HMOX1
	PYGL
	NFKBIA
	PYGB
	MMP2
	PLAT
	PON1
	NAMPT
	PON2
	CCL2
	CD38
	SULT1E1
	MAPK14
	EIF2AK2
	APOB
	ODC1
	CAT
	TNFSF10
	AHR
	CD97
	CDKN1A
	HSPB1
	ALOX12
	UGT2A3
	RAF1
	CYP2E1
	SESN2
	KRAS
	ERN2
	NT5E
	IL6
	TLR2
	CYP19A1
	CYP1B1

	CYP2C9
	RPS6KA5
	ATP5B
	SLC12A2
	PPARA
	MAPK3
	TYR
	IL1B
	STK17B
	PIK3CA
	ICAM1
	PRDX5
	ABCB1
	CDK2
	RB1
	TP53
	AKT1
	UGT3A1
	EGFR
	TNFRSF10B
	ATP5A1
	TMPRSS11D
	AKR1B1
	AIFM1
	NPC1L1
	BAX
	HPGDS
	TGFA
	IL15
	CSF2
	NOS3
	CKB
	MMP3
	HSPA4
	UGT1A1
	UGT2B4
	CXCL10
	FOS
	IL8
	CYCS
	TLR10
	CASP3
	BID
	TRPM7
	ADIPOQ
	SLC2A4

	SULT1A1
	MMP1
	SLC2A2
	GSK3B
	NOS2
	SP1
	BCL2
	TBK1
	EEF1A1
	CASP9
	LEPR
	ABCC5
	F3
	NR1I2
	NOS1
	CYP3A4
	HIF1A
	MAOA
	UGT2B15
	PTK2
	CYP1A2
	FOXM1
	UGT1A10
	ESR2
	IL17A
	CTNNB1
	ACACA
	UGT1A9
	ATP5C1
	ATP2A1
	SRC
	CASP8
	ARNT
	PIK3CG
	HIBCH
	MAPK8
	CYP2D6
	STAT1
	PTGS1
	NPY1R
	TLR1
	TGM2
	HIST3H3
	PARP1
	PTGS2
	RNASEL

	NR1I3
	MCL1
	CASP7
	CHUK
	GADD45A
	JUN
	CYP2C8
	VEGFA
	MMP9
	PLAU
	UGT1A5
	UGT1A7
	UGT1A8
	FNDC5
	PIM1
	TLR4
	AR
	AOX1
	ABCA1
	HSPA1A
	HCK
	ABCC4
	CYBB
	EDN1
	XDH
	CYP1A1
	AKR1C3
	NKX3-1
	PDX1
	IGFBP3
	TLR6
	CHEK2
	NFE2L2
	GSTP1
	ABCC1
	KCNMA1
	CXCR4
	CDKN2A
	DIABLO
	TNF
	ERN1
	GLRA1
	BDNF
	SLC2A1
	EIF2A
	UGT1A3

	POR
	TFAM
	FAU
	APAF1
	DIO2
	CTRL
2-Phenylethanol	TAAR1
	ADH1B
	ADH6
Hexanal	ALDH3A1
	AKR1B1
	ALDH1A1
	FOS
	CYP1A1
	ALDH7A1
Methyleugenol	GSTM1
	GSTA1
	GSTP1
Eicosane	UQCRRFS1
	MT-CYB
Decanal	ALDH2
	AKR1B1
Nonane	IL8
Nonan-1-ol	AQP8
1-Octanol	CFTR
	ADH1A
	ADH4
	ADH5
	ADH1B
	CYP4A11
	CYP4A22
	ADH6
	ADH7
Heptadecane	NOS2
Docosane	CD1B

Procyanidin	TP53
	FOXO1
	CDK1
Dehydroascorbic acid	NFKBIA
	GLRX
	RGN
	SLC23A1
	PAM
	SLC23A2
	GSTO1
	DBH
	SLC2A1
Citric acid	CYP51A1
	CPA1
	PILRA
	MIF
	SNRPD3
	SLC25A1
	ADSL
	ACO2
	PMM1
	PCK2
	IDH3G
	CENPT
	NOD1
	C8G
	PPIF
	IYD
	UMPS
	AKR7A2
	L3HYPDH
	PIN1
	MTERF
	YWHAH
	CMA1
	PGLS
	RBM39
	ACLY
	HRSP12
	KRAS
	PMP2
	FABP4
	FST

	GDF11
	USP15
	CAB39
	FDX1
	MSTN
	IDH1
	SERPINA10
	PARP12
	ACVR1
	PVRL1
	DNAJC10
	CPOX
	CAD
	BCL2A1
	PMM2
	GALNS
	TP53
	ARHGDIA
	PGD
	ARF1
	REN
	RPS27A
	CTDSP1
	BHMT
	NLGN4X
	CPB1
	DDAH1
	HS3ST3A1
	AKR1B1
	PRKAG2
	HMGCR
	IPPK
	THTPA
	ACE
	CELA1
	ALB
	DTX3L
	LSM6
	CYTH3
	FABP5
	SLC35G3
	KDM1B
	ARF6
	IDH3A
	CLEC4E
	GREM1

	RNASE3
	FASN
	HOMER2
	NUDT6
	GLUL
	F2
	ACO1
	ADAM17
	RASGRP1
	CKS1B
	AKR1A1
	RNASEH1
	PAM16
	ENPP4
	GREM2
	CA13
	TALDO1
	EBF1
	PRKAG1
	GSK3B
	MDH2
	PPM1A
	BGN
	KPNA7
	HGS
	IDH2
	RARB
	KPNA2
	SERPINA5
	HOMER1
	STRADA
	ANG
	CECR5
	KLK5
	PUM2
	PKLR
	NADK
	CS
	IL4I1
	CLYBL
	GNAI1
	DOC2B
	RNASE1
	CBS
	ACACA
	CTSL

	SEMA6A
	RNH1
	ATG7
	SND1
	PDE5A
	SERPINA1
	PTPRD
	NUDT10
	MAP1LC3C
	RIMKLB
	PRIM1
	SRC
	DNMT1
	RBM23
	AKR7A3
	FH
	MDM4
	NCF2
	QSOX1
	SERPINC1
	UCK2
	SDHC
	FCER1A
	CD1D
	EBF3
	S100A8
	S100A12
	S100A9
	SNX27
	PLEKHA1
	RTN4IP1
	CASP7
	TPBG
	GNAI3
	GBF1
	LGSN
	PGAM1
	SH2D1A
	STAU1
	PLAU
	GNMT
	SH3BGRL
	ASPN
	PROZ
	CKS2
	TNFSF13B

	APOM
	H6PD
	APRT
	DNAJC15
	ITPA
	AKR1C2
	IDH3B
	FKBP1B
	DNAJC19
	CD79B
	STEAP3
	CNP
	ZP3
	DDX39B
	NAGA
	ALKBH5
	TRPV1
	MMACHC
	HK1
	F11
	FANCL
	TF
	PUM1
	SLC13A2
	PNPT1
	RGS4
	TSTA3
	GPI
	SLC13A5
	FGFR2
	SNRPB
	MDM2
	PTPRG
	FTO
	GMPS
	WDR36
	MUC5AC
	DNM1L
	B2M
	CORO7-PAM16
Serotonin	CFTR
	HEBP1
	SCTR
	UTS2
	GNA11

	P2RY10
	DRD4
	SCT
	BDKRB1
	PROKR2
	PDYN
	OXT
	MLNR
	RAB3A
	C5
	PPY
	CXCL6
	GNRHR
	GRM6
	KISS1R
	OPRD1
	RGS2
	GHRH
	TAS2R8
	TAS2R10
	IAPP
	TAS2R7
	TAS2R9
	KALRN
	GHSR
	NPY
	MC3R
	PTGER2
	C3
	GNRH2
	S1PR4
	FFAR2
	FFAR1
	CCR7
	TAS2R3
	TAS2R4
	TAS2R5
	F2RL3
	MCHR1
	GALR3
	TAS2R16
	TPH1
	AANAT
	ADCY7
	SNAP25
	SSTR4

	NMUR2
	CHRM3
	NTS
	GRP
	HRH4
	MTNR1B
	APLNR
	ANXA1
	NMBR
	HTR2B
	CCL21
	CCL27
	HTR3B
	PLCB2
	ADCY3
	SYT1
	SLC6A4
	VIPR2
	GLP2R
	GNA15
	PIK3CA
	NMU
	POMC
	KNG1
	OPRK1
	GAL
	NPFF
	SSTR1
	GPR65
	SLC6A3
	PTH2
	PROK1
	GPR17
	PTH2R
	ACKR3
	AGTR1
	PIK3R1
	TAAR1
	HTR2C
	SLC18A1
	GNRH1
	CRH
	NPFFR1
	ADM
	PLCB3
	ADRA2A

	MCHR2
	CYSLTR2
	PTH
	GRM1
	APP
	ADCY8
	GNAQ
	CXCL13
	SST
	PPARG
	HTR5A
	HTR6
	PTGIR
	CXCR5
	CCR2
	CCR5
	PTGER1
	CCL5
	CCL16
	HCRT
	CXCL16
	SSTR5
	ADCY9
	LHCGR
	KCNJ3
	CCKAR
	PROK2
	CXCR1
	CXCL3
	CXCL5
	PPBP
	CCR1
	F2RL2
	F2RL1
	SLC29A4
	RGS20
	ADCY1
	GPER1
	TSHR
	RXFP2
	OXGR1
	SLC18A2
	AVPR1A
	GALR1
	MC4R
	TAC3

	PNOC
	PTAFR
	C3AR1
	FPR1
	MTNR1A
	PTGER4
	UGT1A6
	RXFP1
	TACR3
	PTGDR
	TRH
	TACR1
	NTSR2
	PROKR1
	CXCR6
	ADORA2B
	P2RY1
	ADRB2
	S1PR1
	APLN
	CPLX1
	CXCL10
	NMUR1
	DRD5
	GRM5
	CHRM1
	IL8
	ADRA1B
	CXCL11
	P2RY12
	LTB4R
	BDKRB2
	HTR1E
	NPFFR2
	P2RY14
	ADORA1
	CCL19
	GPRC6A
	P2RY6
	TRHR
	P2RY2
	XCR1
	ADCY6
	ADCY4
	ADRBK1
	GNAI2

	HTR1D
	VAMP2
	EDNRA
	HTR1A
	MC5R
	CXCR2
	GPR4
	CHRM2
	GHRHR
	P2RY13
	TAC1
	F2R
	SULT1A1
	PTH1R
	HTR3C
	HTR1F
	UTS2R
	PENK
	OXTR
	GSK3B
	CCR8
	VIPR1
	TAS2R60
	LPAR5
	FFAR3
	S1PR5
	RXFP3
	GPR132
	TPH2
	GALR2
	NPW
	SSTR3
	NPBWR1
	GAST
	CALCA
	PMCH
	CCR10
	NPY2R
	CCR4
	NPB
	PTGDR2
	RGS19
	MC2R
	TAS2R42
	PLCB4

	GNG2
	HTR3E
	CCKBR
	CCK
	ADORA2A
	OPRL1
	EDN3
	HTR7
	AVPR2
	PLCB1
	SULT1A2
	TRIO
	NPY5R
	CCR6
	FPR2
	UTS2B
	MAOA
	CRHR2
	FPR3
	HRH3
	ADCY2
	GNAI1
	GPR18
	SULT1A3
	ADRB3
	GRM8
	LPAR6
	QRFP
	CALCB
	C5AR1
	HTR3A
	SAA1
	PTGER3
	HCAR1
	GIP
	SSTR2
	CCR9
	GRM7
	DDC
	S1PR3
	CCL20
	LPAR1
	CALCR
	NPSR1
	PYY

	HTR4
	CCL28
	NPY1R
	DRD2
	CXCL9
	SUCNR1
	GRM3
	RGS7
	AGT
	SLC22A2
	KISS1
	VIP
	RGS1
	RGS18
	XCL1
	XCL2
	RXFP4
	RGS10
	ADRB1
	CNR1
	ADORA3
	NPBWR2
	GNAI3
	HTR1B
	NTSR1
	LPAR3
	PTGFR
	HCRTR2
	GNAS
	AGTR2
	OPN4
	EDN2
	GLP1R
	CYSLTR1
	TACR2
	CXCR3
	HCRTR1
	GRM4
	NPY4R
	CNR2
	P2RY4
	GNA14
	NMS
	EDNRB

	HRH2
	MAOB
	OXER1
	HTR2A
	EDN1
	ADRA1D
	GRPR
	AVP
	ADRA1A
	ASMT
	HTR3D
	TAS2R1
	CHRM5
	DRD3
	HCAR2
	CCL25
	TAS2R19
	TAS2R31
	TAS2R13
	GPR55
	GRK5
	QRFPR
	NMB
	GRM2
	ADM2
	CXCL1
	CXCL12
	PTHLH
	ADCYAP1R1
	HRH1
	NPS
	CRHR1
	GNAT3
	GCGR
	LPAR2
	FSHR
	ADRA2C
	TAS2R41
	TAS2R40
	RGS14
	CXCR4
	ADRA2B
	GCG
	MLN
	TBXA2R

	OPRM1
	RGS4
	TAS2R39
	CHRM4
	ADCYAP1
	ADCY5
	CASR
	TAS2R50
	CXCL2
	RIMS1
	GPBAR1
	IDO1
	TAS2R43
	LTB4R2
	GPR68
	TAS2R46
	HCAR3
	CCR3
	TAS2R20
	TAS2R14
	IDO2
	TAS2R30
	TAS2R38
	RGS6
	MC1R
	INMT-FAM188B
	S1PR2
	GIPR
	MTRNR2L12
Myricetin	SIRT1
	ARHGDIIB
	CYP1B1
	CYP2C9
	SCARB1
	SCARB2
	AKT1
	CD36
	CASP3
	SLC2A2
	CASP9
	CYP3A4
	FYN
	PIK3CG
	DNMT1
	PARP1

	ABCC2
	PIM1
	ALOX5
	BMP2
	CYP1A1
	ABCC1
	PARG
	AMY2A
	TOP2A
	SLC2A1
Ellagic acid	CA12
	CSNK2A1
	MMP2
	RETN
	CCL2
	IL4
	F12
	CA1
	TYR
	SQLE
	PGD
	TMPRSS11D
	CA2
	CA3
	NOS3
	CA4
	PRKCB
	PRKACA
	CA5A
	CASP3
	CA5B
	CA7
	NR1I3
	CA14
	SYK
	CA6
	CA9
	NME1-NME2
	NME2
	G6PD
	PARG
	PRKCA
Palmitic acid	TRAPPC6A
	UTS2

	GNA11
	P2RY10
	FAR2
	SIRT1
	MAPK1
	XBP1
	BDKRB1
	TRIB3
	PROKR2
	OXT
	ACOT8
	TBL1X
	MLNR
	FDFT1
	SULT2A1
	COMP
	NRF1
	RPS6KB1
	MED31
	CCL2
	GNRHR
	APOA5
	APOC3
	MAPK14
	RBP2
	RBP1
	EIF2AK2
	APOB
	KISS1R
	RGS2
	APOA1
	ACOT2
	EGR1
	NFYB
	KALRN
	GHSR
	LRP1
	BMP4
	GNRH2
	FFAR2
	FFAR1
	F2RL3
	MCHR1
	INS
	MED17
	APOE

	SLC27A1
	ACSBG2
	ACLY
	SDC1
	NMUR2
	CHRM3
	MED10
	NTS
	PMP2
	FABP4
	MED6
	SORT1
	GRP
	ANXA1
	HRK
	NMBR
	HTR2B
	MED4
	IL6
	ACSBG1
	BAAT
	CLPS
	TLR2
	TGS1
	PLCB2
	TBC1D1
	RORA
	SCARB1
	SMARCD3
	RPE65
	CREBBP
	PPARA
	GNA15
	MAPK3
	MED15
	EP300
	NOX4
	IL1B
	MED26
	LRP2
	PIK3CA
	GPC1
	AGPS
	NMU
	PPARGC1A
	SCARB2

	KNG1
	CASP6
	MED20
	CPT1A
	ABCB4
	GLIPR1
	NPFF
	GPR65
	SLC27A2
	RLBP1
	ITGAX
	MED9
	NCOR1
	TP53
	AKT1
	PROK1
	REN
	GPR17
	AGTR1
	FABP2
	PIK3R1
	HTR2C
	GNRH1
	TNFRSF10B
	PLIN2
	PAEP
	NPFFR1
	PLCB3
	ACSL1
	MCHR2
	MED13L
	CYSLTR2
	YAP1
	GRM1
	MED21
	APP
	MED7
	GNAQ
	PPARG
	HMGCR
	MED8
	MED27
	GPC2
	PTGER1
	LTC4S
	HCRT

	MED11
	CCKAR
	PROK2
	FABP1
	ALB
	RHO
	F2RL2
	F2RL1
	TNFRSF21
	ACSL6
	FABP5
	MED30
	NOS3
	INPPL1
	AVPR1A
	CLEC4E
	PEX11A
	TAC3
	MED1
	LALBA
	ANGPTL4
	CYP7A1
	PTAFR
	IGF1
	TRAPPC1
	HDAC3
	RGL1
	TACR3
	TRH
	TACR1
	LRP8
	NTSR2
	PROKR1
	FASN
	P2RY1
	IRS1
	NMUR1
	GRM5
	CHRM1
	IL8
	ADRA1B
	SDC2
	LTB4R
	BDKRB2
	CYCS
	NPFFR2

	PCSK1
	CD36
	CLOCK
	ALAS1
	GPRC6A
	P2RY6
	TRHR
	RAB1B
	P2RY2
	XCR1
	TEAD2
	CYP4A11
	ACOT1
	UCP2
	CPT1B
	ADRBK1
	PLA2G1B
	PPARGC1B
	MED29
	EDNRA
	SEC14L2
	DEGS1
	TRAPPC5
	CES2
	GPR4
	LYPLA1
	ADIPOQ
	NCOA1
	TAC1
	F2R
	FADS1
	HMGCS1
	FHL2
	ACOT4
	UTS2R
	SLC2A2
	MED14
	OXTR
	CYP2B6
	GRHL1
	MED16
	CARM1
	MED25
	NOS2
	TIAM2
	LPAR5

	FFAR3
	GPR132
	SP1
	BCL2
	TRAPPC6B
	PLB1
	GAST
	PMCH
	RGS19
	PLCB4
	GNG2
	CCKBR
	CCK
	ATF4
	EDN3
	LRAT
	MED19
	NOS1
	HIF1A
	PLCB1
	NPAS2
	TRIO
	FOXO3
	THBS4
	ACSL4
	FPR2
	UTS2B
	ACACB
	MED22
	PTGES
	LPAR6
	CTNNB1
	SDC3
	ACACA
	QRFP
	NFYA
	TEAD3
	GPX4
	UGT1A9
	FAR1
	SREBF1
	ACSL5
	SAA1
	GIP
	ACSL3

	GOLGA7
	APOA4
	LPAR1
	PPP2R4
	NCOA6
	NPSR1
	TEAD4
	NR4A1
	MAPK8
	SIN3A
	CES1
	WWTR1
	SREBF2
	MTOR
	GPX6
	TEAD1
	PPT2
	GPX7
	GNPAT
	AGT
	COG2
	G0S2
	KISS1
	RGS18
	PTGS2
	XCL1
	XCL2
	ATF6
	CTGF
	APOA2
	MED23
	CD1D
	THBS3
	TRAPP3L
	CDK19
	PNLIP
	TXNIP
	HMGCS2
	ME1
	SCD
	NTSR1
	LPAR3
	PTGFR
	GPC4
	HCRT2

	CYP2C8
	FFAR4
	CPT2
	PTPN1
	PTGDS
	ANKRD1
	PTEN
	NCOA3
	OPN4
	EDN2
	SDC4
	TRAPP3
	GLP1R
	CYSLTR1
	TACR2
	HCRTR1
	FABP3
	MED18
	TLR4
	MED12
	UGCG
	HSPG2
	SLC44A1
	ABCA1
	GNA14
	NMS
	GPC6
	GPC5
	EDNRB
	ACOT7
	CASK
	ACBD7
	OLAH
	HTR2A
	AGRIN
	EDN1
	ADRA1D
	CYP1A1
	PDHA1
	GRPR
	AVP
	ADRA1A
	PDX1
	CDK8

	CHRM5
	GPX3
	GPX2
	ARNTL
	GRK5
	MED24
	GPC3
	QRFPR
	NMB
	HNF4G
	HRH1
	MED13
	NPS
	GCGR
	NCOR2
	RELA
	LPAR2
	MYO7A
	RAB1A
	GCG
	CREB1
	MLN
	MAPK9
	GPX5
	TRAPPC2
	TBXA2R
	PPT1
	NFYC
	TNF
	NCOA2
	TBL1XR1
	GPX1
	ACADM
	HELZ2
	RXRA
	CASR
	CES5A
	CCNC
	LTB4R2
	GPR68
	TXNRD1
	TRAPPC4
	DBI
	TRAPPC2P1
	CES4A
	FKBP11

	DNM1L
	B2M
	LDLR
	CHD9
	MTRNR2L12
Isorhamnetin	HMOX1
	PON2
	CYP1B1
	ABCB1
	AKT1
	NOS2
	PRKCD
	MAPK8
	CYP1A1
	ABCC1
	MAPK9
beta-Carotene	MAPK1
	LOX
	RBP2
	BCMO1
	SCARB1
	MAPK3
	TMPRSS11D
	UQCRFS1
	ISX
	NR1I2
	CYP3A4
	FN1
	BCO2
	MT-CYB
	CYP1A1
Epigallocatechin	HMOX1
	SLC2A4
	LDHA
Ferulic acid	MAPK1
	DECR1
	MAPK3
	TYR
	RB1
	PGD
	CYCS
	CYP1A2

	UGT1A10
	UGT1A7
	UGT1A8
	CYP1A1
	G6PD
	DHFR
	UGT1A3
	ERVFRD-1
Oleanolic acid	NAMPT
	PPARA
	UGT2B10
	PTGIR
	CASP3
	NQO1
	CYP3A4
	CYP1A2
	HMGB1
	CASP8
	TOP1
	NFE2L2
	UGT2B11
	TOP2A
Caffeic acid	MIF
	MAPK1
	MPO
	HAL
	TYR
	PGD
	ALOX15
	SULT1C2
	SULT1A1
	SULT1A2
	SULT1A3
	UGT1A10
	MAPK8
	COMT
	UGT1A7
	UGT1A8
	ALOX5
	SLC22A6
	G6PD
	UGT1A3
4-Hydroxycinnamic acid	MPO

	EPX
	HAL
	LPO
	TYR
	PTGR1
	TPO
	SULT1A1
	CYP1A2
	CYP1A1
Gallic acid	MMP2
	SERPINE1
	MPO
	APOB
	TYR
	ABCB1
	AKT1
	RHOB
	ATM
	EIF2AK3
	CASP3
	UGT2B17
	SULT1A1
	CASP7
	CHUK
	JUN
	MMP9
	GATA3
	PRKCA
Rutin	MAPK1
	GSR
	CCL2
	AHR
	CYP1B1
	ALDH2
	MAPK3
	FGF2
	EGFR
	TMPRSS11D
	HSPA4
	CXCL10
	IL8
	CASP3
	NOS2
	P4HB

	SREBF1
	ARNT
	CTGF
	CASP7
	PRNP
	AKR1C3
Pentadecane	GLTP
Tridecane	MT-CO1
	MT-CO2
1-Heptanol	CFTR
	PANX1
Naphthalene	CYP3A5
	RPS6KB1
	AHR
	CYP4F11
	CYP1B1
	ABCB1
	ADRA2A
	CYP2C18
	CYP2A7
	CYP2S1
	CYP4F12
	NPY2R
	CYP2A13
	CYP2F1
	CYP4Z1
	CYP3A7
	NPY5R
	CYP1A2
	CYP2D6
	NPY1R
	CYP2J2
	CYP2C8
	CYP4X1
	CYP4B1
	CYP1A1
	ADRA2C
	ADRA2B
	EIF4E
Tannic acid	SI
	ANO1

alpha-Pinene	CYP2B6
	LHFPL5
Astragalin	PTGS2
Benzaldehyde	ALDH3A1
	ALDH2
	CES2
	MMP1
Eucalyptol	CYP3A5
	TRPA1
	TRPM8
	CYP3A4
beta-Elemene	CASP3
Tetradecane	LSS
4-Carvomenthenol	BCHE
Farnesol	FDFT1
	UGT1A6
	UGT2B7
	UGT1A1
	UGT2B4
	CASP3
	UGT1A9
	AKR1B10
	UGT1A4
	MAOB
	AKR1C3
	UGT1A3
Citral	TRPA1
	IL8
	FOXP3
	AKR1C2
Linalool	TP53
	NOS1
p-Menth-3-one	TNF
Nerol	TRPA1

	TRPV1
Geraniol	CDK2
Limonene	CYP2C9
	PPARG
	NOS1
	CYP2C19
Quercitrin	CYP1B1
	AKR1B1
	CYP3A4
	RPS6KA3
	CYP1A1
	RPS6KA1
Menthol	TRPM4
	TRPA1
	P2RX3
	OPRK1
	TMPRSS11D
	TRPM2
	UGT2B7
	CASP3
	TRPM8
	ATF3
	HTR3A
	MAPK8
	TOP1
	TRPV1
	UGT2B11
	TOP2B
	TOP2A
	TRPV3
Ursolic acid	Target
	EIF2S1
	AKT1
	AIFM1
	EIF2AK3
	CASP3
	BCL2
	CTNNB1
	ACACA
	CASP8

	BAK1
	TOP1
	MTOR
	PARP1
	CYP2C19
	ERN1
	TOP2A
Benzyl Alcohol	Target
	LYZ
	AKR1B1
	CES2
	CES1
	CES5A
	CES4A
Stearyl alcohol	Target
	PTGDR
Acetophenone	Target
	ALPP
Heptanal	Target
	AKR1B1
Dodecane	Target
	CD1B
	CD1C
	CD1D
	CPT2
	B2M
D-Limonene	Target
	CYP2C9
	PPARG
	CYP2C19
beta-D-Glucose	Target
	SLC2A3
	LGALS2
	LGALS1
	NFKBIA
	GLA
	GCK

	C5
	MPO
	CCL2
	EFNB3
	IL12B
	IL5
	LTF
	CAT
	TNFAIP6
	RGN
	G6PC
	LGALS3
	SLC14A2
	IL5RA
	IL6
	GYS2
	TRPV4
	SERPINA10
	SCARF1
	C6
	TREH
	LCT
	NRXN2
	G6PC3
	GALM
	HK2
	FCN2
	FLAD1
	HK3
	AGL
	FCGR3B
	MASP1
	LALBA
	NUDT9
	GAA
	IL8
	OGG1
	GLB1
	CD36
	F2
	LGALS8
	B4GALT2
	ADPGK
	LGALS7B

	GBA
	CD209
	GYS1
	HSPH1
	CALR
	SIGLEC7
	AMY1B
	HHIPL1
	F3
	HSP90AA1
	NRXN3
	HHIPL2
	HKDC1
	PHF8
	DNMT1
	AMY2B
	PTGS1
	SYT2
	F5
	CD1D
	ADAMTS13
	G6PC2
	PROZ
	F7
	H6PD
	GBA2
	B4GALT1
	IFNB1
	GXYLT2
	LGALS9
	NAGA
	GNE
	GXYLT1
	COLEC12
	ZG16
	HYOU1
	HK1
	NRXN1
	TF
	CD207
	SLC14A1
	GLB1L3
	AMY2A
	TNF

	GBE1
	IL10
	MGAM
	B2M
Strychnine	Target
	HEBP1
	DRD4
	BDKRB1
	PDYN
	C5
	PPY
	CXCL6
	GRM6
	OPRD1
	TAS2R8
	TAS2R10
	TAS2R7
	TAS2R9
	NPY
	C3
	S1PR4
	CCR7
	TAS2R3
	TAS2R4
	TAS2R5
	MCHR1
	GALR3
	TAS2R16
	ADCY7
	SSTR4
	NMUR2
	HRH4
	MTNR1B
	APLNR
	ANXA1
	CCL21
	CCL27
	ADCY3
	NMU
	POMC

	KNG1
	OPRK1
	GAL
	SSTR1
	GPR17
	ACKR3
	ADRA2A
	MCHR2
	APP
	ADCY8
	CXCL13
	SST
	HTR5A
	CXCR5
	CCR2
	CCR5
	CCL5
	CCL16
	CXCL16
	SSTR5
	ADCY9
	CXCR1
	CXCL3
	CXCL5
	PPBP
	CCR1
	RGS20
	ADCY1
	GPER1
	OXGR1
	GALR1
	PNOC
	C3AR1
	FPR1
	MTNR1A
	CXCR6
	S1PR1
	APLN
	CXCL10
	NMUR1
	IL8
	CXCL11
	P2RY12
	BDKRB2

	HTR1E
	P2RY14
	ADORA1
	CCL19
	ADCY6
	ADCY4
	GNAI2
	HTR1D
	HTR1A
	CXCR2
	CHRM2
	P2RY13
	HTR1F
	PENK
	CCR8
	TAS2R60
	LPAR5
	S1PR5
	RXFP3
	GALR2
	NPW
	SSTR3
	NPBWR1
	PMCH
	CCR10
	NPY2R
	CCR4
	NPB
	PTGDR2
	RGS19
	TAS2R42
	GNG2
	OPRL1
	NPY5R
	CCR6
	FPR2
	FPR3
	HRH3
	ADCY2
	GNAI1
	GPR18
	GRM8
	C5AR1
	SAA1

	PTGER3
	HCAR1
	SSTR2
	CCR9
	GRM7
	S1PR3
	CCL20
	LPAR1
	PYY
	CCL28
	NPY1R
	DRD2
	CXCL9
	SUCNR1
	GRM3
	RGS7
	AGT
	RGS1
	RGS18
	RXFP4
	RGS10
	CNR1
	ADORA3
	NPBWR2
	GNAI3
	HTR1B
	LPAR3
	AGTR2
	CXCR3
	GRM4
	NPY4R
	CNR2
	P2RY4
	NMS
	OXER1
	TAS2R1
	DRD3
	GARS
	HCAR2
	CCL25
	TAS2R19
	TAS2R31
	TAS2R13

	GPR55
	GRM2
	CXCL1
	CXCL12
	GNAT3
	LPAR2
	ADRA2C
	TAS2R41
	TAS2R40
	RGS14
	CXCR4
	ADRA2B
	OPRM1
	RGS4
	TAS2R39
	CHRM4
	GLRA1
	ADCY5
	CASR
	TAS2R50
	CXCL2
	TAS2R43
	TAS2R46
	HCAR3
	CCR3
	TAS2R20
	TAS2R14
	TAS2R30
	TAS2R38
	RGS6
	S1PR2
	MTRNR2L12
Allantoin	Target
	TTR
	SLC2A4
	URAD
2,5-Dihydroxybenzoic acid	Target
	CA2
	SULT1A1
	FGF1
	AOX1

	G6PD
Oleic acid	Target
	UTS2
	GNA11
	P2RY10
	CTSG
	BDKRB1
	PROKR2
	OXT
	MLNR
	RETN
	COMP
	PON1
	GNRHR
	APOC3
	RBP1
	APOB
	KISS1R
	RGS2
	APOA1
	TTR
	ABCG2
	ACOT2
	KALRN
	CAT
	GHSR
	LRP1
	FAAH
	GNRH2
	FFAR2
	FFAR1
	F2RL3
	MCHR1
	APOE
	SLC27A1
	RARA
	SDC1
	NMUR2
	CHRM3
	NTS
	PMP2
	FABP4
	GRP

	ANXA1
	NMBR
	HTR2B
	BAAT
	PLCB2
	RPE65
	SLC27A6
	PPARA
	GNA15
	IL1A
	LRP2
	PIK3CA
	GPC1
	NMU
	STAT3
	ICAM1
	PPARGC1A
	KNG1
	NPFF
	RB1
	GPR65
	PROK1
	GPR17
	AGTR1
	FABP2
	PIK3R1
	HTR2C
	GNRH1
	LCN2
	PAEP
	NPFFR1
	FADS2
	PLCB3
	ACSL1
	MCHR2
	CYSLTR2
	GRM1
	APP
	GNAQ
	PPARG
	ACSM3
	GPC2
	PTGER1
	HCRT

	CCKAR
	PROK2
	FABP1
	ALB
	F2RL2
	F2RL1
	ACSL6
	AVPR1A
	TAC3
	SLC27A4
	ACSM1
	PTAFR
	TACR3
	TRH
	TACR1
	LRP8
	NTSR2
	PROKR1
	RAC3
	P2RY1
	PRKCB
	NMUR1
	GRM5
	CHRM1
	ADRA1B
	SDC2
	LTB4R
	BDKRB2
	FADS6
	NPFFR2
	PCSK1
	HLTF
	GPRC6A
	LPL
	P2RY6
	TRHR
	P2RY2
	XCR1
	CASP3
	CYP4A11
	ACOT1
	UCP2
	ADRBK1
	EDNRA

	GLTP
	DEGS1
	GPR4
	CIDEA
	TAC1
	F2R
	ACOT4
	UTS2R
	OXTR
	LPAR5
	ACSM5
	FFAR3
	GPR132
	GAST
	PMCH
	RGS19
	PLCB4
	GNG2
	CCKBR
	CCK
	ATF4
	CHAT
	EDN3
	LRAT
	DCX
	PLCB1
	CAV1
	TRIO
	THBS4
	ACSL4
	NAPEPLD
	FPR2
	C10orf129
	UTS2B
	LPAR6
	SDC3
	QRFP
	ACSL5
	RAC1
	SAA1
	GM2A
	GIP
	ACSL3

	APOA4
	LPAR1
	NPSR1
	AGT
	PARP1
	KISS1
	RGS18
	XCL1
	XCL2
	APOA2
	THBS3
	FABP7
	MCL1
	TXNIP
	SCD
	NTSR1
	LPAR3
	PTGFR
	GPC4
	HCRTR2
	RBP4
	FFAR4
	PTGDS
	CYP4A22
	OPN4
	EDN2
	SDC4
	ANXA7
	CYSLTR1
	TACR2
	HCRTR1
	FABP3
	HSPG2
	ABCA1
	FAAH2
	GNA14
	NMS
	GPC6
	GPC5
	EDNRB
	ACOT7
	OLAH

	HTR2A
	AGRN
	EDN1
	ADRA1D
	GRPR
	AVP
	ADRA1A
	CHRM5
	GRK5
	GPC3
	QRFPR
	NMB
	HRH1
	NPS
	ACSM4
	GCGR
	LPAR2
	CEBPD
	MYO7A
	GCG
	MLN
	TBXA2R
	CD44
	TNF
	BDNF
	RXRA
	CASR
	GC
	CEBPA
	LTB4R2
	GPR68
	NUCB2
	DDIT3
	LDLR
	MTRNR2L12
Campesterol	Target
	ABCG8
	HSD3B2
	DHCR24
2-Heptanone	Target

	GSTP1
Estragole	Target
	CYP2E1
	CYP2A6
	CYP1A2
Undecanal	Target
	OR1D2
2-Hexenal	Target
	ALDH3A1
	AKR1B1
	AKR1B10
(-)-cis-Carveol	Target
	CYP2C19
Carveol	Target
	CYP2C9
	CYP2C19
Camphor	Target
	HEBP1
	DRD4
	BDKRB1
	PDYN
	C5
	PPY
	CXCL6
	GRM6
	OPRD1
	TAS2R8
	TAS2R10
	TAS2R7
	TAS2R9
	NPY
	C3
	S1PR4
	CCR7
	TAS2R3
	TAS2R4
	TAS2R5
	MCHR1

	GALR3
	TAS2R16
	ADCY7
	SSTR4
	NMUR2
	HRH4
	MTNR1B
	APLNR
	ANXA1
	CCL21
	CCL27
	ADCY3
	TRPA1
	NMU
	POMC
	KNG1
	OPRK1
	GAL
	SSTR1
	GPR17
	ACKR3
	ADRA2A
	MCHR2
	APP
	ADCY8
	CXCL13
	SST
	HTR5A
	CXCR5
	CCR2
	CCR5
	CCL5
	CCL16
	CXCL16
	SSTR5
	ADCY9
	CXCR1
	CXCL3
	CXCL5
	PPBP
	CCR1
	RGS20
	ADCY1
	GPER1

	OXGR1
	GALR1
	PNOc
	C3AR1
	FPR1
	MTNR1A
	CXCR6
	S1PR1
	APLN
	CXCL10
	NMUR1
	IL8
	CXCL11
	P2RY12
	BDKRB2
	HTR1E
	P2RY14
	ADORA1
	CCL19
	ADCY6
	ADCY4
	GNAI2
	HTR1D
	HTR1A
	CXCR2
	CHRM2
	P2RY13
	HTR1F
	PENK
	CCR8
	TAS2R60
	LPAR5
	S1PR5
	RXFP3
	GALR2
	NPW
	SSTR3
	NPBWR1
	PMCH
	CCR10
	NPY2R
	CCR4
	NPB
	PTGDR2

	RGS19
	TAS2R42
	GNG2
	OPRL1
	NPY5R
	CCR6
	FPR2
	CYB5A
	FPR3
	HRH3
	ADCY2
	GNAI1
	GPR18
	GRM8
	C5AR1
	SAA1
	PTGER3
	HCAR1
	SSTR2
	CCR9
	GRM7
	S1PR3
	CCL20
	LPAR1
	PYY
	CCL28
	NPY1R
	DRD2
	CXCL9
	SUCNR1
	GRM3
	RGS7
	AGT
	RGS1
	RGS18
	RXFP4
	RGS10
	CNR1
	ADORA3
	NPBWR2
	GNAI3
	HTR1B
	LPAR3
	AGTR2

	CXCR3
	GRM4
	NPY4R
	CNR2
	P2RY4
	NMS
	OXER1
	TAS2R1
	DRD3
	HCAR2
	CCL25
	TAS2R19
	TAS2R31
	TAS2R13
	GPR55
	GRM2
	CXCL1
	CXCL12
	GNAT3
	TRPV1
	LPAR2
	ADRA2C
	TAS2R41
	TAS2R40
	RGS14
	CXCR4
	ADRA2B
	OPRM1
	RGS4
	TAS2R39
	CHRM4
	ADCY5
	CASR
	TAS2R50
	CXCL2
	TAS2R43
	TAS2R46
	HCAR3
	CCR3
	TAS2R20
	TAS2R14
	TAS2R30
	TAS2R38

	RGS6
	TRPV3
	S1PR2
	MTRNR2L12
Camphepane	Target
	ADIPOQ
Procyanidin	Target
	TP53
	FOXO1
	CDK1
Resveratrol	CFTR
	CD4
	ERCC1
	NFE2L3
	TNS1
	TFAP2C
	SIRT4
	ESR1
	SIRT1
	MAPK1
	XBP1
	HMOX1
	APEX1
	PCK2
	NFKBIA
	EEF1A2
	CSNK2A1
	MMP2
	GSR
	TNFRSF10A
	CYP4F2
	TGFB1
	GSK3A
	PON1
	NAMPT
	SERPINE1
	NRF1
	C5
	RPS6KB1
	CCL2

	SULT1E1
	NFKB1
	CCND1
	GLI1
	LTA4H
	IFNG
	NANOG
	MAPK14
	APOB
	ODC1
	CTSD
	EGR1
	IAPP
	CAT
	TNFSF10
	AHR
	NPY
	CD97
	PLCG1
	CDKN1A
	VASP
	KLF2
	HSPB1
	SIRT2
	INS
	ALOX12
	BST2
	GDF15
	JUND
	CYP2E1
	TRIM28
	SESN2
	KRAS
	EIF2S1
	CDK4
	IL6
	TLR2
	MMP13
	CYP19A1
	CYP1B1
	CYP2C9
	LMNB1
	HEXB
	CDH1

	ATP5B
	ATF1
	SMAD2
	TRPA1
	VMP1
	PPARA
	MAPK3
	TYR
	IL1B
	ELANE
	KDR
	ATF2
	STAT3
	POMC
	TP63
	ICAM1
	PPARGC1A
	ANXA3
	SDHA
	CASP6
	EGF
	VDAC1
	NBN
	CDK2
	RB1
	IGF1R
	CYP11A1
	TP53
	ERBB2
	AKT1
	PDE4A
	AGTR1
	EGFR
	TNFRSF10B
	NOTCH1
	ADM
	PAK1
	ATM
	PDCD4
	IL18
	ATP5A1
	FLT1
	YAP1
	TMPRSS11D

	APP
	CASP10
	AIFM1
	PPARG
	HMGCR
	ACE
	S100B
	CCR2
	BAX
	VCAM1
	ALPPL2
	MITF
	IL15
	NOS3
	ALDH1A1
	SCNN1G
	PELP1
	FADD
	CCL11
	MAP2K1
	BCL2L1
	IGF1
	HSPA4
	HSPB3
	UGT1A1
	IL13
	CEBPB
	CXCL10
	SMAD1
	FOS
	IL8
	EIF2AK3
	RPTOR
	SULT1B1
	OLR1
	CASP3
	CFLAR
	LEP
	CASP2
	SPHK1
	KLK3
	CD209
	BID
	AGTRAP

	NQO1
	PCK1
	PKM
	ADIPOQ
	SLC2A4
	CDC25C
	ETV4
	SULT1A1
	SMC1A
	SOX2
	GSK3B
	STK11
	PGR
	MAT2B
	NOS2
	DNMT3B
	SP1
	SIRT7
	BCL2
	CASP9
	SOCS3
	PDGFB
	CD86
	SMAD3
	PRKD1
	BSG
	ABCC5
	NR1I2
	SIRT6
	NOS1
	PNPLA2
	NQO2
	CYP3A4
	HTR7
	HIF1A
	EIF4G1
	SULT1A2
	CAV1
	FOXO3
	EIF4EBP1
	PTPN11
	ACACB
	PTK2
	CYP1A2

	CS
	PTGES
	SULT1A3
	UGT1A10
	ESR2
	ATF3
	CTNNB1
	ACACA
	PFKM
	PRKAA1
	UGT1A9
	PDE5A
	FAS
	SREBF1
	ATP5C1
	DAPK1
	SRC
	CASP8
	ARNT
	MAP3K5
	PIK3CG
	DNMT1
	TFRC
	SCNN1A
	MAPK8
	MME
	CYP2D6
	BAK1
	SREBF2
	MTOR
	PTGS1
	NFE2L1
	ABCG1
	BECN1
	TGM2
	AGT
	PARP1
	SOD2
	PTGS2
	FASLG
	NR1I3
	BGLAP
	LMNA
	AMD1

	MCL1
	CASP7
	CYP17A1
	JUN
	PRKAA2
	CYP2C19
	PTPN1
	PTEN
	NCOA3
	VEGFA
	CEL
	MMP9
	SPTAN1
	PLAU
	DNM1
	UGT1A7
	UGT1A8
	TLR4
	FOXO4
	AR
	ALPL
	ECE1
	H2AFX
	SYK
	ABCC4
	MYC
	TP73
	ATAD3A
	NPHS1
	SIRT5
	EDN1
	PRNP
	FOXO1
	TFAP2A
	CYP1A1
	SMAD9
	RPS6
	JAK2
	CHEK2
	SIRT3
	GPX3
	STAB2
	ALPP
	CUL5

	BCL2L11
	CDK1
	CXCL1
	NFE2L2
	KHSRP
	ABCC1
	RELA
	ELAVL1
	ACAN
	CREB1
	CASP4
	MAPK9
	IGF2
	TBXA2R
	TNF
	MYD88
	WEE1
	GPX1
	PRKCA
	TOP2A
	IL10
	GABRR1
	BDNF
	SERPINE2
	CDK5
	HDAC2
	HSF1
	TXNRD1
	RPS6KA1
	SMAD5
	DIO2
	LDLR
	HSPB2-C11orf52
Dehydroascorbic acid	Target
	NFKBIA
	GLRX
	RGN
	SLC23A1
	PAM
	SLC23A2
	GSTO1
	DBH
	SLC2A1

Harman	Target
	CYP1A1
2,3-Butanedione	Target
	ACLY
	B3GAT3
	AKR1B1
	ALPPL2
	AKR1A1
	BPGM
	AKR1B10
	PGAM1
	ALPL
	ALPP
Pentanal	Target
	AKR1B1
	PRKACA
	PRKACB
Harmol	Target
	CASP3
	SULT1A3
	CYP1A1
Astragalin	Target
	PTGS2
Isoamyl alcohol	Target
	REN
	ADH1B
	CYP3A4
	ADH6
Tetradecanal	Target
	RCVRN
2,4-Decadienal	Target
	AKR1B1
Hexadecanal	Target
	FAR2
	RHO

	PTGR1
	FAR1
	SGPL1
	DBI
Benzyl acetate	Target
	PPP3CA
Benzothiazole	Target
	F2
	CYP1A1
Naphthalene	Target
	CYP3A5
	RPS6KB1
	AHR
	CYP4F11
	CYP1B1
	ABCB1
	ADRA2A
	CYP2C18
	CYP2A7
	CYP2S1
	CYP4F12
	NPY2R
	CYP2A13
	CYP2F1
	CYP4Z1
	CYP3A7
	NPY5R
	CYP1A2
	CYP2D6
	NPY1R
	CYP2J2
	CYP2C8
	CYP4X1
	CYP4B1
	CYP1A1
	ADRA2C
	ADRA2B
	EIF4E
Ethylbenzene	Target
	CRK

	CRKL
	MAOB
	GSTP1
Tiliroside	Target
	ADIPOR1
alpha-Eudesmol	Target
	CACNA1A
Afzelin	Target
	RPS6KA3
	RPS6KA1
Acetone	Target
	CPA1
	CAT
	CYP2E1
	EP300
	CELA1
	CYP2A6
	ADH1B
	CYP2S1
	CYP2U1
	CYP4X1
o-Xylene	Target
	CYP2E1
	CYP2A6
p-Menthan-3-one	Target
	TNF
Menthol	Target
	TRPM4
	TRPA1
	P2RX3
	OPRK1
	TMPRSS11D
	TRPM2
	UGT2B7
	CASP3
	TRPM8
	ATF3

	HTR3A
	MAPK8
	TOP1
	TRPV1
	UGT2B11
	TOP2B
	TOP2A
	TRPV3
Methyl nonanoate	Target
	LCN2
Cyclopentanone	Target
	RNASE1
	AKR1C3
	AKR1C2
	AKR1C1
1,4-Dichlorobenzene	Target
	ESR1
	CYP2E1
	CYP3A4
	CYP1A2
	CYP1A1
Salidroside	Target
	AKT1
	CASP3
	HIF1A
	IL10
Loganin	Target
	CTGF
Rosmarinic acid	Target
	PROCR
	IL2
	FOS
	LCK
	PARG
	IKBKB
	CCR3

Coronaridine	Target
	ACHE
Withaferin A	Target
	XBP1
	MAPK8
	PTGS2
	UPP2
	EIF2A
Nicotine	Target
	INMT
	TRPM5
	PRLH
	FGF4
	FMO2
	MAPK1
	HMOX1
	CHGA
	SLC32A1
	GPR50
	MMP2
	PLAT
	PON1
	HGF
	SERPINE1
	CCL3
	PFN1
	NFKB1
	IL2
	FGF6
	PAPD7
	NR3C1
	ID2
	FMO6P
	TTR
	TNFSF11
	EGR1
	KCNJ8
	NPY
	ATP5E
	SNAI1

	ZFP36
	RAF1
	KCNA5
	CYP2E1
	TRIM28
	FMO5
	HSD17B7
	CRP
	IL6
	GABBR2
	CHRNA1
	IRAK3
	SLC6A4
	CHRN B4
	CDH1
	TRPA1
	SLC1A1
	UCP1
	MAPK3
	IL1B
	RND3
	BCHE
	FGF2
	STAT3
	POMC
	UGT2B10
	ASCL1
	RB1
	TP53
	PNMT
	AKT1
	SLC6A3
	CTSK
	GGCT
	EGFR
	CHRNA6
	STAR
	CRH
	NTRK2
	HABP2
	SLC7A11
	MYCN
	ACSL1
	YAP1

	GJA1
	CA2
	PPARG
	CHRN B3
	BAX
	HCRT
	NEUROD1
	CDS1
	IL15
	NDUFS4
	ACSL6
	CSF2
	NOS3
	ALDH1A1
	CHRNA5
	CHRFAM7A
	CYP2A6
	CYP2A7
	BCL2L1
	SH3D19
	HSPA4
	IRS1
	FOS
	ITPR1
	IL8
	EIF2AK3
	CYCS
	CYP2S1
	CASP3
	GNAI2
	CHRNA3
	LDLRAD3
	CD276
	HSPA5
	CYP2B6
	MAF
	BCL2
	TBK1
	PDGFB
	SELE
	CYP2A13
	CYP2U1
	CCK
	CHAT

	NOS1
	LCK
	CYP3A4
	HTR7
	HIF1A
	KLRD1
	SNCA
	FGF1
	PLAUR
	CYP1A2
	FOXM1
	FYN
	UGT1A9
	FN1
	FMO1
	HTR3A
	ZC3H7A
	GM2A
	SRC
	MYOF
	DNMT1
	MAPK8
	NFE2L1
	AGT
	GPATCH2
	PTGS2
	FMO4
	FMO3
	BGLAP
	CHRNB2
	MCL1
	ADRB1
	CNR1
	NGF
	CHRNA4
	FGF13
	JUN
	RUNX2
	CYP4X1
	VEGFA
	MMP9
	PRPS1
	MAFB
	UGT1A4

	TMEM222
	ABCA1
	ID1
	FOXP3
	CORT
	KDM6A
	MYC
	PRKCZ
	HTR2A
	CYP1A1
	POSTN
	AVP
	COL2A1
	IDH3B
	TH
	PARP4
	GPX2
	SPP1
	PTHLH
	CRELD2
	CHRNA2
	TF
	ALAD
	UGT2B11
	NFAT5
	GSPT1
	CD44
	TNF
	MYD88
	GPX1
	CHRNA7
	PRKCA
	IL10
	BDNF
	RPS24
	MUC4
	UGT1A3
	NTRK1
	LDLR
Galactitol	Target
	GALK1
	AKR1B1
	AKR1B10

	GALT
Shogaol	KEAP1
	TNFSF10
	CASP3
	TBK1
	CASP9
	PARP1
	DFFA
	Target
Scopoletin	MITF
	UGT1A6
	UGT1A1
	CASP3
	UGT2B15
	UGT1A10
	UGT1A9
	UGT1A7
	UGT1A8
	UGT1A3
D-Glucose	Target
	CEACAM1
	ESR1
	MAPK1
	HMOX1
	NFKBIA
	GLA
	RETN
	TGFB1
	NAMPT
	SERPINE1
	GCK
	CCL2
	MAPK14
	MOGS
	INS
	G6PC
	IL6
	SMAD2
	MAPK3
	TREH
	LCT
	SI

	NNT
	SLC2A9
	PPARGC1A
	G6PC3
	TP53
	AKT1
	GJA1
	HK2
	HK3
	AGL
	ALB
	TNFRSF11B
	NOS3
	CKB
	LALBA
	INSR
	IRS1
	PRKCB
	CEBPB
	GAA
	IL8
	GLB1
	B4GALT2
	CASP3
	ADPGK
	LEP
	GBA
	PKM
	SLC2A2
	GSK3B
	GANC
	NR1I2
	GANAB
	ACACA
	PRKAA1
	HKDC1
	FN1
	RAC1
	FAM3B
	MAP3K5
	MAPK8
	SOD2
	JUN
	PRKAA2

	VEGFA
	IRS2
	SLC2A5
	TBC1D4
	GBA2
	FOXO1
	B4GALT1
	PDX1
	PC
	NUPR1
	SLC2A11
	SLC2A7
	RELA
	HK1
	CEBDP
	PRKCA
	SLC2A1
	CEBPA
	MGAM
Thiamine	Target
	SLC19A2
	SLC19A3
	NMT1
	BCKDHB
	TPK1
	TKT
Riboflavin	Target
	PYGL
	SLC52A3
	ACP5
	GSR
	BLVRB
	ACPT
	ACP1
	FLAD1
	ACPP
	ENPP1
	ACP6
	RFK
Linolenic acid	Target
	PLA2G3

	TRIB3
	TBL1X
	FDFT1
	SULT2A1
	NRF1
	MED31
	APOA5
	GCLC
	APOB
	APOA1
	ACOT2
	NFYB
	PLA2G12A
	PLA2G2C
	MED17
	SLC27A1
	CYP2E1
	CRP
	MED10
	FABP4
	MED6
	PNPLA8
	MED4
	BAAT
	TGS1
	CYP2C9
	RORA
	SCARB1
	SMARCD3
	CREBBP
	PPARA
	MED15
	EP300
	MED26
	PPARGC1A
	MED20
	CPT1A
	ABCB4
	GLIPR1
	MED9
	NCOR1
	PLIN2
	FADS2
	ACSL1

	MED13L
	YAP1
	MED21
	MED7
	PPARG
	HMGCR
	ACSM3
	PLA2G4D
	MED8
	MED27
	MED11
	FABP1
	TNFRSF21
	ACSL6
	MED30
	PEX11A
	MED1
	ANGPTL4
	CYP7A1
	ACSM1
	HDAC3
	RGL1
	PCSK1
	CD36
	CLOCK
	ALAS1
	TEAD2
	CYP4A11
	ACOT1
	PLA2G1B
	PPARGC1B
	MED29
	PLA2G16
	NCOA1
	FADS1
	HMGCS1
	FHL2
	ACOT4
	MED14
	GRHL1
	MED16
	CARM1
	MED25
	TIAM2

	ACSM5
	SP1
	PLB1
	SLC8A1
	PLA2G6
	CCK
	MED19
	CYP3A4
	HIF1A
	NPAS2
	ACSL4
	C10orf129
	CYP1A2
	MED22
	NFYA
	TEAD3
	UGT1A9
	ACSL5
	ACSL3
	NCOA6
	TEAD4
	SIN3A
	WWTR1
	SREBF2
	TEAD1
	PTGS1
	AGT
	G0S2
	PLA2G4A
	PTGS2
	CTGF
	APOA2
	MED23
	CDK19
	HMGCS2
	ME1
	ELOVL4
	CYP2C19
	FFAR4
	CPT2
	ANKRD1
	NCOA3
	PLA2G12B
	MED18

	MED12
	ABCA1
	PLA2G2F
	PLA2G2D
	PLA2G5
	PLA2G2A
	PLA2G2E
	ACOT7
	CYP1A1
	CDK8
	PLA2G4F
	JMJD7-PLA2G4B
	ARNTL
	MED24
	MED13
	ACSM4
	PLA2G4E
	TRPV1
	NCOR2
	GCG
	PLA2G10
	PLA2G4B
	NFYC
	NCOA2
	PLA2G4C
	TBL1XR1
	ACADM
	HELZ2
	RXRA
	CCNC
	TXNRD1
	CHD9
	HMOX1
	TBK1
	GSTP1
	ABCC1
Hexanoic acid	Target
	UTS2
	GNA11
	P2RY10
	BDKRB1
	PROKR2

	OXT
	MLNR
	GNRHR
	KISS1R
	RGS2
	KALRN
	GHSR
	GNRH2
	FFAR2
	FFAR1
	F2RL3
	MCHR1
	NMUR2
	CHRM3
	NTS
	GRP
	ANXA1
	NMBR
	HTR2B
	PLCB2
	GNA15
	PIK3CA
	NMU
	KNG1
	NPFF
	GPR65
	PROK1
	GPR17
	AGTR1
	PIK3R1
	HTR2C
	GNRH1
	NPFFR1
	PLCB3
	OXSM
	MCHR2
	CYSLTR2
	GRM1
	APP
	AKR1B1
	GNAQ
	PTGER1
	HCRT
	CELA1

	CCKAR
	PROK2
	F2RL2
	F2RL1
	AVPR1A
	TAC3
	PTAFR
	TACR3
	TRH
	TACR1
	NTSR2
	PROKR1
	P2RY1
	NMUR1
	GRM5
	CHRM1
	ADRA1B
	LTB4R
	BDKRB2
	NPFFR2
	GPRC6A
	P2RY6
	TRHR
	P2RY2
	XCR1
	ADRBK1
	EDNRA
	GPR4
	TAC1
	F2R
	UTS2R
	OXTR
	LPAR5
	FFAR3
	GPR132
	GAST
	PMCH
	RGS19
	PLCB4
	GNG2
	CCKBR
	CCK
	EDN3

	PLCB1
	GRB2
	TRIO
	FPR2
	UTS2B
	LPAR6
	QRFP
	SAA1
	LPAR1
	NPSR1
	CTNNBL1
	AGT
	KISS1
	RGS18
	XCL1
	XCL2
	NTSR1
	LPAR3
	PTGFR
	HCRTR2
	OPN4
	EDN2
	CYSLTR1
	TACR2
	HCRTR1
	GNA14
	NMS
	EDNRB
	HTR2A
	EDN1
	ADRA1D
	GRPR
	AVP
	ADRA1A
	CHRM5
	GRK5
	QRFPR
	NMB
	HRH1
	NPS
	GCGR

	LPAR2
	GCG
	MLN
	TBXA2R
	CASR
	LTB4R2
	GPR68
	MTRNR2L12
Phenylacetaldehyde	Target
	ALDH3A1
	AOC2
	ALDH3B2
	ALDH2
	FURIN
	IL8
	ADH1B
	AOC3
	ALDH1A3
	MAOA
	ALDH3A2
	MAOB
	ADH6
	TNF
Valeric acid	Target
	UTS2
	GNA11
	P2RY10
	BDKRB1
	PROKR2
	OXT
	MLNR
	GNRHR
	KISS1R
	RGS2
	KALRN
	GHSR
	GNRH2
	FFAR2
	FFAR1
	F2RL3
	MCHR1
	NMUR2

	CHRM3
	NTS
	GRP
	ANXA1
	NMBR
	HTR2B
	PLCB2
	GNA15
	PIK3CA
	NMU
	KNG1
	NPFF
	GPR65
	PROK1
	GPR17
	AGTR1
	PIK3R1
	HTR2C
	GNRH1
	NPFFR1
	PLCB3
	MCHR2
	CYSLTR2
	GRM1
	APP
	GNAQ
	PTGER1
	HCRT
	CCKAR
	PROK2
	F2RL2
	F2RL1
	AVPR1A
	TAC3
	PTAFR
	TACR3
	TRH
	TACR1
	NTSR2
	PROKR1
	P2RY1
	NMUR1
	GRM5
	CHRM1

	ADRA1B
	LTB4R
	BDKRB2
	NPFFR2
	GPRC6A
	P2RY6
	TRHR
	P2RY2
	XCR1
	ADRBK1
	EDNRA
	GPR4
	TAC1
	F2R
	UTS2R
	OXTR
	LPAR5
	FFAR3
	GPR132
	GAST
	PMCH
	RGS19
	PLCB4
	GNG2
	CCKBR
	CCK
	EDN3
	PLCB1
	TRIO
	FPR2
	UTS2B
	LPAR6
	QRFP
	SAA1
	LPAR1
	NPSR1
	AGT
	KISS1
	RGS18
	XCL1
	XCL2
	NTSR1

	LPAR3
	PTGFR
	HCRTR2
	OPN4
	EDN2
	CYSLTR1
	TACR2
	HCRTR1
	GNA14
	NMS
	EDNRB
	HTR2A
	EDN1
	ADRA1D
	GRPR
	AVP
	ADRA1A
	CHRM5
	GRK5
	QRFPR
	NMB
	HRH1
	NPS
	GCGR
	LPAR2
	GCG
	MLN
	TBXA2R
	CASR
	LTB4R2
	GPR68
	MTRNR2L12
D-Mannose	Target
	PIGV
	GLA
	MANBA
	SLC5A9
	EDEM1
	MAN2A1
	SI
	MAN2C1

	MAN2B2
	HK2
	HK3
	MASP1
	GUSB
	MGAT2
	LEMD3
	GBA
	CD209
	EDEM3
	MGAT4C
	COLEC11
	DPAGT1
	HKDC1
	MAN1A2
	MAN2A2
	MAN1A1
	MAN1B1
	MAN1C1
	EDEM2
	HK1
	MAN2B1
Berberine	Target
	NME1
	KCNQ1
	MAPK1
	HMOX1
	MMP2
	PON1
	NRF1
	CCND1
	AHR
	SLC6A4
	VMP1
	STAT3
	DAXX
	TP53
	AKT1
	EGFR
	AKR1B1
	NODAL
	AIFM1

	PTGER4
	PCSK9
	INSR
	TERT
	LPL
	CASP3
	UCP2
	PLA2G1B
	HNF4A
	NFKBIB
	ADIPOQ
	SLC2A4
	GSK3B
	STK11
	NOS2
	CASP9
	CTSB
	IL17A
	GATA2
	FN1
	HP
	SRC
	CASP8
	DPP4
	CYP2D6
	TOP1
	BECN1
	PARP1
	PTGS2
	JUN
	PTPN1
	MMP9
	PLAU
	TLR4
	CYP1A1
	RPS6
	MAU2
	ATP5G2
	HNF4G
	ALDH7A1
	GCG
	TNF
	CASP12
	ITGAM

	HPR
	LDLR
Xanthine	Target
	GDA
	CAT
	HPRT1
	ADORA2B
	CASP3
	PNP
	AOX1
	APRT
	XDH
	MTAP
Catechol	Target
	DHDH
	MPO
	EPX
	LPO
	AKR1C4
	TYR
	PRDX5
	LCN2
	HMBS
	LRTOMT
	CASP3
	PLA2G1B
	SULT1C2
	SULT1A1
	CASP9
	HBB
	SULT1A2
	SULT1A3
	CASP8
	COMT
	CASP7
	AKR1C1
	GCG
Apigenin	Target
	CFTR
	ESR1
	MAPK1

	CSNK2A1
	CD38
	CCND1
	GMNN
	CAT
	CYP19A1
	CYP1B1
	MAPK3
	BIRC3
	POMC
	EGF
	ABCB1
	TP53
	AKT1
	TNFRSF10B
	TAGLN
	AXL
	UGT1A6
	UGT1A1
	CASP3
	SULT1A1
	BCL2
	CASP9
	NR1I2
	CYP3A4
	HIF1A
	MAOA
	PTPN11
	UGT2B15
	PTK2
	CYP1A2
	UGT1A10
	ESR2
	SPAM1
	UGT1A9
	FAS
	GAD1
	SRC
	CASP8
	PARP1
	PTGS2
	CASP7
	TNKS2
	VEGFA

	MMP9
	UGT1A7
	UGT1A8
	MAOB
	FOXO1
	CYP1A1
	CDK1
	ABCC1
	ELAVL1
	CXCR4
	SLC2A1
	IKBKB
	VDR
beta-Ionone	Target
	BCMO1
	LMNB1
	BAX
	RHO
	BCO2
	RXRA
Hypoxanthine	Target
	MPG
	CAT
	TYMP
	CHRM3
	AMPD2
	CCL5
	HPRT1
	SLC29A2
	PNP
	ADA
	AOX1
	XDH
	MTAP
	CHRM5
	AMPD3
	CHRM4
	AMPD1
Pantothenic acid	Target
	PANK3
	PANK1

	SLC5A6
	PANK2
	VNN2
	PPCDC
	VNN1
	PPCS
	PANK4
Cinnamic acid	Target
	HAL
	TYR
	ADIPOQ
	UGT1A10
	UGT1A7
	UGT1A8
	KDM1A
	UGT1A3
	RCOR1
5-[3-(1,3-Benzodioxol-5-yl)-1,3,3a,4,6,6a-hexahydrofuro[3,4-c]furan-6-yl]-1,3-benzodioxole	Target
	CCND1
	PPARA
	TYR
	NOS3
	UGT1A6
	UGT1A1
	NOS2
	NR1I2
	CYP3A4
	RUNX2
Decanoic acid	Target
	SPCS1
	ACOT2
	PCSK2
	SPCS2
	CPVL
	FURIN
	SEC11A
	LCN2
	PAEP
	PPARG
	ALB
	PCSK4

	PCSK6
	PCSK1
	LIPT2
	ACOT1
	MBOAT4
	GLTP
	ACOT4
	PCSK7
	NOS2
	NOS1
	CTSA
	ACOT7
	UGT1A3
	SPCS3
	PCSK5
	SEC11C
Luteolin	Target
	MAPK1
	HMOX1
	VRK1
	CSNK2A1
	TAF9
	TTR
	C3
	FOSB
	JUND
	CDK4
	CYP19A1
	CYP1B1
	CDH1
	SMAD2
	CSNK2A2
	MAPK3
	MAP3K8
	IL1B
	STAT3
	CDK2
	TP53
	ERBB2
	AKT1
	CCNA2
	EGFR
	TNFRSF10B

	LCN2
	ADAMTS3
	PPARG
	USP8
	BCL2L1
	IGF1
	JUNB
	IRS1
	FOS
	CASP3
	PCK1
	EZH2
	PKM
	NOS2
	TBK1
	CASP9
	HSP90AA1
	NOS1
	TLR5
	PTK2
	ESR2
	FN1
	MAPK10
	MAPK8
	TOP1
	MTOR
	AGT
	ADAMTS4
	CASP7
	JUN
	TNKS2
	VEGFA
	MMP9
	TLR4
	FOXO1
	RPS6KA3
	CYP1A1
	NFE2L2
	ABCC1
	MAPK9
	IGF2
	E2F5
	UGT1A3
	RPS6KA2

	RPS6KA1
	AURKB
Sucrose	Target
	CD4
	RTCB
	GLA
	HMOX2
	ACTA2
	LTF
	CAT
	FNTB
	CYP2E1
	HUS1
	LYZ
	KCNN4
	SI
	SDHA
	ANLN
	UQCRC2
	TXNL4B
	REN
	AGTR1
	ST14
	NGLY1
	GRIA1
	UQCRB
	CD1A
	ACTC1
	NOS3
	SCNN1G
	FNTA
	ADRB2
	GAA
	FOS
	UQCRRFS1
	SLC9C1
	CYCS
	RAD9A
	RNF4
	ATOX1
	SLC17A8
	CYC1
	UGDH

	DIAPH2
	CYP2B6
	GANC
	PMCH
	RAD1
	TAS1R3
	PRODH
	RAD23B
	CES1
	MT-CYB
	ACTA1
	PRKG1
	TAS1R2
	SLC2A5
	UQCRQ
	ASMTL
	GNE
	DIAPH1
	DIAPH3
	TF
	MBTD1
	NR1H4
	MGAM
	RAD23A
Syringic acid	Target
	MPO
	CCL16
	DHFR
d-Tartaric acid	Target
	STX1B
	STX1A
	CAT
	CMA1
	ACP2
	RTCA
	MCCC1
	ACPT
	FABP5
	HIF1AN
	PLK1
	PTPN7

	BACE1
	IMPDH2
	ACPP
	ANG
	STARD3
	QRSL1
	GOT1
	PCCA
	RCL1
	GIPR
Theophylline	Target
	NFKBIA
	LIPE
	CYP2E1
	TYR
	PIK3CA
	PDE4A
	REN
	IFNA1
	IL18
	RPIA
	SST
	PDXK
	LTC4S
	IL3
	CSF2
	HDAC3
	ADORA2B
	IL13
	FOS
	ADORA1
	CASP3
	GAST
	PDE4B
	ADORA2A
	CYP1A2
	PDE5A
	PDE3A
	APOA1BP
	CGA
	ADORA3
	HDAC1
	CARD17

	ALDH7A1
	TNF
	HDAC2
Myristic acid	Target
	GUCA1A
	COMP
	RCVRN
	PPP3R1
	ACOT2
	PPP3CC
	INS
	NMT1
	PRKCG
	ARF1
	CALM2
	FABP2
	PAEP
	LY96
	PPARG
	CALM3
	ALB
	ARF6
	ARF4
	PCSK1
	PRKACA
	ACOT1
	HNF4A
	MSRA
	NCOA1
	ACOT4
	CYP4Z1
	PKIA
	THBS4
	INS-IGF2
	CALM1
	GM2A
	THBS3
	TRAPPC3L
	PRKACB
	FFAR4
	ABL1
	TRAPPC3
	HPCA

	TLR4
	PPP3R2
	APOM
	ACOT7
	NMT2
	OLAH
	ECI2
	FKBP1B
	FKBP1A
	PPP3CB
	PPP3CA
	GCG
	PVR
	PRKCA
	ABL2
Stearic acid	Target
	ESR1
	COMP
	APOC3
	RBP1
	APOB
	APOA1
	ACOT2
	LRP1
	APOE
	SDC1
	FABP4
	BAAT
	RORA
	RPE65
	PPARA
	LRP2
	GPC1
	AKT1
	PAEP
	GPC2
	ALB
	ACER1
	LRP8
	SDC2
	PCSK1
	PPARD
	ACOT1

	SCD5
	ACOT4
	ADORA2A
	LRAT
	THBS4
	ACER2
	SDC3
	INSIG1
	APOA4
	SOD2
	APOA2
	THBS3
	SCD
	GPC4
	FFAR4
	PTPN1
	SDC4
	FABP3
	HSPG2
	PLA2G2D
	RORB
	GPC6
	GPC5
	ACOT7
	OLAH
	AGRN
	GPC3
	ACBD5
	RELA
	MYO7A
	GCG
	ACBD4
	ACER3
	LDLR
Linoleic acid	Target
	CETP
	PLA2G3
	PCK2
	TRIB3
	TBL1X
	FDFT1
	SULT2A1
	FGF21

	PON1
	CYP3A5
	SERPINE1
	NRF1
	MED31
	APOA5
	APOC3
	RBP1
	APOB
	APOA1
	ACOT2
	NFYB
	CAT
	LRP1
	PLA2G12A
	FFAR1
	PLA2G2C
	CYP4F11
	MED17
	APOE
	SLC27A1
	ACSBG2
	CYP2E1
	SDC1
	MED10
	FABP4
	MED6
	MED4
	IL6
	ACSBG1
	BAAT
	TGS1
	CYP1B1
	CYP2C9
	RORA
	SMARCD3
	RPE65
	CREBBP
	PPARA
	MED15
	EP300
	TYR
	MED26
	LRP2

	GPC1
	PPARGC1A
	MED20
	CPT1A
	ABCB4
	GLIPR1
	SLC27A2
	MED9
	NCOR1
	PLIN2
	PAEP
	FADS2
	ACSL1
	MED13L
	YAP1
	MED21
	CYP2C18
	MED7
	PPARG
	HMGCR
	ACSM3
	PLA2G4D
	MED8
	MED27
	GPC2
	ALOX15
	MED11
	VCAM1
	FABP1
	TNFRSF21
	ACSL6
	FABP5
	MED30
	PEX11A
	MED1
	CYP2A7
	ANGPTL4
	CYP7A1
	ACSM1
	HDAC3
	RGL1
	LRP8
	UGT1A1
	FOS

	SDC2
	FADS6
	CYP2S1
	CD36
	CLOCK
	OLR1
	ALAS1
	TEAD2
	CYP4A11
	ACOT1
	PLA2G1B
	PPARGC1B
	LEP
	MED29
	GLTP
	PCK1
	PLA2G16
	NCOA1
	CYP4F12
	FADS1
	HMGCS1
	FHL2
	ACOT4
	MED14
	GRHL1
	MED16
	CARM1
	MED25
	TIAM2
	ACSM5
	SP1
	PLB1
	SELE
	CYP2A13
	PLA2G6
	CYP2F1
	CYP4Z1
	LRAT
	MED19
	CYP3A7
	CYP3A4
	HIF1A
	NPAS2
	ACSL4

	C10orf129
	CYP1A2
	MED22
	SDC3
	NFYA
	TEAD3
	UGT1A9
	ACSL5
	ACSL3
	APOA4
	NCOA6
	TEAD4
	MAPK8
	SIN3A
	MME
	CYP2D6
	WWTR1
	SREBF2
	TEAD1
	AGT
	G0S2
	PLA2G4A
	CTGF
	APOA2
	MED23
	CDK19
	HMGCS2
	ME1
	GPC4
	CYP2J2
	CYP2C8
	CYP2C19
	CPT2
	ANKRD1
	CYP4X1
	CYP4B1
	NCOA3
	SDC4
	PLA2G12B
	MED18
	MED12
	ALOX5
	HSPG2
	ABCA1

	PLA2G2F
	PLA2G5
	PLA2G2A
	PLA2G2E
	GPC6
	GPC5
	ACOT7
	AGRN
	CYP1A1
	ALOX15B
	CDK8
	PLA2G4F
	JMJD7-PLA2G4B
	ARNTL
	MED24
	GPC3
	MED13
	ACSM4
	PLA2G4E
	NCOR2
	MYO7A
	PLA2G10
	PLA2G4B
	NFYC
	TNF
	NCOA2
	PLA2G4C
	TBL1XR1
	ACADM
	SERPINE2
	HELZ2
	RXRA
	CCNC
	TXNRD1
	LDLR
	CHD9
Octanoic acid	Target
	SPCS1
	ACSBG2
	ACSBG1
	SPCS2
	SEC11A
	PAEP

	ACSL1
	ACSL6
	PCSK1
	LIPT2
	MBOAT4
	GLTP
	ACSL4
	LIPT1
	ALDH3A2
	ALDH9A1
	ACSL5
	ACSL3
	ALDH1B1
	PDHA1
	IAH1
	SPCS3
	SEC11C
D-Glucuronic Acid	Target
	MIOX
	SLC35A2
	UGT2A3
	UGT2B10
	ABHD10
	GUSB
	UGT1A6
	UGT2B7
	UGT1A1
	UGT2B4
	AKR1A1
	UGT2B17
	UGT2B15
	UGT1A10
	UGT1A9
	UGT1A4
	UGT1A5
	UGT1A7
	UGT1A8
	KL
	UGT2B11
	UGT2A2
	UGT1A3
Pyridoxine	Target

	PDXP
	PNPO
	MSR1
	PDXK
	EMR1
	ALAS2
	DDC
	PHOSPHO2
	GOT1
Inositol	Target
	INPP4A
	MIOX
	GLA
	CDIPT
	LTF
	ERN2
	GDE1
	IMPA1
	INPP4B
	IMPA2
	AKT1
	SLC2A13
	TMPRSS11D
	SLC5A11
	CDS1
	GBA
	INPP1
	ISYNA1
	SFTP
	HTR2A
	SLC5A3
	TF
	IMPA1
Epigallocatechin gallate	Target
	TBX21
	CETP
	ESR1
	GSTA3
	SIRT1
	MAPK1
	HMOX1

	MMP2
	RETN
	CASP14
	GSK3A
	PON1
	SERPINE1
	VIM
	CCL2
	SPI1
	CCND1
	CDKN1B
	MLH1
	APOB
	IL1R1
	APOA1
	TTR
	ABCG2
	TNFSF11
	IAPP
	FLT3
	BHLHE41
	CDKN1A
	PIN1
	HSPB1
	COX4I1
	AOC2
	JAG1
	ANXA1
	IL6
	TLR2
	MMP13
	CYP2C9
	KCNH2
	TRPA1
	AXIN1
	XRCC1
	MAPK3
	IL1A
	PRKCG
	IFIH1
	TYRO3
	STAT3
	DNMT3A
	SDHA

	EGF
	ABCB1
	HEXA
	CDH2
	TP53
	ERBB2
	AKT1
	EGFR
	TNFRSF10B
	ADM
	ATM
	TMPRSS11D
	APP
	WIF1
	PPARG
	HMGCR
	BAX
	HPGDS
	IL15
	NOS3
	CYP7A1
	MGMT
	BCL2L1
	IGF1
	PTGER4
	HSPB3
	FASN
	IL13
	FOS
	IL8
	CASP3
	UCP2
	AOC3
	LEP
	BID
	NQO1
	SLC2A4
	MMP1
	GSK3B
	NOS2
	DNMT3B
	SOCS1
	EEF1A1
	CASP9

	RARB
	SMAD3
	LAMP1
	HSP90AA1
	GSTA1
	NR1I2
	ENOX2
	NOS1
	HIF1A
	SNCA
	CAV1
	SMPD1
	CYP1A2
	PRDX6
	PTGES
	HMGB1
	CTNNB1
	RPSA
	COL18A1
	CASP8
	PPP2R4
	DNMT1
	MAPK8
	STAT1
	PTGS1
	MT-ND3
	PARP1
	EPRS
	C4BPA
	PTGS2
	CTGF
	CASP7
	GSTA4
	JUN
	VEGFA
	CEL
	MMP9
	UGT1A4
	TLR4
	IKBKAP
	COL15A1
	IRS2
	ID1
	BMI1

	RECK
	EDN1
	CYP1A1
	SIRT3
	AKTIP
	NFE2L2
	DYRK1A
	UPP2
	ACAN
	CLK1
	CDKN2A
	DHFR
	NFAT5
	TNF
	CYR61
	PRKCA
	TOP2A
	POR
	GSTA2
	MUC5AC
	ITGAM
	NR1H4
	APAF1
	HSPB2-C11orf52
	S1PR2
Cholesterol	Target
	CETP
	SULT2B1
	MAPK1
	STS
	TIMP1
	TSC2
	FDFT1
	SULT2A1
	FGF21
	PON1
	SNX8
	APOA5
	APOC3
	MAPK14
	NR3C1
	RBP2
	RBP1

	APOB
	SELL
	APOA1
	IAPP
	CAT
	LRP1
	LIPE
	GOT2
	INSIG2
	SMO
	APOE
	NR1H2
	SDC1
	CRP
	FABP4
	CYP27A1
	FDX1
	ADAM10
	CYP19A1
	ABCG5
	RORA
	SCARB1
	CYP46A1
	PPARA
	MAPK3
	LRP2
	SLC9A1
	LCAT
	GPC1
	SCARB2
	VDAC1
	MTTP
	SCAP
	ABCB4
	CYP11A1
	ABCA10
	NPC1
	AKT1
	ABCG8
	CALM2
	STAR
	FLT1
	APP
	PPARG

	HMGCR
	NPC1L1
	PTGIR
	FXYD2
	GPC2
	FGFR4
	ATP1A1
	IHH
	ALB
	SHH
	NOS3
	HSD3B7
	LIPC
	SOAT2
	CYP7A1
	ABCA3
	ATP1A3
	PCSK9
	LRP8
	STARD5
	ABCG4
	SDC2
	CYCS
	CD36
	OLR1
	LPL
	CYP7B1
	LEP
	APOL1
	BPNT1
	CYP8B1
	LPA
	MMP1
	P4HB
	LRAT
	LIPA
	CAV1
	PTPN11
	SULT1A3
	ATF3
	SDC3
	INSIG1
	DHCR7

	SREBF1
	CALM1
	APOA4
	SRC
	CES1
	SREBF2
	ABCG1
	COG2
	SOAT1
	ATP1B1
	APOA2
	HSD3B1
	HSD3B2
	GPC4
	DHCR24
	CH25H
	CEL
	MMP9
	SDC4
	FGR
	LDLRAP1
	HSPG2
	ABCA1
	GPC6
	GPC5
	GBA2
	AGRN
	PRNP
	GPC3
	APOF
	SAR1B
	KCNMA1
	NR1H3
	PTPN6
	POR
	ELOVL5
	HPR
	NR1H4
	LDLR
	GOLGA6L2
	CAMP
Choline	Target
	ADH1A

	RAB3A
	CLEC2B
	PLBD1
	SYT1
	LYZ
	PLD2
	SLC5A7
	BCHE
	ADH4
	CHKA
	ETNK1
	SLC44A3
	REN
	BHMT
	PLA2G4D
	PCYT1A
	ADH5
	ACHE
	PRKCE
	ADH1B
	VAMP2
	PLD6
	CHDH
	PRKCD
	GRIN2A
	SLC44A2
	CHAT
	PLD1
	S100A4
	PLD3
	SLC22A2
	SLC22A1
	SLC44A5
	SLC18A3
	SLC44A1
	PLA2G2F
	PLA2G2A
	SUV39H1
	GPCPD1
	PCYT1B
	PLA2G4F
	PLD4
	ADH6
	PPAPDC1A

	PLA2G4E
	CHKB
	GCG
	PLA2G4B
	TNF
	PLA2G4C
	PHOSPHO1
	CHRNA7
	BDNF
	ADH7
	PTDSS1
	CHKB-CPT1B
1,4-Benzoquinone	Target
	MAPK1
	DHRS7
	CAT
	MAPK3
	TYR
	IL8
	CASP3
	NQO1
	MYB
	CASP7
	PTPN1
	H2AFX
	TOP2A
Folic	Target
	SERPINE1
	CCL2
	PPARA
	BIRC3
	MTRR
	TP53
	ACP1
	FTCD
	NOS3
	FOLR2
	FOLR1
	SLC19A1
	TYMS
	DEGS1

	SHMT1
	DHFRL1
	DNMT1
	MTR
	PARP1
	MTHFD1L
	MTHFR
	IGFBP3
	GART
	ALDH1L1
	SLC46A1
	DHFR
	FOLR3
	BDNF
	NAT1
	MTHFD1
Salicylic acid	Target
	MPO
	IL4
	CAT
	PEPD
	CDKN1A
	CYP2E1
	VWF
	SCARB1
	SELP
	ABCB11
	TP53
	SLC22A9
	TMPRSS11D
	ALB
	ANXA5
	GHDC
	SLC22A11
	GUSB
	CES3
	SLC26A5
	CEPB
	CYCS
	CASP3
	CES2
	ACSM2B
	LEPR

	HIF1A
	GLYAT
	CTSB
	UGT1A10
	CES1
	PTGS1
	PARP1
	PTGS2
	ATF6
	NPR1
	SLC22A7
	UGT1A7
	UGT1A8
	GSN
	AOX1
	SLC22A12
	SLC22A6
	XDH
	RPS6KA3
	IFNB1
	AKR1C3
	AKR1C2
	AKR1C1
	FECH
	UGT1A3
	CES5A
	IKBKB
	HSF1
	CES4A
	TDO2
Cucurbitacin B	Target
	HEBP1
	DRD4
	BDKRB1
	PDYN
	C5
	PPY
	CXCL6
	GRM6
	OPRD1
	TAS2R8
	TAS2R10
	TAS2R7

	TAS2R9
	NPY
	C3
	S1PR4
	CCR7
	TAS2R3
	TAS2R4
	TAS2R5
	MCHR1
	GALR3
	TAS2R16
	ADCY7
	SSTR4
	NMUR2
	HRH4
	MTNR1B
	APLNR
	ANXA1
	CCL21
	CCL27
	ADCY3
	NMU
	POMC
	KNG1
	OPRK1
	GAL
	SSTR1
	GPR17
	ACKR3
	ADRA2A
	MCHR2
	APP
	ADCY8
	CXCL13
	SST
	HTR5A
	CXCR5
	CCR2
	CCR5
	CCL5
	CCL16
	CXCL16
	SSTR5
	ADCY9

	CXCR1
	CXCL3
	CXCL5
	PPBP
	CCR1
	RGS20
	ADCY1
	GPER1
	OXGR1
	GALR1
	PNOC
	C3AR1
	FPR1
	MTNR1A
	CXCR6
	S1PR1
	APLN
	CXCL10
	NMUR1
	IL8
	CXCL11
	P2RY12
	BDKRB2
	HTR1E
	P2RY14
	ADORA1
	CCL19
	ADCY6
	ADCY4
	GNAI2
	HTR1D
	HTR1A
	CXCR2
	CHRM2
	P2RY13
	HTR1F
	PENK
	CCR8
	TAS2R60
	LPAR5
	S1PR5
	RXFP3
	GALR2
	NPW

	SSTR3
	NPBWR1
	PMCH
	CCR10
	NPY2R
	CCR4
	NPB
	PTGDR2
	RGS19
	TAS2R42
	GNG2
	OPRL1
	NPY5R
	CCR6
	FPR2
	FPR3
	HRH3
	ADCY2
	GNAI1
	GPR18
	GRM8
	C5AR1
	SAA1
	PTGER3
	HCAR1
	SSTR2
	CCR9
	GRM7
	S1PR3
	CCL20
	LPAR1
	PYY
	CCL28
	NPY1R
	DRD2
	CXCL9
	SUCNR1
	GRM3
	RGS7
	AGT
	RGS1
	RGS18
	RXFP4
	RGS10

	CNR1
	ADORA3
	NPBWR2
	GNAI3
	HTR1B
	LPAR3
	AGTR2
	CXCR3
	GRM4
	NPY4R
	CNR2
	P2RY4
	NMS
	OXER1
	TAS2R1
	DRD3
	HCAR2
	CCL25
	TAS2R19
	TAS2R31
	TAS2R13
	GPR55
	GRM2
	CXCL1
	CXCL12
	GNAT3
	LPAR2
	ADRA2C
	TAS2R41
	TAS2R40
	RGS14
	CXCR4
	ADRA2B
	OPRM1
	RGS4
	TAS2R39
	CHRM4
	ADCY5
	CASR
	TAS2R50
	CXCL2
	TAS2R43
	TAS2R46

	HCAR3
	CCR3
	TAS2R20
	TAS2R14
	TAS2R30
	TAS2R38
	RGS6
	S1PR2
	MTRNR2L12
Cucurbitacin E	Target
	HEBP1
	DRD4
	BDKRB1
	PDYN
	C5
	PPY
	CXCL6
	GRM6
	OPRD1
	TAS2R8
	TAS2R10
	TAS2R7
	TAS2R9
	NPY
	C3
	S1PR4
	CCR7
	TAS2R3
	TAS2R4
	TAS2R5
	MCHR1
	GALR3
	TAS2R16
	ADCY7
	SSTR4
	NMUR2
	HRH4
	MTNR1B
	APLNR
	ANXA1
	CCL21
	CCL27
	ADCY3

	NMU
	POMC
	KNG1
	OPRK1
	GAL
	SSTR1
	GPR17
	ACKR3
	ADRA2A
	MCHR2
	APP
	ADCY8
	CXCL13
	SST
	HTR5A
	CXCR5
	CCR2
	CCR5
	CCL5
	CCL16
	CXCL16
	SSTR5
	ADCY9
	CXCR1
	CXCL3
	CXCL5
	PPBP
	CCR1
	RGS20
	ADCY1
	GPER1
	OXGR1
	GALR1
	PNOC
	C3AR1
	FPR1
	MTNR1A
	CXCR6
	S1PR1
	APLN
	CXCL10
	NMUR1
	IL8
	CXCL11

	P2RY12
	BDKRB2
	HTR1E
	P2RY14
	ADORA1
	CCL19
	CFL1
	ADCY6
	ADCY4
	GNAI2
	HTR1D
	HTR1A
	CXCR2
	CHRM2
	P2RY13
	HTR1F
	PENK
	CCR8
	TAS2R60
	LPAR5
	S1PR5
	RXFP3
	GALR2
	NPW
	SSTR3
	NPBWR1
	PMCH
	CCR10
	NPY2R
	CCR4
	NPB
	PTGDR2
	RGS19
	TAS2R42
	GNG2
	OPRL1
	NPY5R
	CCR6
	FPR2
	FPR3
	HRH3
	ADCY2
	GNAI1
	GPR18

	GRM8
	C5AR1
	SAA1
	PTGER3
	HCAR1
	SSTR2
	CCR9
	GRM7
	S1PR3
	CCL20
	LPAR1
	PYY
	CCL28
	NPY1R
	DRD2
	CXCL9
	SUCNR1
	GRM3
	RGS7
	AGT
	RGS1
	RGS18
	RXFP4
	RGS10
	CNR1
	ADORA3
	NPBWR2
	GNAI3
	HTR1B
	LPAR3
	AGTR2
	CXCR3
	GRM4
	NPY4R
	CNR2
	P2RY4
	NMS
	OXER1
	TAS2R1
	DRD3
	HCAR2
	CCL25
	TAS2R19

	TAS2R31
	TAS2R13
	GPR55
	GRM2
	CXCL1
	CXCL12
	GNAT3
	LPAR2
	ADRA2C
	TAS2R41
	TAS2R40
	RGS14
	CXCR4
	ADRA2B
	OPRM1
	RGS4
	TAS2R39
	CHRM4
	ADCY5
	CASR
	TAS2R50
	CXCL2
	TAS2R43
	TAS2R46
	HCAR3
	CCR3
	TAS2R20
	TAS2R14
	TAS2R30
	TAS2R38
	RGS6
	S1PR2
	MTRNR2L12
2-Ethylpyrazine	Target
	HEBP1
	DRD4
	BDKRB1
	PDYN
	C5
	PPY
	CXCL6
	GRM6
	OPRD1

	TAS2R8
	TAS2R10
	TAS2R7
	TAS2R9
	NPY
	C3
	S1PR4
	CCR7
	TAS2R3
	TAS2R4
	TAS2R5
	MCHR1
	GALR3
	TAS2R16
	ADCY7
	SSTR4
	NMUR2
	HRH4
	MTNR1B
	APLNR
	ANXA1
	CCL21
	CCL27
	ADCY3
	NMU
	POMC
	KNG1
	OPRK1
	GAL
	SSTR1
	GPR17
	ACKR3
	ADRA2A
	MCHR2
	APP
	ADCY8
	CXCL13
	SST
	HTR5A
	CXCR5
	CCR2
	CCR5
	CCL5
	CCL16

	CXCL16
	SSTR5
	ADCY9
	CXCR1
	CXCL3
	CXCL5
	PPBP
	CCR1
	RGS20
	ADCY1
	GPER1
	OXGR1
	GALR1
	PNOC
	C3AR1
	FPR1
	MTNR1A
	CXCR6
	S1PR1
	APLN
	CXCL10
	NMUR1
	IL8
	CXCL11
	P2RY12
	BDKRB2
	HTR1E
	P2RY14
	ADORA1
	CCL19
	ADCY6
	ADCY4
	GNAI2
	HTR1D
	HTR1A
	CXCR2
	CHRM2
	P2RY13
	HTR1F
	PENK
	CCR8
	TAS2R60
	LPAR5
	S1PR5

	RXFP3
	GALR2
	NPW
	SSTR3
	NPBWR1
	PMCH
	CCR10
	NPY2R
	CCR4
	NPB
	PTGDR2
	RGS19
	TAS2R42
	GNG2
	OPRL1
	NPY5R
	CCR6
	FPR2
	FPR3
	HRH3
	ADCY2
	GNAI1
	GPR18
	GRM8
	C5AR1
	SAA1
	PTGER3
	HCAR1
	SSTR2
	CCR9
	GRM7
	S1PR3
	CCL20
	LPAR1
	PYY
	CCL28
	NPY1R
	DRD2
	CXCL9
	SUCNR1
	GRM3
	RGS7
	AGT
	RGS1

	RGS18
	RXFP4
	RGS10
	CNR1
	ADORA3
	NPBWR2
	GNAI3
	HTR1B
	LPAR3
	AGTR2
	CXCR3
	GRM4
	NPY4R
	CNR2
	P2RY4
	NMS
	OXER1
	TAS2R1
	DRD3
	HCAR2
	CCL25
	TAS2R19
	TAS2R31
	TAS2R13
	GPR55
	GRM2
	CXCL1
	CXCL12
	GNAT3
	LPAR2
	ADRA2C
	TAS2R41
	TAS2R40
	RGS14
	CXCR4
	ADRA2B
	OPRM1
	RGS4
	TAS2R39
	CHRM4
	ADCY5
	CASR
	TAS2R50

	CXCL2
	TAS2R43
	TAS2R46
	HCAR3
	CCR3
	TAS2R20
	TAS2R14
	TAS2R30
	TAS2R38
	RGS6
	S1PR2
	MTRNR2L12
Fisetin	Target
	MAPK1
	IL4
	CDH1
	MAPK3
	CDK6
	TP53
	AKT1
	MMP3
	UGT1A1
	CASP3
	BID
	MMP1
	CASP9
	UGT1A10
	UGT1A9
	CASP8
	MTOR
	PARP1
	PTGS2
	UGT1A7
	UGT1A8
	YARS
	AR
	TNF
	ADAM9
	DIO2
Methoxsalen	Target
	BHLHE40
	CYP1B1

	CYP2C9
	HAL
	TMPRSS11D
	MITF
	CYP2A6
	CYP2A7
	NR1I2
	CYP3A4
	CYP1A2
	RAD52
	CYP2D6
	CYP1A1
Calcitriol	Target
	SEMA3F
	CX3CL1
	CDH17
	BCL3
	HSD17B2
	ESR1
	TGM1
	MZF1
	MAPK1
	CYP24A1
	TLR8
	TIMP1
	CSK
	SFRP1
	DKK4
	RELB
	TGFB1
	CD79A
	CCL2
	COL1A1
	CD38
	IBSP
	IL2
	CCND1
	CYP27B1
	CDKN1B
	IFNG
	GAPDH
	MAPK14
	NR3C1

	ODC1
	FGF23
	PPP1R3C
	DUSP1
	TNFSF11
	MYOG
	TREM1
	CDKN1A
	MYOD1
	ZFYVE20
	KDM6B
	CA1
	ADAM19
	IL6
	IER3
	TLR2
	MMP13
	THBS1
	CYP19A1
	CDH1
	ATF1
	SLC1A1
	UCP1
	MAPK3
	IL1A
	IL1B
	BIRC3
	LRP2
	CLDN16
	ICAM1
	STC2
	TNC
	CALB1
	ABCB1
	CDK2
	KRT71
	RB1
	CYP11A1
	TP53
	IGFBP4
	AKT1
	LILRB4
	KCNH1
	REN

	EGFR
	IFNA1
	PTH
	GJA1
	TMPRSS11D
	HOXA10
	DKK2
	CSF1R
	PPARG
	STC1
	CCL5
	ALPPL2
	HPGD
	PRL
	IGF1
	TRH
	CTLA4
	CD14
	PRKCB
	FOS
	IL8
	KRT74
	MMP14
	PPP1R3B
	TLR10
	LPL
	CASP3
	UCP2
	PLA2G1B
	CD46
	KLK3
	EDNRA
	MET
	MMP1
	NOS2
	NFATC1
	SOCS1
	SOCS3
	TCF12
	CALCA
	RARB
	TNPO1
	CYP3A4
	PLAUR

	TRPC6
	UGT2B15
	PLD1
	ATG5
	RUNX3
	IL17A
	CTNNB1
	TCF4
	MAP3K5
	CD163
	TRPV6
	MAPK8
	MEPE
	BECN1
	DUSP10
	BGLAP
	JUN
	RUNX2
	CH25H
	VEGFA
	MMP9
	DKK1
	ALOX5
	KLF4
	AR
	ALPL
	CDA
	PLA2G2A
	FOXP3
	EDNRB
	MYC
	NPHS1
	PCNA
	CD83
	GATA3
	PHEX
	KL
	S100G
	COL2A1
	IGFBP3
	MBP
	ALPP
	G6PD
	SPP1

	PTHLH
	NFATC2
	MYH11
	MAP3K1
	MIER1
	RELA
	LTBP1
	CEBDP
	ACAN
	IGF2
	TNF
	RHOA
	PRKCA
	GDNF
	IL10
	RXRA
	CASR
	ITGAM
	VDR
	CAMP
Caffeine	Target
	HEBP1
	PYGM
	DRD4
	LGALS1
	PYGL
	BDKRB1
	PDYN
	MMP2
	CYP3A5
	C5
	PPY
	CXCL6
	CCND1
	GRM6
	OPRD1
	TAS2R8
	TAS2R10
	TAS2R7
	TAS2R9
	NPY
	C3
	S1PR4

	CCR7
	TAS2R3
	TAS2R4
	TAS2R5
	CYP4F11
	MCHR1
	GALR3
	TAS2R16
	PPP1R1B
	ADCY7
	SSTR4
	NMUR2
	HRH4
	MTNR1B
	APLNR
	ANXA1
	CCL21
	CCL27
	ADCY3
	CYP1B1
	SLC1A1
	PIK3CA
	NMU
	POMC
	KNG1
	OPRK1
	GAL
	CDK2
	KRT71
	RB1
	SSTR1
	TP53
	AKT1
	SLC6A3
	REN
	GPR17
	ACKR3
	STAR
	NTRK2
	ATM
	TAGLN
	ADRA2A
	MCHR2
	PTH

	APP
	CYP2C18
	ADCY8
	NAT2
	CXCL13
	SST
	HTR5A
	PIK3CB
	CXCR5
	CCR2
	CCR5
	CCL5
	CCL16
	CXCL16
	SSTR5
	ADCY9
	MITF
	CXCR1
	CXCL3
	CXCL5
	PPBP
	CCR1
	RGS20
	ADCY1
	GPER1
	NOS3
	OXGR1
	GALR1
	CYP2A6
	CYP2A7
	PNOC
	C3AR1
	IGF1
	FPR1
	MTNR1A
	CXCR6
	ADORA2B
	S1PR1
	APLN
	CXCL10
	NMUR1
	FOS
	ITPR1
	PRSS27

	IL8
	CXCL11
	KRT74
	P2RY12
	BDKRB2
	HTR1E
	CYP2S1
	P2RY14
	ADORA1
	CCL19
	CASP3
	ADCY6
	ADCY4
	GNAI2
	PRKDC
	HTR1D
	PAK2
	HTR1A
	CXCR2
	CHRM2
	P2RY13
	SLC2A4
	CYP4F12
	HTR1F
	UCP3
	PENK
	GSK3B
	HSP90AB1
	CCR8
	TAS2R60
	LPAR5
	S1PR5
	RXFP3
	DUSP8
	GALR2
	NPW
	SSTR3
	CASP9
	NPBWR1
	PDE1A
	PDE4B
	PMCH
	CCR10
	NPY2R

	CCR4
	CYP2A13
	NPB
	PTGDR2
	RGS19
	CYP2F1
	TAS2R42
	CYP4Z1
	GNG2
	HSP90AA1
	ADORA2A
	OPRL1
	CYP3A7
	NOS1
	CYP3A4
	SNCA
	NPY5R
	CCR6
	FPR2
	FPR3
	CYP1A2
	HRH3
	ADCY2
	GNAI1
	GPR18
	GRM8
	SND1
	C5AR1
	SAA1
	PTGER3
	HCAR1
	RAET1E
	SSTR2
	CCR9
	GRM7
	S1PR3
	CCL20
	LPAR1
	RYR1
	PYY
	CYP2D6
	CCL28
	MTOR
	NPY1R

	DRD2
	CXCL9
	SUCNR1
	GRM3
	RGS7
	RYR2
	AGT
	PARP1
	RGS1
	RGS18
	RXFP4
	RGS10
	CNR1
	ADORA3
	NPBWR2
	GNAI3
	HTR1B
	LPAR3
	CYP2J2
	CYP2C8
	CYP4X1
	AGTR2
	CYP4B1
	VEGFA
	ADA
	CXCR3
	GRM4
	NPY4R
	ITPR3
	CNR2
	P2RY4
	NMS
	PIK3CD
	OXER1
	CYP1A1
	AVP
	TAS2R1
	CHEK2
	DRD3
	RYR3
	HCAR2
	CCL25
	TAS2R19

	TAS2R31
	TAS2R13
	GPR55
	SFTPB
	GRM2
	CDK1
	CXCL1
	CXCL12
	GNAT3
	LPAR2
	ADRA2C
	TAS2R41
	TAS2R40
	RGS14
	CXCR4
	ADRA2B
	CREB1
	CHEK1
	OPRM1
	RGS4
	TAS2R39
	CHRM4
	ADCY5
	CASR
	TAS2R50
	CXCL2
	TAS2R43
	TAS2R46
	HCAR3
	CCR3
	TAS2R20
	TAS2R14
	TAS2R30
	VDR
	TAS2R38
	RGS6
	S1PR2
	MTRNR2L12

Triacontane	SHBG
Ascorbic acid	GSK3B

Chlorogenic acid	AKR1B1
	AKR1B10
	MMP13
	MMP2
	MMP12
	APP
	ELANE
	SLC37A4
	PYGL
	PRKCD
	PRKCA
	BACE1
	PDE5A
	PDE4D
	PDE9A
	PDE1B
	CA2
	CA1
	CA12
	CA9
	CA5B
	EDNRA
	ABCB1
	NEU4
2-Hydroxy-4-methoxybenzaldehyde	ERN1
	CA2
	CA1
	CA7
	CA12
	CA14
	CA9
	HDAC3
	HDAC6
	ALPG
	PLAA
	CDC25B
	NAT1
	EGFR
	MB

alpha-Amyrin	AR
	ESR1
	CHRM2
	ACHE
	SLC6A4
	CYP2C19
	CYP19A1
	NR1I3
	PTPN1
	BCHE
	SLC6A2
	SREBF2
	ESR2
	NPC1L1
	CYP17A1
	NR1H3
	HMGCR
	CYP51A1
	PTPN6
	PTPN2
	SQLE
	RORC
	PREP
	PTGES
	SHBG
	CDC25B
	FABP4
	PPARG
	PPARA
	TERT
	FABP3
	FABP5
	PPARD
	FABP1
	RORA
	HSD11B1
	SCD
	POLB
	PDE4D
	PTPRF
	PLA2G1B
	ACP1

	AKR1B10
	CDC25A
	FNTA FNTB
	HSD11B2
	CES2
	CNR1
	CD81
	ADORA3
	MAPK3
	PTPN11
	UGT2B7
	ALOX5
Friedelin	CYP19A1
	CA4
	CES1
	CES2
	NR1I3
	CA2
	CA1
	AR
	PTGS1
	HSD17B7
	SRD5A1
	SRD5A2
	CCR2
	EPHX1
	CNR1
	EPHX2
	GABBR1
Epifriedelanol	TRPM8
	CA4
	CDC25A
	CDC25B
	AR
	ESR1
	ESR2
	SHBG
	NR1I3
	CA2
	CA1

	UGT2B7
	GPBAR1
	SHH
	HSD11B1
	NPC1L1
	POLA1
	NR1H4
	GLRA1
	CNR1
	CNR2
	VDR
	SERPINA6
	HSD17B3
Lupeol acetate	HSD11B1
	PREP
	ACHE
	PTPN1
	TAS2R31
	F2
	PRSS1
	CTRC
	VDR
	C5AR1
	CES2
	TNKS
	PTGS2
	HSD11B2
	ATP12A
	TRPV1
	AR
	BRD4
	BRD2
	BRD3
	QPCT
Geranylacetone	TRPV1
	MTNR1A
	ADH1A
	ADH1C

	CTSK
	TRPM8
	DBF4 CDC7
	MTNR1B
	P2RX7
	PARP1
	NQO2
	HLCS
	EPHX2
	GABRA1 GABRB2 GABRG2
	GRM1
	FAAH
	FNTA FNTB
	CA2
	GABRB3 GABRA3 GABRG2
	GABRB3 GABRG2 GABRA1
	GABRB3 GABRG2 GABRA5
	GABRA2 GABRB3 GABRG2
	GABRG2 GABRB3 GABRA6
	ACHE
	CA1
	NOS1
	S1PR3
	TSPO
	CHRM2
	HSP90AA1
	GRK2
	EPHX1
	GRM5
	CNR2
	MAOB
	SLC6A4
	SLC6A3
	CYP24A1
	CYP27A1
	CHRM1
	JAK2
	GRM2
	CA7
	ADH1B
	CYP2C19
	HCRT2

	HCRT1
	PSMB5
	TGM2
	MMP3
	MMP9
	MMP1
	SIRT2
	PDE5A
	MAOA
	SPHK2
	CACNA1B
	THRB
	MMP13
	MMP8
	CA9
	KCNA5
	NAAA
	PIM1
	HSD17B2
	ADORA2A
	ADORA3
	PDE9A
	AKT1
	EEF2K
	ADORA2B
	TNKS2
	TNKS
	LRRK2
	JAK1
	SLC18A3
	BRD4
	PSEN2 PSENEN NCSTN APH1A PSEN1 APH1B
	DRD2
	OPRM1
	CA12
	S1PR1
	NOS3
	ITK
	KIF11
	ABCG2
	AVPR2
	AVPR1A

	CYP11B1
	ADORA1
	NMT1
	DUSP3
	CYP11B2
	CTSL
	CTSB
	HSD17B1
	CTSV
	SIRT1
	CCR2
	TGFBR1
gamma-Terpineol	PTPN1
	NR1I3
	AR
	CYP19A1
	ATP12A
	SLC6A4
	CHRM2
	NR1H3
	ACHE
	CA2
	CA1
	CA4
	ESR1
	SREBF2
	NPC1L1
	DRD2
	SQLE
	BCHE
	TRPM8
	PTPRF
	PTPN2
	PLA2G1B
	CDC25B
	ACP1
	AKR1B10
	SLC6A2
	CYP2C19
	PTPN6

Heptacosane	SHBG
Myrcene	PPARA
	CNR2
(-)beta-Bourbonene	PPARA
	CNR2
gamma-Terpinene	TRPV1
	PLK1
	GLI2
	GLI1
Cyclohexene, 6-ethenyl-6-methyl-1-(1-methylethyl)-3-(1-methylethylidene)-, (S)-	ADORA1
	ADORA2A
	ADORA3
	AR
	ESR1
	CYP19A1
	CXCR3
	RBP4
Geranic acid	CDC25A
	CDC25B
	AKR1B1
	UGT2B7
	PTGS2
	NOTUM
	SAE1 UBA2
	PTGER2
	PTGER3
	SRD5A2
	SLC16A1
	NR4A1
	CXCL8
	PTGS1
	CTSB
	SLC22A6
	SLC22A12
	KMO
	AKR1C3

	PTPRG
	FABP4
	FABP3
	AKR1C1
	PDPK1
	PTGDR
	PTGDR2
	CA2
	DAO
	ITGAL ICAM1 ITGB2
	ESR1
1-Octen-3-OL	UGT2B7
	DRD2
	PTGS1
	SLC6A3
	HMOX1
	HSD11B1
	CA2
	CA1
	CA4
	TRPV3
	AR
	NR1H3
	ADRA2C
	NR3C2
	PGR
	HSD17B2
	JAK1
	JAK2
	CYP11B1
	CYP11B2
	ACPP
	KCNA5
	CYP19A1
	NR1I3
	CHRM4
	OPRM1
	OPRD1
	OPRK1
	PTAFR
	CHRM2

	TRPM8
	JAK3
	TYK2
p-Cymene	CYP2A6
	ACHE
	TAAR1
	PPARA
	PTGS1
	TRPA1
Damascenone	CYP19A1
	ALOX15
	ALOX12
	TRPA1
	CES1
	MPI
	CES2
	CHRM2
	CHRM1
	ADH1A
	AR
	CHRNA4 CHRNB2
	ADH1C
	GRM5
	ADORA1
	ADORA2A
	ADORA3
	HTR7
Methyl palmitate	CA2
	CA1
	HSD17B3
	FABP4
	PPARA
	FABP3
	FABP5
	PPARD
	FABP2
	CPT1A
	VDR
	SLC22A6

	FFAR1
	GPBAR1
	AKR1B10
	UGT2B7
	PTPN1
	HSD11B1
	KDM2A
	PHF8
	KDM5C
	HMGCR
	NR1H4
	SERPINA6
	SHBG
	G6PD
	GABBR1
	TRPV1
	POLB
	ALOX5
	MPEG1
	SLC1A1
	PTGFR
	CYP19A1
	PFKFB3
	F2R
	DCK
Linalyl acetate	CTSK
	CTSL
	CTSB
	EPHX1
	CTSH
	PDE10A
	CA2
	ADRA2A
	ADRA2C
	ADRA2B
	ADRA1A
	CYP11B1
	GABRA2 GABRB2 GABRG2
	CYP11B2
	SLC6A4
	C1R

	ELANE
	ADORA1
	ADORA2A
	CHRM4
	CHRM5
	CHRM2
	CHRM1
	CHRM3
	GPR55
	FKBP1A
	GABRB3 GABRG2 GABRA5
	BRD4
	GABRA1
	GABRA3
	GRM5
	GABRA2
	GABRA5
	TSPO
	HMOX1
	KCNK2
	PTAFR
	PLA2G6
	ADRA1D
	TGFBR1
	CTRB1
	BCHE
	ADORA2B
	ADORA3
	PLA2G7
	PSMB1
	P2RX7
	CCR1
	CCR5
	CCR8
	HRH3
	HRH4
	TAAR1
	CHRNA4
	PTGS1
	NISCH
	HSD17B3
	CXCR2

	PDE5A
	THRΒ
	EGFR
	PIK3CD PIK3R1
	LIPE
	GRM2
	IDH1
	PIM1
	JAK3
	JAK2
	HSP90AB1
	P2RY1
1-Hexanol	CA2
	CA1
	CA4
	CDC25A
	CDC25B
	NR1I3
	AR
	NR1H4
	GPBAR1
	SHH
	TRPM8
	MIF
	DPP4
	ESR2
	DRD2
	SIGMAR1
1-Tetradecanol	TRPM8
	CA2
	CA1
	CA4
	AR
	CDC25A
	CDC25B
	UGT2B7
	ESR1
	SHBG
	ESR2
	NR1I3

	HSD11B1
	NPC1L1
	SHH
	NR1H4
	ICMT
	POLA1
	EPHX2
	AKR1C3
	GPBAR1
	CNR1
	CNR2
	SLC6A2
	RBP4
	TNF
	RORC
	RORA
	SMO
	EPHX1
	TRPV1
	PRKCA
	NR1H3
	MGLL
	PYGL
	NR3C1
	CYP17A1
	GRM2
Dodecanal	CA1
	CA2
	CYP19A1
	CES1
	CES2
	CA4
	AR
	NR1I3
	ADH1A
	ADH1C
	HLCS
	EPHX1
	PGR
	ABCG2
	PTGS2

	SRD5A1
	SRD5A2
	CNR1
	CNR2
	NQO2
	PARP1
	MGLL
	MTNR1A
	MTNR1B
	MMP13
	MMP1
	CYP17A1
	PAOX
	HSD17B1
	IMPDH2
	CA12
	CA9
	GRM5
	HTR2C
	ALOX5
	PPARG
	EPHX2
	JAK1
	P2RX7
	CYP27A1
	HRH1
	SLC6A15
	CCR2
	MAOA
	MAOB
	MAPK14
	MPI
	DRD2
	ACHE
	DRD3
	ADORA2A
	MMP9
	MMP2
	MCL1
6-Methyl-5-hepten-2-one	ADH1A
	PARP10

	GSK3B
	ADH4
	ADH1B
	ADH1C
	MAOB
	ACHE
	P2RX7
	PARP1
	CYP2A6
	ACE
	IMPDH2
	CA2
	CA1
	CTSK
	CTSL
	CTSB
	NOS2
	CHRM4
	CHRM2
	GABRB3 GABRG2 GABRA5
	HDAC8
	CA12
	CHRNA4 CHRN B2
	SLC6A3
	CHRM5
	CHRM1
	CHRM3
	SIRT2
	HMOX1
	PTPRC
	HTR7
	CHR NA7
	IDO1
	CA9
	TPO
	CYP11B1
	GABRB3 GABRA3 GABRG2
	GABRB3 GABRG2 GABRA1
	GABRA2 GABRB3 GABRG2
	GABRG2 GABRB3 GABRA6
	MPO
	CYP11B2

	PDE7A
	MCL1
	EPHX1
	NQO2
	SLC5A7
	CA5A
	MTNR1A
	MTNR1B
	F2
	PRSS1
Azulene	ESR1
	ESR2
Hentriacontane	SHBG
delta-Guaiene	PPARA
	CNR2
	CYP19A1
	FAAH
	TRPV1
	CXCR3
	AR
	ESR1
	CHRM2
	ACHE
	SLC6A2
	SLC6A4
	CYP2C19
Tetracosane	SHBG
Hexacosane	SHBG
	SPHK2
Pentacosane	SHBG
Heneicosane	SHBG
Octacosane	SHBG
Octacosane	SHBG

Nonacosane	SHBG
Tritriacontane	SHBG
Tricosane	SHBG
Benzyl benzoate	TYMS
	CA12
	CA1
	CA9
	CA2
	ESR2
	DAO
	CA7
	CA14
	CRHR1
	TRPA1
	F2
	PRSS1
	TBXAS1
	PLA2G7
	PRKCD
	CYP11B1
	CXCR2
	PLA2G2A
	CTRBL
	CYP2A6
	ADRA2A
	ADRA2C
	ALDH3A1
	GABRB3 GABRG2 GABRA5
	CYP17A1
	SQLE
	RAPGEF4
	GRM5
	GABRA2 GABRB2 GABRG2
	PIK3CD PIK3R1
	CCR8
	C1R
	P2RX7
	METAP1

3-Carene	PPARA
	CNR2
	FAAH
	TRPV1
	AR
	CYP19A1
	ESR1
	CHRM2
	SLC6A2
	SLC6A4
	CYP2C19
alpha-Terpinyl acetate	F2
	PRSS1
	HMGCR
	FNTA FNTB
	CYP19A1
	PTPN1
	HSD11B1
	CES2
	EPHX1
	CTRC
	SQLE
	FAAH
	PLA2G2A
	PTPN2
	CA2
	CA1
	PTGES
	CTSK
	CTSL
	CTSB
	ADRA2A
	ADRA2C
	ADRA2B
	SLC6A3
	CTSH
	ADRA1A
	PTGS2
	CYP17A1
	LSS

	AR
	HSD11B2
	EPAS1
	CYP11B1
	GABRA2 GABRB2 GABRG2
	CYP11B2
	P2RX7
	CTRBI
	KCNK2
	PLA2G6
	TAS2R31
	TAAR1
	PDE10A
	GPR55
	LIPE
	HRH3
	HRH4
	HSD17B3
	SHBG
	AKR1C2
	AKR1C1
	MET
	XPO1
	ABCC1
	GABRB3 GABRG2 GABRA5
	ELANE
	HSD17B2
	CEL
	GRM5
	NLRP3
	ATP12A
	HIF1A
	TGFBR1
	CNR1
	FLT3
	CREBBP
	TBXAS1
	CCR1
	CCR5
	CCR8
	CHRNA4
	ALDH2

	PIK3CD PIK3R1
	ICAM1
	PRKDC
	VCAM1
	SELE
	ADRA1D
	IDO1
	EGFR
	TBXA2R
	ADORA2A
	MAPK14
	HSP90AB1
	CYP2A6
	TNKS2
	QPCT
	ABCG2
alpha-Selinene	CYP19A1
	PPARA
	CNR2
	AR
	ESR1
	CHRM2
	ACHE
	SLC6A2
	SLC6A4
	CYP2C19
	NR1H3
	BCHE
	PTPN1
	NR1I3
	FAAH
	TRPV1
	ESR2
(S,1Z,6Z)-8-Isopropyl-1-methyl-5-methylenecyclodeca-1,6-diene	PPARA
	CNR2
	ADORA1
	ADORA2A
	ADORA3
	AR
	CYP19A1

	ESR1
	CXCR3
Terpinolene	PPARA
	CNR2
Geranyl acetate	HSD11B1
	ACHE
	CES1
	ADORA1
	ADORA2A
	ALDH2
	ALDH1A1
	ALDH3A1
	ADRA1D
	FAAH
	ALOX5
	BACE1
	CCR4
	MAPK9
	MAPK10
	CNR2
	CA2
	CA4
	CES2
	CTSB
	CTSH
	CTSK
	CTSL
	C1R
	CCNE1 CDK2
	CDK5
	CDK5R1 CDK5
	PTGS1
	PTGS2
	CYP11B1
	CYP11B2
	CYP17A1
	CYP2A6
	CYP2C19
	PRKDC
	EGFR

	EPHX2
	EPHX1
	HSD17B3
	GABRA1
	GABRA5
	GABRB3 GABRG2 GABRA1
	GABRA2 GABRB3 GABRG2
	GABRB3 GABRA3 GABRG2
	GABRB3 GABRG2 GABRA5
	PGGT1B FNTA
	GCGR
	QPCT
	GSK3B
	HRH3
	HRH4
	LIPE
	HTT
	HPRT1
	CHUK
	IKBKB
	IDH1
	LRRK2
	ELANE
	CSF1R
	MAPK14
	MMP1
	MMP2
	MMP9
	GRM2
	GRM4
	GRM5
	ABHD6
	MAOB
	MGLL
	CHRM1
	CHRM2
	CHRM3
	MPO
	NAAA
	NPY5R
	NAMPT
	P2RX7

	PIK3CD PIK3R1
	F2R
	AURKA
	PIM1
	HTR2A
	HTR2C
	ABCC9
	KCNJ11 ABCC9
	TNKS
	TNKS2
	F2
	TBXA2R
	TBXAS1
	TSPO
	TMIGD3
	PRSS1
	TUBB1
	JAK1
	JAK2
	JAK3
	PLAU
	KDR
Neryl acetate	CYP17A1
	NPY5R
	ACHE
	ALOX5
	F2R
	CYP11B1
	ADRA1D
	CYP11B2
	GRM2
	CTSK
	EGFR
	LIPE
	ABCC9
	KCNJ11 ABCC9
	PIM1
	PTGS1
	CTSH
	PTGS2
	HRH3

	HRH4
	CTSL
	CTSB
	LRRK2
	JAK3
	JAK1
	JAK2
	PRKDC
	HTR2C
	METAP1
	KDR
	AURKA
	CCNE1 CDK2
	GSK3B
	CDK5
	HTR2A
	BACE1
	MTNR1A
	MTNR1B
	F2
	GABRB3 GABRG2 GABRA5
	PRSS1
	FAAH
	ELANE
	PLAU
	C1R
	CA2
	PGGT1B FNTA
	PDGFRA PDGFRB
	CA4
	CDK5R1 CDK5
	GRM5
	ADRA2A
	IDH1
	TBXA2R
	BRAF
	CYP2A6
	PIK3CD PIK3R1
	CES1
	CNR2
	CES2
	NAAA

	TNKS2
	TNKS
	GABRA1
	ADORA1
	ADORA2A
	MAPK10
	TMIGD3
	MAPK9
	HTT
	SLC6A3
	CCR4
	MMP9
	MMP1
	MMP2
	HSD17B3
	TBXAS1
	CSF1R
	CHRM2
	CHRM1
	CHRM3
	TUBB1
	QPCT
	GABRA5
	ALDH2
	ALDH1A1
	ALDH3A1
	MAOB
	GABRB3 GABRA3 GABRG2
	GABRB3 GABRG2 GABRA1
	GABRA2 GABRB3 GABRG2
	HPRT1
	MPO
	MAPK14
	HSD11B1
	P2RX7
	TSPO
	GCGR
	IKBKB
	CHUK
Humulene	GLI2
	GLI1

	PPARA
	CNR2
	TRPV1
Neral	ADH1A
	ALDH1A1
	DRD2
	DRD4
	PDE7A
	CHRM2
	CHRM1
	CHRM3
	MAOA
	MAOB
	SIRT2
	GLI2
	GLI1
	TYMS
	IMPDH2
	PARP1
	CYP2A6
	CHRM4
	CHRM5
	KAT2B
	CYP2C19
	SRD5A1
	GSR
	ADH1C
	CTSK
	CTSL
	CTSB
	TDO2
	IDO1
	CHRNA4 CHRN B2
	PTGS2
	ADH1B
	ADH7
	CA2
	CA1
	ACHE
	PIN1

	MPO
	CHEK1
	CA5A
	GABRB3 GABA3 GABRG2
	GABRB3 GABRG2 GABA1
	GABRB3 GABRG2 GABA5
	GABA2 GABRB3 GABRG2
	GABRG2 GABRB3 GABA6
	PABPC1
Elemol	UGT2B7
	HSD11B1
	PTGS1
	NR1H3
	CYP19A1
	SLC6A4
	AR
	CYP17A1
	NR3C2
	BCHE
	SLC10A2
	SAE1 UBA2
	AKR1B10
	NR1I3
	GCGR
	ICMT
	PSEN2 PSENEN NCSTN APH1A PSEN1 APH1B
	CNR2
	PER2
	SLC18A3
	HSD17B2
	HMGCR
	PABPC1
	ABHD6
Valencene	PPARA
	CNR2
	CYP19A1
	AR
	ESR1
	CHRM2
	SLC6A2

	SLC6A4
	CYP2C19
	NR1H3
	BCHE
	PTPN1
	NR1I3
	FAAH
	TRPV1
	ESR2
(+)-delta-Cadinene	PPARA
	CNR2
	TRPV1
	GLI2
	GLI1
Citronellal	FAAH
	CYP19A1
	TRPV1
	ADH1A
	ADH1B
	ADH7
	SRD5A1
	TRPA1
	MAOB
	DRD2
	HLCS
	PGR
	MAOA
	SIGMAR1
	SRD5A2
	ALDH1A1
	PTGS1
	DRD4
	CTSK
	CTSL
	CTSB
	SIRT2
	PPARG
	ABCG2
	MTNR1A
	MTNR1B

	ADH1C
	PARP1
	PSEN2 PSENEN NCSTN APH1A PSEN1 APH1B
	PPARA
	CTSD
	FABP5
	PPARD
	FABP1
	MMP13
	MMP1
	HDAC6
	HDAC1
	CACNA1B
	PSMB5
	CHRM1
	MMP8
	AR
	FABP4
	FABP3
	IKBKB
	EPHX2
	CCND1 CDK4
	DBF4 CDC7
	JAK1
	JAK2
	ACE
beta-Amyrin	AR
	PTPN1
	ESR1
	CHRM2
	ACHE
	SLC6A4
	CYP2C19
	NR1I3
	SLC6A2
	CYP19A1
	BCHE
	HMGCR
	CYP51A1
	NPC1L1
	SREBF2

	ESR2
	SHBG
	NR1H3
	CYP17A1
	RORC
	PTPN6
	PTPN2
	SQLE
	PREP
	PTGES
	FABP4
	FAAH
	PPARG
	PPARA
	TERT
	FABP3
	FABP5
	PPARD
	FABP1
	RORA
	CDC25B
	HSD11B1
	SCD
	POLB
	SERPINA6
	PDE4D
	PTPRF
	PLA2G1B
	ACP1
	AKR1B10
	CES2
	CDC25A
	HSD11B2
	FNTA FNTB
	CD81
	ADORA3
	MAPK3
	PRKCH
	PTPN11
	NOS2
	CNR1
	UGT2B7

	ALOX5
Cyanin	CD38
	ADRA2C
	NMUR2
	ADRA2A
	ACHE
	RPS6KA3
	NQO2
	NOX4
	AKR1B1
	CA2
	CA7
	CA12
	CA4
	XDH
	PTGS2
	TNF
	IL2
	PDE5A
	ADORA1
Dihydro-beta-ionol	CYP19A1
	PTPN1
	AR
	ESR1
	CHRM2
	ACHE
	SLC6A2
	SLC6A4
	CYP2C19
	NR1I3
	CYP17A1
	SHBG
	NR1H3
	SQLE
	BCHE
	SREBF2
	NPC1L1
	HMGCR
	CYP51A1
	HSD11B1

	PDE4D
	PTPRF
	PTPN2
	PLA2G1B
	ACP1
	AKR1B10
	PTPN6
	CDC25B
	FABP4
	PPARA
	TERT
	FABP3
	FABP5
	PPARD
	FABP1
	CD81
	UGT2B7
	SCD
	CES2
	SERPINA6
	PREP
	ESR2
	ATP12A
	RORA
	PTGS1
	RORC
Caryophyllene oxide	SQLE
	LSS
	SLC6A4
	SLC6A3
Phytol	UGT2B7
	CDC25A
	CDC25B
	AR
	GLRA1
	RORC
	RORA
	ICMT
	DHCR7
	SMO

	NPC1L1
	PRKCA
	MDM2
	NR1H2
	CNR2
	HSD11B2
	PGR
	CXCR3
	MGLL
	DRD2
Isocaryophyllene	PPARA
	CNR2
	FAAH
	TRPV1
	CXCR3
(Z)-beta-Ocimene	PPARA
	CNR2
2-Furanmethanol, 5-ethenyltetrahydro-alpha,alpha,5-trimethyl-, cis-	HSD17B2
	CYP11B1
	CYP11B2
	LRRK2
	AR
	CDK5R1 CDK5
	NR3C1
	PGR
	GSR
	FKBP1A
	AOC3
	FAAH
	PTAFR
	BRD4
	BRD2
	MIF
	DRD4
	CYP51A1
alpha-Phellandrene	PPARA
	CNR2
	ADORA1

	ADORA2A
	ADORA3
beta-Caryophyllene	PPARA
	CNR2
	FAAH
	TRPV1
(E)-beta-ocimene	PPARA
	CNR2
	MAOB
trans-Linalool oxide	HSD17B2
	CYP11B1
	CYP11B2
	AR
	NR3C1
	PGR
	LRRK2
	CDK5R1 CDK5
	BRD4
	BRD2
	GSR
	FKBP1A
	FAAH
	PTAFR
	AOC3
	CYP51A1
	TOP2A
	DRD4
	JAK3
	JAK1
	JAK2
	TYK2
Nerolidol	SQLE
	BACE1
	PER2
	PGR
	HSD17B2
	IDO1
	GCGR

	GRM5
	PSEN2 PSENEN NCSTN APH1A PSEN1 APH1B
	NR3C1
	SLC6A3
	HRH3
	SLC10A2
	CASR
	PDE2A
	PDE10A
	OPRL1
	CYP2C9
	CYP3A4
	NR1H3
	JAK3
	NPY5R
	AVPR1A
	MAPK8
	PRKCD
	TTL
	FNTA FNTB
	KCNH2
	F2R
	TRPV1
	PABPC1
	MAPK14
	CCR1
	KCNA5
	KCNA3
	PYGL
	GRM2
	PGGT1B
	CDC25A
	CYP11B1
	CYP11B2
	BRS3
	MDM2
	LYPLA2
	FDFT1
	NR1H2
	PTPN1
	PTGS2
	AVPR2

	OXTR
	CHRM1
	CHRM3
	KDR
	NOS1
	AKR1C3
	IL6ST
	SCN9A
	NPY2R
	NR1I2
	TRPA1
	PRCP
	ICMT
	FKBP1A
	ABHD6
	EIF2AK1
	PGGT1B FNTA
	EPHX2
	CHRM4
	CHRM5
	C5AR1
	SIGMAR1
	GCK
	GABRB3 GABRA3 GABRG2
	GABRB3 GABRG2 GABRA1
	GABRB3 GABRG2 GABRA5
	GABRA2 GABRB3 GABRG2
	CSF1R
	KIT
	GABBR2 GABBR1
	JAK1
	JAK2
	PIK3CD
	LYPLA1
	PRKDC
	HSD17B3
Asperglaucide	CCR3
	CTSB
	TACR2
	CTSK
	ACE

	CTSS
	OPRM1
	OPRK1
	F10
	MMP3
	MMP9
	BACE1
	OPRD1
	CTSL
	PTGS2
	MMP1
	HLA-DRB1
	F2
	PSMB5
	CBX7
	ITGA2B ITGB3
	PSENEN
	PDE10A
	GHSR
	CTSV
	IDH1
	SOAT1
	SYK
	CCKBR
	NR1H4
	FLT1
	KDR
	FGFR1
	CAPN1
	GABRB3 GABRA3 GABRG2
	GABRA2 GABRB3 GABRG2
	GABRA1 GABRB2 GABRG2
	CMA1
	HDAC6
	S1PR3
	PDPK1
	CTSG
	HDAC1
	MAPK14
	DYRK1A
	TBK1
	MDM4

	CDK8
	CA2
	CACNA1C
	PTGS1
	F2RL1
	FNTA FNTB
	PTGER1
	PDGFRA
	TBXA2R
	MAPK8
	PDE2A
	HDAC2
	AURKB
	PDE4D
	PDE4C
	CDK1
	ALOX5AP
	PAM
	TGM1
	KCNJ5 KCNJ3
	MAP2K1
	F13A1
	RHOA
	CBX8
	CBX4
	MMP8
	NOX4
	PLA2G7
	TYRO3
	SLC7A11
	METAP1
	GPR183
	VDAC2
	LRRK2
	PDGFRB
	MAPKAPK2
	RPS6KA3
	NTRK1
	MAPK11
	HIF1A
	NAMPT
	TSHR

	FLT3
	JAK2
	PRKDC
	PTGES
	NTSR1
	CETP
	PABPC1
	SLC27A1
	JAK3
	TGFBR1
	TACR1
Cycloartenol	AR
	CHRM2
	CYP2C19
	PTPN1
	SLC6A2
	HSD11B1
	NR1I3
	HMGCR
	CYP51A1
	BCHE
	UGT2B7
	ESR1
	SLC6A4
	PTGS2
	NR1H3
	CYP19A1
	CYP17A1
	ACHE
	NPC1L1
	RORC
	ESR2
	VDR
	GLRA1
	SHBG
	CES2
Myrcenol	PTGS1
	HSD11B1
	DRD2
	NR3C1

	HMOX1
	NR3C2
	PGR
	SIGMAR1
	TRPV3
	ADRA2C
	AR
	CA1
	CA2
	CA4
	SLC6A3
	HSD17B2
	IDO1
	TRPM8
	JAK1
	JAK2
	UGT2B7
	AKR1C3
	ADRA1A
	CYP19A1
	OPRD1
	EGFR
	PSEN2 PSENEN NCSTN APH1A PSEN1 APH1B
	OPRK1
	LRRK2
	LTA4H
	NR1H3
	MAPK1
	MAP3K14
	OPRM1
	CHRM2
	CHRM4
	PTAFR
	STK3
	PIM1
	PIM3
	SCN9A
	SCN5A
	ABCC9
	TYMS
	JAK3
	TYK2

	KCNA5
	KCNE1 KCNQ1
Myrtenol	AR
	CA2
	CA1
	CA4
	RORC
	NPC1L1
	RORA
	PTPN1
	NR1I3
	SHBG
	TRPM8
	CYP19A1
	SQLE
	NR1H3
	DRD2
	CHRM2
	SLC6A4
	SREBF2
	LTB4R
	ACHE
	PTPN6
	PTPN2
	SPHK2
	SPHK1
Elemicin	NQO2
	HMGCR
	HTR2A
	P2RX7
	PTGS1
	PIK3CB
	PIK3CA
	ACHE
	CYP19A1
	GRM5
	NQO1
	GRM2
	BDKRB2
	IDO1

	TBXAS1
	CYP11B1
	CYP11B2
	PDE10A
	CALM1
	STAT3
	TUBB1
	RGS4
	MIF
	MST1R
	MGLL
	NUDT1
	QPCT
	PDE7A
	CCNE2 CDK2 CCNE1
	GABRA1
	GABRA5
	CDC7
	CTSH
	CTSC
	CTSF
	CTSK
	CTSS
	CTSV
	NOS1
	NOS3
	CCNB3 CDK1 CCNB1 CCNB2
	CYP17A1
	TYK2
	MAPK10
	GRM4
	JAK2
	EP300
	CREBBP
	ADORA2B
	JAK1
	BRD9
	USP10
	USP13
	MKNK1
	DNMT3A
	GABRB3 GABRG2 GABRA5

	CCND3 CCND1 CDK4 CCND2
	GALR3
	CDK2
	CDK1
	CHRM2
	CHRM1
	CHRM3
	BRPF1
	SRC
	HMOX1
	ADORA1
	ADORA2A
	HSD11B1
	TNKS2
	GCK
	HSD17B3
	KAT2B
	HDAC3
	HDAC2
	CASP3
	TGM2
	HDAC1
	CASP7
	MCHR1
	CA13
	GABRB3 GABRA3 GABRG2
	GABRB3 GABRG2 GABRA1
	GABRA2 GABRB3 GABRG2
	JAK3
	KDR
	CYP2A6
	ABCG2
	BCHE
2-(4-Methylphenyl)propan-2-ol	TRPM8
	HMOX1
	TRPV3
	NR3C2
	NR3C1
	PGR
	SLC6A3
	OPRK1

	CA2
	SRD5A2
	PTAFR
	KCNA5
	JAK1
	JAK2
	HSD17B2
	CA4
	CYP51A1
Eudesm-7(11)-en-4-ol	CYP19A1
	PTPN1
	SLC6A4
	UGT2B7
	AR
	NR1I3
	ATP12A
	ACHE
	ESR1
	CHRM2
	SLC6A2
	BCHE
	CYP2C19
	NR1H3
	RORC
	SREBF2
	NPC1L1
	CYP17A1
	SQLE
	HSD11B1
	POLB
	PDE4D
	CES2
	PTPRF
	PTPN2
	PLA2G1B
	ACP1
	AKR1B10
	SHBG
	PTPN6
	ESR2
	PABPC1

(-)-Germacrene A	PPARA
	CNR2
	NR1H3
	FAAH
	TRPV1
2-Decenal	ADH1A
	ADH1B
	ADH7
	TRPA1
	PTPN2
	ADH1C
	PGR
	CYP19A1
	CYP17A1
	SRD5A1
	AR
	UGT2B7
	ALOX15
	SRD5A2
	SERPINA6
	SHBG
	HSD17B3
	GRM1
	ALDH1A1
	NR1I3
	ATP12A
	EPHX2
	NR3C2
	NR3C1
	NR1I2
	MTNR1A
	MTNR1B
	DBF4 CDC7
(+)-gamma-Gurjunene	MAOB
	PTPN2
	CYP19A1
	TRPV1
	PPARA
	CNR2

Germacrene B	PPARA
	CNR2
	TRPV1
	GLI2
	GLI1
	ADORA1
	ADORA2A
	ADORA3
	PTPN2
Myrtenal	NR3C2
	NR3C1
	PGR
	SERPINA6
	SHBG
	NR1I2
	FABP1
	NR1I3
	SRD5A1
	CYP19A1
	SRD5A2
	FAAH
	TRPV1
	CYP17A1
	ADH1A
	SIGMAR1
	AR
	NPC1L1
	PTGES
	HSD17B3
	ADORA3
	MAPK3
	PRKCH
	HSD11B2
	CDC25A
	PTPN11
	AKR1B10
	PTGS1
	BCHE
	PTPN2
	BACE1

	CTSD
	ESR1
	ESR2
	TRPA1
	ADH1B
	ADH1C
	RORA
	HSD11B1
	PTPN6
	SLC6A3
	FNTA FNTB
	FDFT1
	DRD2
	DRD4
Phellandral	SRD5A1
	SERPINA6
	SHBG
	NR1I2
	HSD17B3
	FABP1
	SRD5A2
	CYP19A1
	TRPV1
	TRPA1
	SIGMAR1
	CCR5
	ADH1A
	PGR
	AR
	NR1I3
	NPC1L1
	PTGES
	ADH4
	ADH1B
	ADH1C
	NR3C2
	CYP17A1
	ADORA3
	MAPK3
	PRKCH
	HSD11B2

	CDC25A
	PTPN11
	AKR1B10
	NR3C1
	BCHE
	BACE1
	CTSD
	SLC6A3
	PTPN6
	FAAH
	RORA
	FNTA FNTB
	CNR1
	PPARA
	TERT
	FABP5
	PPARD
	FDFT1
	SLC5A7
	ALDH1A1
	CES1
	PTPN1
Spathulenol	UGT2B7
	HSD11B1
	IDO1
	PTGS1
	NR1H3
	PGR
	SLC6A3
	ICMT
2-Nonanone	CYP19A1
	CA2
	CA1
	CA4
	CES1
	CES2
	AR
	NR1I3
	ADH1A
	ADH1B

	ADH7
	SRD5A1
	ADH1C
	MAOA
	MAOB
	PGR
	HLCS
	ABCG2
	DRD2
	NOS2
	MTNR1A
	MTNR1B
	SIRT2
	PSMB5
	EPHX2
	CNR2
	GSK3B
	MMP13
	MMP1
	GRM5
	NOTUM
	CTSK
	PTPRC
	PTPRF
	CDC25B
	TRPA1
	DBF4 CDC7
	ALOX5
	CHRM1
	CYP2C19
	SLC6A2
	SLC6A3
	GSR
	PAOX
	IKBKB
	CA7
	JAK1
	CA3
	JAK2
	CA12
	CA14
	CA9

	CA13
	CA5B
	CHRM2
	CHRM3
	TTR
	CYP17A1
	PTGS1
	SLC6A4
	PTGS2
	SRD5A2
	ACHE
	PARP1
	NQO2
	P2RX7
	FABP4
	FABP3
Thujopsene	PPARA
	CNR2
	AR
	CYP19A1
	ESR1
	CHRM2
	ACHE
	SLC6A2
	SLC6A4
	CYP2C19
	BCHE
	PTPN1
	NR1I3
(4S)-1-Methyl-4-(prop-1-EN-2-YL)-7-oxabicyclo[4.1.0]heptane	SQLE
	BRD4
	AR
	CHRM4
	CHRM5
	CHRM3
	NR1H3
	NR1H2
	LSS
d-Borneol	AR

	ESR1
	ESR2
	SHBG
	CDC25A
	CDC25B
	NR1I3
	NR1H4
	UGT2B7
	GPBAR1
	SHH
	TRPM8
	CA2
	CA1
	CA4
	HSD11B1
	POLA1
	NPC1L1
	NR1H3
	CYP19A1
	SERPINA6
	HSD17B3
	G6PD
	GABBR1
	VDR
	GABRA2 GABRB2 GABRG2
	AKR1B10
	POLB
	CYP51A1
alpha-Muurolene	PPARA
	CNR2
	NR1H3
	CYP19A1
Methyl cinnamate	HCAR2
	AKR1B10
	CA2
	TLR4
	CA12
	CA9
	ESR2
	CA1

	KLKB1
	F2
	PLAU
	CA7
	CA14
	PDGFRA PDGFRB
	GABRB3 GABRA3 GABRG2
	GABRB3 GABRG2 GABRA5
	CYP11B1
	CYP11B2
	SLC16A1
	AKR1B1
gamma-Murolene	PPARA
	CNR2
	NR1H3
	CYP19A1
	AR
	ESR1
	CHRM2
	ACHE
	SLC6A2
	SLC6A4
	CYP2C19
beta-Thujone	CYP19A1
	CA2
	CA1
	AR
	CA4
	ADH1A
	ADH1C
	NR1I3
	PARP1
	CTSK
	CES1
	CES2
	MTNR1A
	MTNR1B
	SRD5A1
	NOS2
	MAOB

	SERPINA6
	SHBG
	G6PD
	GABBR1
	CTSL
	CTSB
	SRD5A2
	CHRM1
	ADH4
	ADH1B
	GABRB3 GABRG2 GABRA5
	NR1H4
	SLC6A2
	SLC6A4
	SLC6A3
(+)-beta-Phellandrene	AR
	CYP19A1
	ESR1
	ESR2
	PPARA
	CNR2
Levomenol	CYP19A1
	PTPN1
	BCHE
	SLC6A4
	AR
	SLC6A2
	CHRM2
	ACHE
	CYP17A1
	NR1H3
	SHBG
	ESR1
	SREBF2
	NPC1L1
	SQLE
	CYP2C19
	HSD11B1
	HMGCR
	NR1I3

	ESR2
	SLC10A2
	PTPRF
	PTPN2
	PLA2G1B
	ACP1
	AKR1B10
	PSEN2 PSENEN NCSTN APH1A PSEN1 APH1B
	CYP51A1
	PER2
	ATP12A
	PTPN6
	FNTA FNTB
	RORC
	FABP4
	FABP3
	FABP5
	PPARD
	FABP1
	RORA
	SERPINA6
	CD81
	OXTR
	GRM5
	PABPC1
	NR3C2
	NR3C1
	G6PD
	SCD
	NPY2R
	ABHD6
	TTL
	NPY5R
	EIF2AK1
	CNR1
	ICMT
gamma-Elemene	PPARA
	CNR2
	NR1H3
	CXCR3

delta-Elemene	PPARA
	CNR2
	NR1H3
	CXCR3
	HTR2A
(Z)-p-Menth-2-en-1-ol	AR
	TRPM8
	SHBG
	NPC1L1
	RORA
	CA2
	CA1
	CA4
	CYP19A1
	CHRM2
	SQLE
	BCHE
	NR1H3
	SLC6A4
	NR3C1
	NR1I3
	SREBF2
	SLC6A2
	DRD2
	ESR1
	TRPV3
	ACHE
	ESR2
	SRD5A2
	CYP17A1
	PPARA
	PPARD
	CHRM4
(-)-Globulol	UGT2B7
	HSD11B1
	SHBG
	NR1I3
	POLA1
	AR
	ESR1

	CDC25A
	CDC25B
	NR1H4
	GPBAR1
	SHH
	ESR2
	NR1H3
	TRPM8
	IDO1
	NPC1L1
	CA2
	CA1
	CA4
	CYP19A1
	CYP17A1
Cedr-8-ene	PPARA
	CNR2
	AR
	CYP19A1
	ESR1
	CHRM2
	SLC6A2
	SLC6A4
	CYP2C19
	FAAH
	TRPV1
Bornyl acetate	ACHE
	VDR
	CDC25A
	PTPN1
	HMGCR
	CYP19A1
	UGT2B7
	TBXAS1
	CYP11B1
	CYP11B2
	POLA1
	HSD11B1
	ADRA2A
	ADRA2C

	ADRA2B
	ADRA1A
	LIPE
	CA1
	CTRBI
	TAAR1
	PABPC1
	CA2
	TYMS
cis-alpha-Bergamotene	UGT2B7
	CDC25A
	CDC25B
	NR1I3
	AR
	SHBG
	HSD11B1
	POLA1
	NR1H4
	SHH
	TRPM8
	ESR1
	ESR2
	CA2
	CA1
	CA4
	NPC1L1
	GPBAR1
	CYP19A1
	NR1H3
	IDO1
	G6PD
	GABBR1
cis-Sabinene hydrate	SHBG
	ACHE
Copaene	PPARA
	CNR2
	AR
	CYP19A1
	ESR1

	CHRM2
	ACHE
	SLC6A2
	SLC6A4
	CYP2C19
	BCHE
	PTPN1
	NR1I3
	FAAH
	TRPV1
1-Isopropyl-4,7-dimethyl-1,3,4,5,6,8a-hexahydro-4a(2H)-naphthalenol	CYP19A1
	RORC
	SREBF2
	NPC1L1
	NR1H3
	AR
	CYP17A1
	SLC6A4
	SHBG
	ESR1
	ESR2
	PTPN1
	SLC6A2
	HMGCR
	CYP51A1
	ACHE
	BCHE
	RORA
	CHRM2
	G6PD
	NR1I3
	PPARA
	PPARD
	CYP2C19
	POLB
	PDE4D
	PTPRF
	PTPN2
	PLA2G1B
	CDC25B
	ACP1

	AKR1B10
	SERPINA6
	NR1H2
	PTPN6
	UGT2B7
	CD81
	SQLE
	CES2
	FNTA FNTB
	HSD11B1
	PREP
Cedrelanol	CYP19A1
	PTPN1
	SLC6A4
	BCHE
	NR1H3
	AR
	CHRM2
	ACHE
	SLC6A2
	ESR1
	RORC
	SREBF2
	NPC1L1
	CYP51A1
	CYP17A1
	CYP2C19
	NR1I3
	HMGCR
	SHBG
	ESR2
	SQLE
	POLB
	PDE4D
	CES2
	PTPRF
	PTPN2
	PLA2G1B
	ACP1
	AKR1B10
	ATP12A

	PTPN6
	HSD11B1
	PTGES
	RORA
	CD81
	UGT2B7
	G6PD
	CDC25B
	FABP4
	PPARG
	PPARA
	TERT
	FABP3
	FABP5
	PPARD
	FABP1
	SERPINA6
	FNTA FNTB
	PABPC1
	PTPN11
alpha-Muurolol	CYP19A1
	SLC6A4
	BCHE
	PTPN1
	AR
	ACHE
	ESR1
	NR1H3
	SREBF2
	NPC1L1
	SLC6A2
	CHRM2
	SHBG
	CYP17A1
	ESR2
	CYP2C19
	NR1I3
	SQLE
	POLB
	PDE4D
	CES2

	PTPRF
	PTPN2
	PLA2G1B
	CDC25B
	ACP1
	AKR1B10
	HMGCR
	ATP12A
	PTPN6
	RORA
	HSD11B1
	RORC
	CYP51A1
	CD81
	G6PD
	FNTA FNTB
	PREP
	FABP4
	PPARG
	PPARA
	TERT
	FABP3
	FABP5
	PPARD
	FABP1
	SERPINA6
	UGT2B7
	TRPM8
	PTPN11
	NR3C2
	ICMT
alpha-Copaene	PPARA
	CNR2
	AR
	CYP19A1
	ESR1
	CHRM2
	ACHE
	SLC6A2
	SLC6A4
	CYP2C19

	BCHE
	PTPN1
	NR1I3
	FAAH
	TRPV1
	ACHE
Isobornyl acetate	VDR
	PTPN1
	CDC25A
	HMGCR
	UGT2B7
	HSD11B1
	CYP19A1
	POLA1
	SIRT2
Viridiflorol	UGT2B7
	HSD11B1
	AR
	POLA1
	SHBG
	NR1H4
	SHH
	NR1I3
	ESR1
	ESR2
	TRPM8
	CDC25A
	CDC25B
	CA2
	CA1
	CA4
	NR1H3
	NPC1L1
	IDO1
	GPBAR1
	TBX21
Epigallocatechin	CETP
	ESR1
	GSTA3

	SIRT1
	MAPK1
	HMOX1
	MMP2
	RETN
	CASP14
	GSK3A
	PON1
	SERPINE1
	VIM
	CCL2
	SPI1
	CCND1
	CDKN1B
	MLH1
	APOB
	IL1R1
	APOA1
	TTR
	ABCG2
	TNFSF11
	IAPP
	FLT3
	BHLHE41
	CDKN1A
	PIN1
	HSPB1
	COX4I1
	AOC2
	JAG1
	ANXA1
	IL6
	TLR2
	MMP13
	CYP2C9
	KCNH2
	TRPA1
	AXIN1
	XRCC1
	MAPK3
	IL1A
	PRKCG
	IFIH1

	TYRO3
	STAT3
	DNMT3A
	SDHA
	EGF
	ABCB1
	HEXA
	CDH2
	TP53
	ERBB2
	AKT1
	EGFR
	TNFRSF10B
	ADM
	ATM
	TMPRSS11D
	APP
	WIF1
	PPARG
	HMGCR
	BAX
	HPGDS
	IL15
	NOS3
	CYP7A1
	MGMT
	BCL2L1
	IGF1
	PTGER4
	HSPB3
	FASN
	IL13
	FOS
	IL8
	CASP3
	UCP2
	AOC3
	LEP
	BID
	NQO1
	SLC2A4
	MMP1
	GSK3B

	NOS2
	DNMT3B
	SOCS1
	EEF1A1
	CASP9
	RARB
	SMAD3
	LAMP1
	HSP90AA1
	GSTA1
	NR1I2
	ENOX2
	NOS1
	HIF1A
	SNCA
	CAV1
	SMPD1
	CYP1A2
	PRDX6
	PTGES
	HMGB1
	CTNNB1
	RPSA
	COL18A1
	CASP8
	PPP2R4
	DNMT1
	MAPK8
	STAT1
	PTGS1
	MT-ND3
	PARP1
	EPRS
	C4BPA
	PTGS2
	CTGF
	CASP7
	GSTA4
	JUN
	VEGFA
	CEL
	MMP9
	UGT1A4

	TLR4
	IKBKAP
	COL15A1
	IRS2
	ID1
	BMI1
	RECK
	EDN1
	CYP1A1
	SIRT3
	AKTIP
	NFE2L2
	DYRK1A
	UPP2
	ACAN
	CLK1
	CDKN2A
	DHFR
	NFAT5
	TNF
	CYR61
	PRKCA
	TOP2A
	POR
	GSTA2
	MUC5AC
	ITGAM
	NR1H4
	APAF1
	HSPB2-C11orf52
	S1PR2
Resveratrol	CFTR
	CD4
	ERCC1
	NFE2L3
	TNS1
	TFAP2C
	SIRT4
	ESR1
	SIRT1
	MAPK1
	XBP1

	HMOX1
	APEX1
	PCK2
	NFKBIA
	EEF1A2
	CSNK2A1
	MMP2
	GSR
	TNFRSF10A
	CYP4F2
	TGFB1
	GSK3A
	PON1
	NAMPT
	SERPINE1
	NRF1
	C5
	RPS6KB1
	CCL2
	SULT1E1
	NFKB1
	CCND1
	GLI1
	LTA4H
	IFNG
	NANOG
	MAPK14
	APOB
	ODC1
	CTSD
	EGR1
	IAPP
	CAT
	TNFSF10
	AHR
	NPY
	CD97
	PLCG1
	CDKN1A
	VASP
	KLF2
	HSPB1
	SIRT2

	INS
	ALOX12
	BST2
	GDF15
	JUND
	CYP2E1
	TRIM28
	SESN2
	KRAS
	EIF2S1
	CDK4
	IL6
	TLR2
	MMP13
	CYP19A1
	CYP1B1
	CYP2C9
	LMNB1
	HEXB
	CDH1
	ATP5B
	ATF1
	SMAD2
	TRPA1
	VMP1
	PPARA
	MAPK3
	TYR
	IL1B
	ELANE
	KDR
	ATF2
	STAT3
	POMC
	TP63
	ICAM1
	PPARGC1A
	ANXA3
	SDHA
	CASP6
	EGF
	VDAC1
	NBN

	CDK2
	RB1
	IGF1R
	CYP11A1
	TP53
	ERBB2
	AKT1
	PDE4A
	AGTR1
	EGFR
	TNFRSF10B
	NOTCH1
	ADM
	PAK1
	ATM
	PDCD4
	IL18
	ATP5A1
	FLT1
	YAP1
	TMPRSS11D
	APP
	CASP10
	AIFM1
	PPARG
	HMGCR
	ACE
	S100B
	CCR2
	BAX
	VCAM1
	<u>ALPPL2</u>
	MITF
	IL15
	NOS3
	ALDH1A1
	SCNN1G
	PELP1
	FADD
	CCL11
	MAP2K1
	BCL2L1
	IGF1

	HSPA4
	HSPB3
	UGT1A1
	IL13
	CEBPB
	CXCL10
	SMAD1
	FOS
	IL8
	EIF2AK3
	RPTOR
	SULT1B1
	OLR1
	CASP3
	CFLAR
	LEP
	CASP2
	SPHK1
	KLK3
	CD209
	BID
	AGTRAP
	NQO1
	PCK1
	PKM
	ADIPOQ
	SLC2A4
	CDC25C
	ETV4
	SULT1A1
	SMC1A
	SOX2
	GSK3B
	STK11
	PGR
	MAT2B
	NOS2
	DNMT3B
	SP1
	SIRT7
	BCL2
	CASP9
	SOCS3

	PDGFB
	CD86
	SMAD3
	PRKD1
	BSG
	ABCC5
	NR1I2
	SIRT6
	NOS1
	PNPLA2
	NQO2
	CYP3A4
	HTR7
	HIF1A
	EIF4G1
	SULT1A2
	CAV1
	FOXO3
	EIF4EBP1
	PTPN11
	ACACB
	PTK2
	CYP1A2
	CS
	PTGES
	SULT1A3
	UGT1A10
	ESR2
	ATF3
	CTNNB1
	ACACA
	PFKM
	PRKAA1
	UGT1A9
	PDE5A
	FAS
	SREBF1
	ATP5C1
	DAPK1
	SRC
	CASP8
	ARNT
	MAP3K5

	PIK3CG
	DNMT1
	TFRC
	SCNN1A
	MAPK8
	MME
	CYP2D6
	BAK1
	SREBF2
	MTOR
	PTGS1
	NFE2L1
	ABCG1
	BECN1
	TGM2
	AGT
	PARP1
	SOD2
	PTGS2
	FASLG
	NR1I3
	BGLAP
	LMNA
	AMD1
	MCL1
	CASP7
	CYP17A1
	JUN
	PRKAA2
	CYP2C19
	PTPN1
	PTEN
	NCOA3
	VEGFA
	CEL
	MMP9
	SPTAN1
	PLAU
	DNM1
	UGT1A7
	UGT1A8
	TLR4
	FOXO4

	AR
	ALPL
	ECE1
	H2AFX
	SYK
	ABCC4
	MYC
	TP73
	ATAD3A
	NPHS1
	SIRT5
	EDN1
	PRNP
	FOXO1
	TFAP2A
	CYP1A1
	SMAD9
	RPS6
	JAK2
	CHEK2
	SIRT3
	GPX3
	STAB2
	ALPP
	CUL5
	BCL2L11
	CDK1
	CXCL1
	NFE2L2
	KHSRP
	ABCC1
	RELA
	ELAVL1
	ACAN
	CREB1
	CASP4
	MAPK9
	IGF2
	TBXA2R
	TNF
	MYD88
	WEE1
	GPX1

	PRKCA
	TOP2A
	IL10
	GABRR1
	BDNF
	SERPINE2
	CDK5
	HDAC2
	HSF1
	TXNRD1
	RPS6KA1
	SMAD5
	DIO2
	LDLR
	HSPB2-C11orf52
	MAOA
	CA2
	ESR1
	PTGS1
	SLC6A2
	PTGS2
	CA7
	APP
	CA1
	CA3
	CA6
	PIK3CB
	CA12
	CYP1A2
	CYP2C9
	CYP3A4
	CA14
	CA9
	CYP2C19
	CA4
	CA13
	NQO2
	CA5B
	PIK3CA
	CA5A
	LCK
	SYK
	CYP1B1

	CYP19A1
	ALOX5
	TTR
	AHR
	TUBB1
	EGFR
	TUBB3
	ABCB1
	AKR1B1
	CYP1A1
	MMP9
	MMP1
	MMP2
	RELA
	TYR
	CLK1
	PTK2B
	ESRRA
	ESRRB
	IGF1R
	ALOX15
	HSD17B2
	HSD17B1
	INSR
	DYRK1A
	DYRK1B
	KIT
	SRC
	LTB4R
	AR
	ERN1
	ESR2
	HSD17B14
	HDAC2
	ABCC1
	HDAC8
	SHBG
	CBR1
	CYP11B1
	CYP11B2
	CYP17A1
Guggulsterone	AR

	NR3C2
	NR3C1
	PGR
	NR1I2
	CYP17A1
	CYP19A1
	SERPINA6
	SIGMAR1
	SHBG
	FABP1
	SRD5A1
	SRD5A2
	HSD17B3
	NR1I3
	NPC1L1
	HSD11B1
	CDC25A
	ESR1
	ESR2
	SLC6A3
	PTPN11
	AKR1B10
	BCHE
	CCR5
	PTGS1
	CTSD
	RORA
	ADORA3
	PTGES
	PTPN1
	MAPK3
	NOS2
	PTPN2
	ALOX5
	HSD11B2
	FDFT1
	FNTA
	HRH1
	PTAFR
	TRPV1
	BACE1
	CES1
	FAAH

	CES2
	PTPN6
	TRPA1
	MTNR1A
	MTNR1B
	PARP1
	EPHX1
	EPHX2
	PRKCH
	CTSK
	CTSL
	CTSB
	BRD4
	OPRK1

## **Step 9:**

Compare the list of phytochemical targets with the protein targets encoded by the 119 common genes shared between sarcopenia and obesity. This was achieved through a systematic analysis using Microsoft Excel.

- a) Create a spreadsheet containing the list of phytochemical targets in one column and the list of protein targets from the common genes in another column.
- b) Use Excel's built-in functions (e.g., VLOOKUP, MATCH) or conditional formatting to identify instances where a phytochemical target matches a protein target from the common gene list.
- c) Extract and compile a list of phytochemicals and their corresponding protein targets from the common gene list, representing potential interactions between the phytochemicals and the therapeutic targets shared by sarcopenia and obesity.

The list of phytochemicals and their associated protein targets from the common gene list is provided below:

AR	APLN	HSPA1A
BCL2	PLAT	IFNG
EIF2S1	CD38	IL1A
PPARGC1A	PRKAA2	IL4
ALB	S100B	IL10
MSTN	CCK	LMNA
IGF1	TGFB1	ATP5F1A
PTH	CALR	CRP
IL6	BMP2	CXCL8
TNF	CAV1	EPO
ADIPOQ	SNAP25	HSD11B1
REN	VEGFA	MSRA
TTR	GDF11	MTHFR
MTOR	FABP4	NLRP3
PRKAA1	FOXO1	NR3C1
IL2	SIRT1	PFKFB3
TP53	EIF4EBP1	PIK3CB
LEP	PLIN2	PIK3CD
IL15	CTNNB1	VDR
ESR1	CTSL	
AGT	EGFR	
CALCR	MMP3	
ACE	ACLY	
BCHE	NFE2L2	
PIK3CG	PIK3CA	
APLN	ARNTL	
PLAT		
CD38		
PRKAA2		
S100B		
CCK		
TGFB1		
CALR		
BMP2		

## **Step 10:**

Map the specific interactions between the identified phytochemicals and the common genes shared between sarcopenia and obesity.

- a) Cross-reference the lists of phytochemicals, their protein targets, and the common genes.
- b) Determine which phytochemicals target the proteins encoded by each of the common genes.
- c) Create a list linking each common gene to its potentially modulating phytochemical(s).

The mapping of common genes to their associated phytochemicals is provided below:

AR	Quercetin
AR	Resveratrol
AR	alpha-Amyrin
AR	1-Hexanol
AR	Myrcenol
AR	Fisetin
AR	Calcitriol
AR	Friedelin
AR	Epifriedelanol
AR	Lupeol acetate
AR	gamma-Terpineol
AR	Dodecanal
AR	Valencene
AR	Dihydro-beta-ionol
AR	Cyclohexene, 6-ethenyl-6-methyl-1-(1-methylethyl)-3-(1-methylethylidene)-, (S)-
AR	1-Octen-3-OL
AR	Damascenone
AR	1-Tetradecanol
AR	delta-Guaiene
AR	Citronellal
AR	Phytol
AR	3-Carene
AR	alpha-Terpinyl acetate
AR	alpha-Selinene
AR	(S,1Z,6Z)-8-Isopropyl-1-methyl-5-methylenecyclodeca-1,6-diene
AR	Elemol
AR	beta-Amyrin
AR	2-Furanmethanol, 5-ethenyltetrahydro-alpha,alpha,5-trimethyl-, cis-
AR	(E)-beta-ocimene
AR	Cycloartenol
AR	Myrcenol
AR	Myrtenol
AR	Eudesm-7(11)-en-4-ol
AR	2-Decenal
AR	Phellandral
AR	2-Nonanone
AR	Thujopsene
AR	(4S)-1-Methyl-4-(prop-1-EN-2-YL)-7-oxabicyclo[4.1.0]heptane
AR	d-Borneol
AR	gamma-Muurolene
AR	beta-Thujone
AR	(+)-beta-Phellandrene
AR	Levomenol
AR	(Z)-p-Menth-2-en-1-ol
AR	(-)Globulol

AR	alpha-Muurolol
AR	alpha-Copaene
AR	Viridiflorol
AR	Cedr-8-ene
AR	cis-alpha-Bergamotene
AR	Copaene
AR	Cedrelanol
BCL2	Quercetin
BCL2	Resveratrol
BCL2	Palmitic acid
BCL2	Nicotine
BCL2	Ursolic acid
BCL2	Apigenin
EIF2S1	Resveratrol
EIF2S1	Ursolic acid
PPARGC1A	Resveratrol
PPARGC1A	Palmitic acid
PPARGC1A	Oleic acid
PPARGC1A	D-Glucose
PPARGC1A	Linolenic acid
PPARGC1A	Linoleic acid
ALB	Lauric acid
ALB	Citric acid
ALB	Palmitic acid
ALB	Oleic acid
ALB	D-Glucose
ALB	Decanoic acid
ALB	Myristic acid
ALB	Stearic acid
ALB	Cholesterol
ALB	Salicylic acid
MSTN	Citric acid
IGF1	Resveratrol
IGF1	Palmitic acid
IGF1	Epigallocatechin gallate
IGF1	Luteolin
IGF1	Calcitriol
IGF1	Caffeine
PTH	Serotonin
PTH	Calcitriol
PTH	Caffeine
IL6	Quercetin
IL6	Resveratrol
IL6	Palmitic acid
IL6	Nicotine
IL6	beta-D-Glucose

IL6	D-Glucose
IL6	Linoleic acid
IL6	Epigallocatechin gallate
IL6	Calcitriol
TNF	Quercetin
TNF	Resveratrol
TNF	Palmitic acid
TNF	Nicotine
TNF	Epigallocatechin gallate
TNF	p-Menthane-3-one
TNF	beta-D-Glucose
TNF	Oleic acid
TNF	p-Menthane-3-one
TNF	Phenylacetaldehyde
TNF	Berberine
TNF	Theophylline
TNF	Linoleic acid
TNF	Choline
TNF	Fisetin
TNF	Calcitriol
TNF	1-Tetradecanol
TNF	Cyanin
ADIPOQ	Quercetin
ADIPOQ	Resveratrol
ADIPOQ	Palmitic acid
ADIPOQ	Camphene
ADIPOQ	Berberine
ADIPOQ	Cinnamic acid
REN	Citric acid
REN	Palmitic acid
REN	Isoamyl alcohol
REN	Theophylline
REN	Choline
REN	Calcitriol
REN	Caffeine
TTR	Allantoin
TTR	Oleic acid
TTR	Nicotine
TTR	Luteolin
TTR	Epigallocatechin gallate
TTR	Spathulenol
MTOR	Resveratrol
MTOR	Palmitic acid
MTOR	Ursolic acid
MTOR	Luteolin
MTOR	Fisetin

MTOR	Caffeine
PRKAA1	Resveratrol
PRKAA1	D-Glucose
IL2	Kaempferol
IL2	Rosmarinic acid
IL2	Nicotine
IL2	Calcitriol
TP53	Kaempferol
TP53	Lupeol
TP53	Quercetin
TP53	Resveratrol
TP53	Palmitic acid
TP53	Procyanidin
TP53	Citric acid
TP53	Linalool
TP53	Nicotine
TP53	D-Glucose
TP53	Berberine
TP53	Apigenin
TP53	Luteolin
TP53	Epigallocatechin gallate
TP53	Folic
TP53	Salicylic acid
TP53	Fisetin
TP53	Calcitriol
TP53	Caffeine
LEP	Resveratrol
LEP	Epigallocatechin gallate
LEP	D-Glucose
LEP	Cholesterol
LEP	Linoleic acid
IL15	Quercetin
IL15	Resveratrol
IL15	Nicotine
IL15	Epigallocatechin gallate
ESR1	Kaempferol
ESR1	Quercetin
ESR1	Resveratrol
ESR1	1,4-Dichlorobenzene
ESR1	D-Glucose
ESR1	Apigenin
ESR1	Stearic acid
ESR1	Epigallocatechin gallate
ESR1	alpha-Selinene
ESR1	Calcitriol
ESR1	alpha-Amyrin

ESR1	Epifriedelanol
ESR1	gamma-Terpineol
ESR1	Valencene
ESR1	Geranic acid
ESR1	1-Tetradecanol
ESR1	Azulene
ESR1	3-Carene
ESR1	beta-Amyrin
ESR1	Dihydro-beta-ionol
ESR1	Cycloartenol
ESR1	Eudesm-7(11)-en-4-ol
ESR1	Myrtenal
ESR1	Thujopsene
ESR1	d-Borneol
ESR1	gamma-Muurolene
ESR1	(+)-beta-Phellandrene
ESR1	Levomenol
ESR1	(Z)-p-Menth-2-en-1-ol
ESR1	(-)-Globulol
ESR1	Cedr-8-ene
ESR1	cis-alpha-Bergamotene
ESR1	Copaene
ESR1	Cedrelanol
ESR1	alpha-Muurolol
ESR1	alpha-Copaene
ESR1	Viridiflorol
AGT	Lauric acid
AGT	Resveratrol
AGT	Serotonin
AGT	Nicotine
AGT	Oleic acid
AGT	Palmitic acid
AGT	Strychnine
AGT	Camphor
AGT	Linolenic acid
AGT	Hexanoic acid
AGT	Valeric acid
AGT	Luteolin
AGT	Linoleic acid
AGT	Cucurbitacin B
AGT	Cucurbitacin E
AGT	Caffeine
AGT	2-Ethylpyrazine
CALCR	Serotonin
ACE	Resveratrol
ACE	Citric acid

ACE	6-Methyl-5-hepten-2-one
ACE	Citronellal
ACE	Asperglaucide
BCHE	4-Carvomenthenol
BCHE	Nicotine
BCHE	Berberine
BCHE	alpha-Amyrin
BCHE	Choline
BCHE	gamma-Terpineol
BCHE	Linalyl acetate
BCHE	alpha-Selinene
BCHE	Elemol
BCHE	Valencene
BCHE	beta-Amyrin
BCHE	Dihydro-beta-ionol
BCHE	Cycloartenol
BCHE	Elemicin
BCHE	Eudesm-7(11)-en-4-ol
BCHE	Myrtenal
BCHE	Phellandral
BCHE	Thujopsene
BCHE	Levomenol
BCHE	(Z)-p-Menth-2-en-1-ol
BCHE	Copaene
BCHE	Cedrelanol
BCHE	alpha-Muurolol
BCHE	alpha-Copaene
PIK3CG	Quercetin
PIK3CG	Resveratrol
PIK3CG	Myricetin
PIK3CG	Berberine
APLN	Serotonin
APLN	Strychnine
APLN	Camphor
APLN	Cucurbitacin B
APLN	Cucurbitacin E
APLN	2-Ethylpyrazine
APLN	Caffeine
PLAT	Quercetin
PLAT	Nicotine
CD38	Quercetin
CD38	Cyanin
CD38	Calcitriol
CD38	Apigenin
PRKAA2	Resveratrol
PRKAA2	D-Glucose

S100B	Resveratrol
CCK	Lauric acid
CCK	Serotonin
CCK	Palmitic acid
CCK	Oleic acid
CCK	Nicotine
CCK	Linolenic acid
CCK	Hexanoic acid
CCK	Valeric acid
TGFB1	Resveratrol
TGFB1	D-Glucose
TGFB1	Calcitriol
CALR	beta-D-Glucose
BMP2	Myricetin
CAV1	Resveratrol
CAV1	Oleic acid
CAV1	Epigallocatechin gallate
CAV1	Cholesterol
SNAP25	Serotonin
VEGFA	Quercetin
VEGFA	Resveratrol
VEGFA	Nicotine
VEGFA	Epigallocatechin gallate
VEGFA	D-Glucose
VEGFA	Apigenin
VEGFA	Luteolin
VEGFA	Calcitriol
VEGFA	Caffeine
GDF11	Citric acid
FABP4	Citric acid
FABP4	Palmitic acid
FABP4	Oleic acid
FABP4	alpha-Amyrin
FABP4	Linolenic acid
FABP4	Stearic acid
FABP4	Cholesterol
FABP4	Geranic acid
FABP4	Methyl palmitate
FABP4	Citronellal
FABP4	beta-Amyrin
FABP4	Dihydro-beta-ionol
FABP4	Spathulenol
FABP4	Levomenol
FABP4	Cedrelanol
FABP4	alpha-Muurolol
FOXO1	Procyanidin

FOXO1	Resveratrol
FOXO1	D-Glucose
FOXO1	Apigenin
FOXO1	Luteolin
SIRT1	Quercetin
SIRT1	Resveratrol
SIRT1	Myricetin
SIRT1	Palmitic acid
SIRT1	Epigallocatechin gallate
SIRT1	Geranylacetone
EIF4EBP1	Resveratrol
PLIN2	Palmitic acid
PLIN2	Linolenic acid
CTNNB1	Lupeol
CTNNB1	Quercetin
CTNNB1	Resveratrol
CTNNB1	Palmitic acid
CTNNB1	Ursolic acid
CTNNB1	Epigallocatechin gallate
CTNNB1	Calcitriol
CTSL	Citric acid
CTSL	Citronellal
CTSL	Linalyl acetate
CTSL	Neral
CTSL	Geranylacetone
CTSL	Linalyl acetate
CTSL	6-Methyl-5-hepten-2-one
CTSL	alpha-Terpinyl acetate
CTSL	Geranyl acetate
CTSL	Neryl acetate
CTSL	Asperglaucide
CTSL	beta-Thujone
EGFR	Quercetin
EGFR	Resveratrol
EGFR	Rutin
EGFR	Nicotine
EGFR	Berberine
EGFR	Luteolin
EGFR	Epigallocatechin gallate
EGFR	Calcitriol
EGFR	2-Hydroxy-4-methoxybenzaldehyde
EGFR	Linalyl acetate
EGFR	alpha-Terpinyl acetate
EGFR	Geranyl acetate
EGFR	Neryl acetate
EGFR	Myrcenol

MMP3	Quercetin
MMP3	Asperglauclide
MMP3	Geranylacetone
MMP3	Fisetin
ACLY	Citric acid
ACLY	Palmitic acid
ACLY	2,3-Butanedione
NFE2L2	Quercetin
NFE2L2	Resveratrol
NFE2L2	Oleanolic acid
NFE2L2	Epigallocatechin gallate
NFE2L2	Luteolin
PIK3CA	Lauric acid
PIK3CA	Quercetin
PIK3CA	Serotonin
PIK3CA	Palmitic acid
PIK3CA	Oleic acid
PIK3CA	Hexanoic acid
PIK3CA	Valeric acid
PIK3CA	Theophylline
PIK3CA	Caffeine
PIK3CA	Elemicin
ARNTL	Palmitic acid
ARNTL	Linolenic acid
HSPA1A	Quercetin
IFNG	Resveratrol
IFNG	Calcitriol
IL1A	Oleic acid
IL1A	Epigallocatechin gallate
IL1A	Calcitriol
IL4	Ellagic acid
IL4	Salicylic acid
IL4	Fisetin
IL10	Resveratrol
IL10	beta-D-Glucose
IL10	Salidroside
IL10	Nicotine
IL10	Calcitriol
LMNA	Resveratrol
ATP5F1A	Quercetin
ATP5F1A	Resveratrol
CRP	Nicotine
CRP	Cholesterol
CRP	Linolenic acid
CXCL8	Geranic acid
EPO	4-Hydroxycinnamic acid

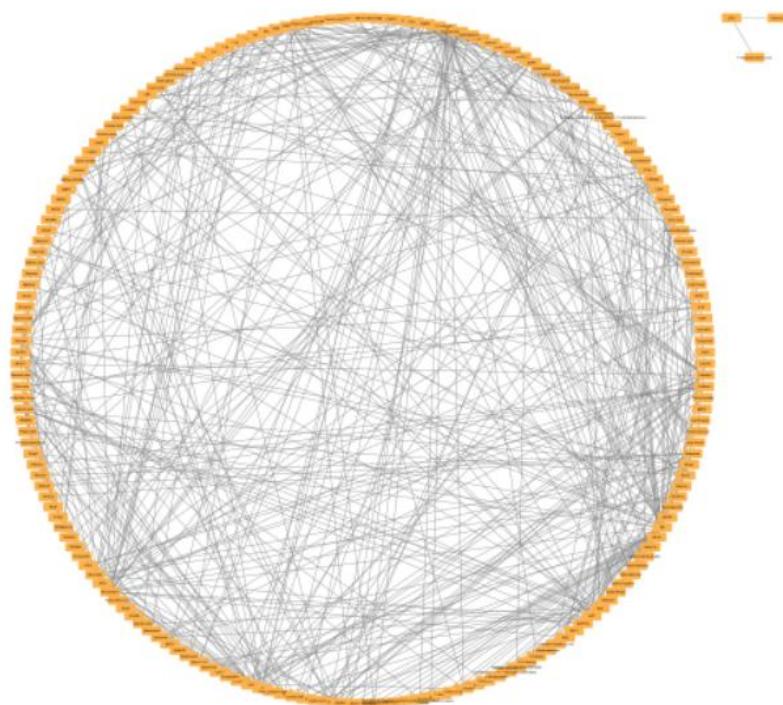
EPO	Catechol
HSD11B1	alpha-Amyrin
HSD11B1	Epifriedelanol
HSD11B1	Lupeol acetate
HSD11B1	1-Tetradecanol
HSD11B1	alpha-Terpinal acetate
HSD11B1	Geranyl acetate
HSD11B1	Neryl acetate
HSD11B1	Elemol
HSD11B1	beta-Amyrin
HSD11B1	Cycloartenol
HSD11B1	Myrcenol
HSD11B1	Elemicin
HSD11B1	Myrtenal
HSD11B1	Spathulenol
HSD11B1	d-Borneol
HSD11B1	Levomenol
HSD11B1	(-)-Globulol
HSD11B1	Bornyl acetate
HSD11B1	Cedrelanol
HSD11B1	Viridiflorol
HSD11B1	Isobornyl acetate
HSD11B1	alpha-Muurolol
HSD11B1	Cedrelanol
HSD11B1	cis-alpha-Bergamotene
MSRA	Myristic acid
MTHFR	Folic
NLRP3	alpha-Terpinal acetate
NR3C1	Nicotine
NR3C1	1-Tetradecanol
NR3C1	trans-Linalool oxide
NR3C1	Nerolidol
NR3C1	Myrcenol
NR3C1	2-Decenal
NR3C1	Myrtenal
NR3C1	Phellandral
NR3C1	Levomenol
NR3C1	Cholesterol
NR3C1	Calcitriol
NR3C1	(Z)-p-Menth-2-en-1-ol
PFKFB3	Methyl palmitate
PIK3CB	Elemicin
PIK3CB	Berberine
PIK3CB	Resveratrol
PIK3CB	Caffeine
PIK3CD	Nerolidol

PIK3CD	Berberine
PIK3CD	Caffeine
VDR	Epifriedelanol
VDR	Methyl palmitate
VDR	Lupeol acetate
VDR	Cycloartenol
VDR	d-Borneol
VDR	Bornyl acetate
VDR	Isobornyl acetate
VDR	Apigenin
VDR	Calcitriol
VDR	Caffeine

## **Step 11:**

Visualize the interactions between the identified phytochemicals and the protein targets encoded by the common genes shared between sarcopenia and obesity using Cytoscape, a powerful network analysis and visualization software.

- a) Download and install the Cytoscape software (<https://cytoscape.org/>) on a computer system.
- b) Create a new network in Cytoscape by importing the list of interactions obtained in Step 13, with the protein targets as "target nodes" and the phytochemicals as "source nodes."
- c) Adjust the network layout, node sizes, and edge styles to enhance the visual representation and clarity of the interactions.



**Fig.1 Cytoscape Network**

## Step 12:

Provide a comprehensive list of the identified phytochemicals, their protein targets (encoded by common genes for sarcopenia and obesity), and the corresponding plant sources and plant parts.

Phytochemical Name	Plant Name	Plant Part
Quercetin	Rosa damascena	flower
	Elaeagnus rhamnoides	
	Acacia catechu	
	Anogeissus latifolia	bark
	Camellia sinensis	leaf
	Phyllanthus emblica	fruit
	Lagenaria siceraria	fruit
Resveratrol	Elaeagnus rhamnoides	
alpha-Amyrin	Ichnocarpus frutescens	stem
	Rosa damascena	flower
	Tabernaemontana divaricata	
	Cajanus cajan	seed
	Cissus quadrangularis	whole plant
	Hemidesmus indicus	root
	Shorea robusta	plant exudate
1-Hexanol	Rosa damascena	flower
	Zingiber officinale	rhizome
	Artocarpus heterophyllus	fruit
	Camellia sinensis	leaf
Myrcenol	Zingiber officinale	rhizome
	Crithmum maritimum	aerial part
Fisetin	Acacia catechu	
Calcitriol	Aegle marmelos	leaf
Friedelin	Ichnocarpus frutescens	stem
	Cissus quadrangularis	aerial part
	Cissus quadrangularis	
	Ficus benghalensis	root
	Holoptelea integrifolia	bark
Epifriedelanol	Ichnocarpus frutescens	stem
	Argyreia nervosa	

	Holoptelea integrifolia	bark
Lupeol acetate	Ichnocarpus frutescens	stem
	Hemidesmus indicus	root
gamma-Terpineol	Rosa damascena	flower
	Aegle marmelos	leaf
Dodecanal	Rosa damascena	flower
	Zingiber officinale	rhizome
	Camellia sinensis	leaf
	Lagenaria siceraria	fruit
Valencene	Rosa damascena	flower
	Zingiber officinale	rhizome
	Aegle marmelos	leaf
Dihydro-beta-ionol	Rosa damascena	flower
	Camellia sinensis	leaf
Cyclohexene, 6-ethenyl-6-methyl-1-(1-methylethyl)-3-(1-methylethylidene)-, (S)-	Rosa damascena	flower
	Aegle marmelos	leaf
1-Octen-3-OL	Rosa damascena	flower
	Zingiber officinale	rhizome
	Sesamum indicum	seed
Damascenone	Rosa damascena	flower
	Crithmum maritimum	aerial part
1-Tetradecanol	Rosa damascena	flower
	Gymnema sylvestre	leaf
	Lagenaria siceraria	fruit
delta-Guaiene	Rosa damascena	flower
	Aegle marmelos	leaf
Citronellal	Rosa damascena	flower
	Zingiber officinale	rhizome
	Aegle marmelos	leaf
	Crithmum maritimum	aerial part
Phytol	Rosa damascena	flower
	Aegle marmelos	leaf
	Crithmum maritimum	aerial part
	Gymnema sylvestre	leaf

3-Carene	Rosa damascena	flower
	Zingiber officinale	rhizome
	Crithmum maritimum	aerial part
alpha-Terpinal acetate	Rosa damascena	flower
	Zingiber officinale	rhizome
	Crithmum maritimum	aerial part
	Hemidesmus indicus	root
	Hibiscus cannabinus	seed
alpha-Selinene	Rosa damascena	flower
	Zingiber officinale	rhizome
	Aegle marmelos	leaf
(S,1Z,6Z)-8-Isopropyl-1-methyl-5-methylenecyclodeca-1,6-diene	Rosa damascena	flower
	Zingiber officinale	rhizome
	Aegle marmelos	leaf
	Crithmum maritimum	aerial part
Elemol	Rosa damascena	flower
	Zingiber officinale	rhizome
	Aegle marmelos	leaf
beta-Amyrin	Rosa damascena	flower
	Betula utilis	
	Diospyros malabarica	fruit
	Gymnema sylvestre	leaf
	Hemidesmus indicus	root
	Plumbago zeylanica	
2-Furanmethanol, 5-ethenyltetrahydro-alpha,alpha,5-trimethyl-, cis-	Rosa damascena	flower
	Zingiber officinale	rhizome
	Camellia sinensis	leaf
(E)-beta-ocimene	Rosa damascena	flower
	Zingiber officinale	rhizome
	Crithmum maritimum	whole plant
Cycloartenol	Tabernaemontana divaricata	
	Artocarpus heterophyllus	fruit
	Betula utilis	
	Oryza sativa	seed
Myrtenol	Zingiber officinale	rhizome
	Aegle marmelos	leaf

	Hemidesmus indicus	root
Eudesm-7(11)-en-4-ol	Zingiber officinale	rhizome
	Aegle marmelos	leaf
2-Decenal	Zingiber officinale	rhizome
	Camellia sinensis	leaf
	Crithmum maritimum	aerial part
	Crithmum maritimum	flower
	Crithmum maritimum	leaf
	Crithmum maritimum	stem
	Crithmum maritimum	whole plant
Phellandral	Zingiber officinale	rhizome
	Crithmum maritimum	flower
	Crithmum maritimum	leaf
	Crithmum maritimum	stem
	Crithmum maritimum	whole plant
2-Nonanone	Zingiber officinale	rhizome
	Artocarpus heterophyllus	fruit
	Crithmum maritimum	flower
	Crithmum maritimum	leaf
	Crithmum maritimum	stem
	Crithmum maritimum	whole plant
Thujopsene	Zingiber officinale	rhizome
	Crithmum maritimum	aerial part
(4S)-1-Methyl-4-(prop-1-EN-2-YL)-7-oxabicyclo[4.1.0]heptane	Zingiber officinale	rhizome
	Aegle marmelos	leaf
d-Borneol	Zingiber officinale	rhizome
	Crithmum maritimum	aerial part
	Hemidesmus indicus	root
gamma-Muurolene	Zingiber officinale	rhizome
	Crithmum maritimum	flower
	Crithmum maritimum	leaf
	Crithmum maritimum	stem
	Crithmum maritimum	whole plant
beta-Thujone	Zingiber officinale	rhizome
	Crithmum maritimum	flower
	Crithmum maritimum	leaf
	Crithmum maritimum	stem

	Crithmum maritimum	whole plant
(+)-beta-Phellandrene	Zingiber officinale	rhizome
	Aegle marmelos	leaf
	Crithmum maritimum	aerial part
	Crithmum maritimum	flower
	Crithmum maritimum	leaf
	Crithmum maritimum	seed
	Crithmum maritimum	stem
	Crithmum maritimum	whole plant
Levomenol	Zingiber officinale	rhizome
	Hemidesmus indicus	root
(Z)-p-Menth-2-en-1-ol	Zingiber officinale	rhizome
	Crithmum maritimum	aerial part
(-)-Globulol	Zingiber officinale	rhizome
	Crithmum maritimum	aerial part
alpha-Muurolol	Zingiber officinale	rhizome
	Hemidesmus indicus	root
alpha-Copaene	Zingiber officinale	rhizome
	Aegle marmelos	leaf
	Crithmum maritimum	flower
	Crithmum maritimum	leaf
	Crithmum maritimum	stem
	Crithmum maritimum	whole plant
Viridiflorol	Zingiber officinale	rhizome
	Moringa oleifera	seed
Cedr-8-ene	Zingiber officinale	rhizome
	Crithmum maritimum	aerial part
	Crithmum maritimum	flower
	Crithmum maritimum	leaf
	Crithmum maritimum	stem
	Crithmum maritimum	whole plant
cis-alpha-Bergamotene	Zingiber officinale	rhizome
	Crithmum maritimum	flower
	Crithmum maritimum	leaf
	Crithmum maritimum	stem
	Crithmum maritimum	whole plant

Copaene	Cyperus rotundus	
	Zingiber officinale	rhizome
Cedrelanol	Zingiber officinale	rhizome
	Camellia sinensis	leaf
Palmitic acid	Elaeagnus rhamnoides	
	Achyranthes aspera	seed
	Achyranthes aspera	whole plant
	Argyreia nervosa	
	Cajanus cajan	seed
	Camellia sinensis	leaf
	Commiphora wightii	
	Crithmum maritimum	flower
	Crithmum maritimum	leaf
	Crithmum maritimum	stem
	Crithmum maritimum	whole plant
	Gymnema sylvestre	leaf
	Hemidesmus indicus	root
	Hibiscus cannabinus	seed
	Hordeum vulgare	
	Iris versicolor	
	Lagenaria siceraria	fruit
Nicotine	Withania somnifera	root
Ursolic acid	Elaeagnus rhamnoides	
	Shorea robusta	plant exudate
	Solanum melongena	fruit
Apigenin	Camellia sinensis	leaf
	Enicostema axillare	aerial part
	Enicostema axillare	whole plant
	Enicostema axillare	
	Gardenia gummifera	plant exudate
	Moringa oleifera	leaf
Oleic acid	Tabernaemontana divaricata	
	Achyranthes aspera	seed
	Achyranthes aspera	whole plant
	Argyreia nervosa	
	Cajanus cajan	seed
	Cyperus rotundus	
	Enicostema axillare	whole plant
	Hibiscus cannabinus	seed
	Moringa oleifera	seed
	Oryza sativa	seed

	Sesamum indicum	seed
	Terminalia chebula	fruit
D-Glucose	Aegle marmelos	fruit
	Anogeissus latifolia	bark
	Artocarpus heterophyllus	fruit
	Hordeum vulgare	
	Sesamum indicum	
	Ziziphus jujuba	leaf
Linolenic acid	Argyreia nervosa	
	Cajanus cajan	seed
	Camellia sinensis	leaf
	Cyperus rotundus	
	Hordeum vulgare	
	Oryza sativa	seed
Linoleic acid	Achyranthes aspera	seed
	Achyranthes aspera	whole plant
	Argyreia nervosa	
	Cajanus cajan	seed
	Commiphora wightii	
	Cyperus rotundus	
	Hibiscus cannabinus	seed
	Hordeum vulgare	
	Moringa oleifera	seed
	Oroxylum indicum	
	Oryza sativa	seed
	Senna tora	
	Sesamum indicum	seed
	Sesamum indicum	
	Terminalia chebula	fruit
Lauric acid	Rosa damascena	flower
	Achyranthes aspera	seed
	Achyranthes aspera	whole plant
	Crithmum maritimum	flower
	Crithmum maritimum	leaf
	Crithmum maritimum	stem
	Crithmum maritimum	whole plant
	Hemidesmus indicus	root
	Iris versicolor	
	Lagenaria siceraria	fruit
	Moringa oleifera	seed
	Oroxylum indicum	

Citric acid	Elaeagnus rhamnoides	
	Tabernaemontana divaricata	
	Oryza sativa	seed
Decanoic acid	Crithmum maritimum	flower
	Crithmum maritimum	leaf
	Crithmum maritimum	stem
	Crithmum maritimum	whole plant
	Hemidesmus indicus	root
Myristic acid	Achyranthes aspera	seed
	Achyranthes aspera	whole plant
	Camellia sinensis	leaf
	Crithmum maritimum	flower
	Crithmum maritimum	leaf
	Crithmum maritimum	stem
	Crithmum maritimum	whole plant
	Cyperus rotundus	
	Enicostema axillare	whole plant
	Enicostema axillare	
	Moringa oleifera	seed
	Oryza sativa	seed
	Sesamum indicum	seed
Stearic acid	Achyranthes aspera	seed
	Achyranthes aspera	whole plant
	Cajanus cajan	seed
	Commiphora wightii	
	Crithmum maritimum	leaf
	Crithmum maritimum	stem
	Crithmum maritimum	whole plant
	Enicostema axillare	whole plant
	Hibiscus cannabinus	seed
	Hordeum vulgare	
	Moringa oleifera	seed
	Moringa pterygosperma	seed
	Oryza sativa	seed
	Sesamum indicum	seed
	Terminalia chebula	fruit
Cholesterol	Commiphora wightii	plant exudate
	Commiphora wightii	
	Delphinium nudatum	
Salicylic acid	Iris versicolor	rhizome
	Iris versicolor	

Epigallocatechin gallate	Camellia sinensis	leaf
	Moringa oleifera	leaf
	Ziziphus jujuba	leaf
Luteolin	Cyperus rotundus	
	Hordeum vulgare	
	Moringa oleifera	leaf
	Operculina turpethum	
Caffeine	Camellia sinensis	leaf
Serotonin	Elaeagnus rhamnoides	
	Trichosanthes dioica	fruit
beta-D-Glucose	Rosa damascena	flower
	Delphinium nudatum	
	Hibiscus rosa-sinensis	
p-Menthane-3-one	Rosa damascena	flower
	Zingiber officinale	rhizome
Phenylacetaldehyde	Artocarpus heterophyllus	fruit
	Camellia sinensis	leaf
	Crithmum maritimum	flower
	Crithmum maritimum	leaf
	Crithmum maritimum	stem
	Crithmum maritimum	whole plant
Berberine	Berberis aristata	stem
	Ziziphus jujuba	leaf
Theophylline	Camellia sinensis	leaf
Choline	Gymnema sylvestre	leaf
	Hordeum vulgare	
	Sesamum indicum	seed
	Sesamum indicum	
Cyanin	Rosa damascena	flower
	Hibiscus rosa-sinensis	
Camphene	Zingiber officinale	rhizome
	Aegle marmelos	leaf
	Crithmum maritimum	aerial part
	Crithmum maritimum	flower

	<i>Crithmum maritimum</i>	leaf
	<i>Crithmum maritimum</i>	stem
	<i>Crithmum maritimum</i>	whole plant
	<i>Cyperus rotundus</i>	
Cinnamic acid	<i>Camellia sinensis</i>	leaf
	<i>Hemidesmus indicus</i>	root
	<i>Marsdenia tenacissima</i>	root
	<i>Picrorhiza kurroa</i>	root
	<i>Plumbago zeylanica</i>	
Isoamyl alcohol	<i>Rosa damascena</i>	flower
Allantoin	<i>Symphytum officinale</i>	
	<i>Oryza sativa</i>	seed
Spathulenol	<i>Zingiber officinale</i>	rhizome
	<i>Aegle marmelos</i>	leaf
	<i>Crithmum maritimum</i>	whole plant
Kaempferol	<i>Elaeagnus rhamnoides</i>	
	<i>Acacia catechu</i>	
	<i>Alpinia galanga</i>	
	<i>Artocarpus heterophyllus</i>	fruit
	<i>Camellia sinensis</i>	leaf
	<i>Lagenaria siceraria</i>	fruit
Rosmarinic acid	<i>Symphytum officinale</i>	
Lupeol	<i>Ichnocarpus frutescens</i>	stem
	<i>Tabernaemontana divaricata</i>	
	<i>Aegle marmelos</i>	leaf
	<i>Betula utilis</i>	
	<i>Cajanus cajan</i>	seed
	<i>Dalbergia latifolia</i>	bark
	<i>Diospyros malabarica</i>	fruit
	<i>Ficus racemosa</i>	root
	<i>Gymnema sylvestre</i>	leaf
	<i>Hemidesmus indicus</i>	root
	<i>Plumbago zeylanica</i>	
Procyanidin	<i>Elaeagnus rhamnoides</i>	
Linalool	<i>Rosa damascena</i>	flower
	<i>Zingiber officinale</i>	rhizome
	<i>Aegle marmelos</i>	leaf

	<i>Artocarpus heterophyllus</i>	fruit
	<i>Camellia sinensis</i>	leaf
	<i>Crithmum maritimum</i>	aerial part
	<i>Crithmum maritimum</i>	whole plant
Folic	<i>Hordeum vulgare</i>	
	<i>Sesamum indicum</i>	seed
	<i>Sesamum indicum</i>	
1,4-Dichlorobenzene	<i>Rosa damascena</i>	flower
Geranic acid	<i>Rosa damascena</i>	flower
	<i>Zingiber officinale</i>	rhizome
	<i>Camellia sinensis</i>	leaf
Azulene	<i>Rosa damascena</i>	flower
	<i>Lagenaria siceraria</i>	fruit
Myrtenal	<i>Zingiber officinale</i>	rhizome
	<i>Crithmum maritimum</i>	aerial part
	<i>Hemidesmus indicus</i>	root
Strychnine	<i>Strychnos nux-vomica</i>	seed
	<i>Argyreia nervosa</i>	
Camphor	<i>Zingiber officinale</i>	rhizome
	<i>Alpinia galanga</i>	
	<i>Crithmum maritimum</i>	aerial part
	<i>Hemidesmus indicus</i>	root
Hexanoic acid	<i>Artocarpus heterophyllus</i>	fruit
	<i>Camellia sinensis</i>	leaf
Valeric acid	<i>Artocarpus heterophyllus</i>	fruit
	<i>Camellia sinensis</i>	leaf
Cucurbitacin B	<i>Lagenaria siceraria</i>	fruit
	<i>Picrorhiza kurroa</i>	root
Cucurbitacin E	<i>Lagenaria siceraria</i>	fruit
	<i>Picrorhiza kurroa</i>	root
2-Ethylpyrazine	<i>Sesamum indicum</i>	seed
	<i>Sesamum indicum</i>	
6-Methyl-5-hepten-2-one	<i>Rosa damascena</i>	flower

	Zingiber officinale	rhizome
	Camellia sinensis	leaf
	Crithmum maritimum	aerial part
Asperglaucide	Tabernaemontana divaricata	
	Moringa oleifera	root
4-Carvomenthenol	Rosa damascena	flower
	Zingiber officinale	rhizome
	Aegle marmelos	leaf
	Camellia sinensis	leaf
	Crithmum maritimum	aerial part
	Crithmum maritimum	whole plant
	Hemidesmus indicus	root
Linalyl acetate	Rosa damascena	flower
	Zingiber officinale	rhizome
	Hemidesmus indicus	root
Elemicin	Zingiber officinale	rhizome
	Allium sativum	bulb
	Crithmum maritimum	aerial part
	Crithmum maritimum	whole plant
Myricetin	Elaeagnus rhamnoides	
	Anogeissus latifolia	bark
	Anogeissus latifolia	fruit
	Moringa oleifera	leaf
Methyl palmitate	Rosa damascena	flower
	Camellia sinensis	leaf
	Gymnema sylvestre	leaf
	Lagenaria siceraria	fruit
	Oryza sativa	seed
Geranylacetone	Rosa damascena	flower
	Camellia sinensis	leaf
	Crithmum maritimum	whole plant
Neral	Rosa damascena	flower
	Zingiber officinale	rhizome
	Crithmum maritimum	aerial part
Geranyl acetate	Rosa damascena	flower
	Zingiber officinale	rhizome
	Crithmum maritimum	aerial part

Neryl acetate	Rosa damascena	flower
	Zingiber officinale	rhizome
	Crithmum maritimum	aerial part
Rutin	Elaeagnus rhamnoides	
	Aegle marmelos	leaf
	Moringa oleifera	leaf
	Tecomella undulata	bark
	Ziziphus jujuba	leaf
2-Hydroxy-4-methoxybenzaldehyde	Ichnocarpus frutescens	root
	Hemidesmus indicus	root
2,3-Butanedione	Elaeagnus rhamnoides	
Oleanolic acid	Elaeagnus rhamnoides	
	Achyranthes aspera	root
	Achyranthes aspera	seed
	Achyranthes aspera	
	Betula utilis	
	Cyperus rotundus	
	Gardenia gummifera	bark
	Holoptelea integrifolia	bark
	Lagenaria siceraria	fruit
Ellagic acid	Elaeagnus rhamnoides	
	Anogeissus latifolia	bark
	Chlorophytum tuberosum	whole plant
	Commiphora wightii	
	Moringa oleifera	leaf
	Moringa oleifera	seed
	Phyllanthus emblica	fruit
	Terminalia chebula	fruit
Salidroside	Strychnos nux-vomica	seed
4-Hydroxycinnamic acid	Elaeagnus rhamnoides	
	Camellia sinensis	leaf
	Enicostema axillare	leaf
	Hemidesmus indicus	root
	Moringa oleifera	leaf
	Operculina turpethum	
	Oroxylum indicum	
	Oryza sativa	seed
	Terminalia chebula	fruit

Catechol	<i>Camellia sinensis</i>	leaf
	<i>Phyllanthus emblica</i>	fruit
	<i>Picrorhiza kurroa</i>	root
Bornyl acetate	<i>Zingiber officinale</i>	rhizome
	<i>Crithmum maritimum</i>	aerial part
	<i>Crithmum maritimum</i>	whole plant
	<i>Hemidesmus indicus</i>	root
Isobornyl acetate	<i>Zingiber officinale</i>	rhizome
	<i>Hemidesmus indicus</i>	root
trans-Linalool oxide	<i>Rosa damascena</i>	flower
	<i>Zingiber officinale</i>	rhizome
	<i>Camellia sinensis</i>	leaf
Nerolidol	<i>Rosa damascena</i>	flower
	<i>Zingiber officinale</i>	rhizome
	<i>Aegle marmelos</i>	leaf
	<i>Camellia sinensis</i>	leaf
	<i>Hemidesmus indicus</i>	root

## Results:

### Identification of Common Genes between Sarcopenia and Obesity

- From the DisGeNET database, 2,822 genes were associated with obesity, and 164 genes were associated with sarcopenia.
- A Venn diagram analysis revealed 119 genes common between sarcopenia and obesity

Venn Diagram of Obesity and Sarcopenia Genes

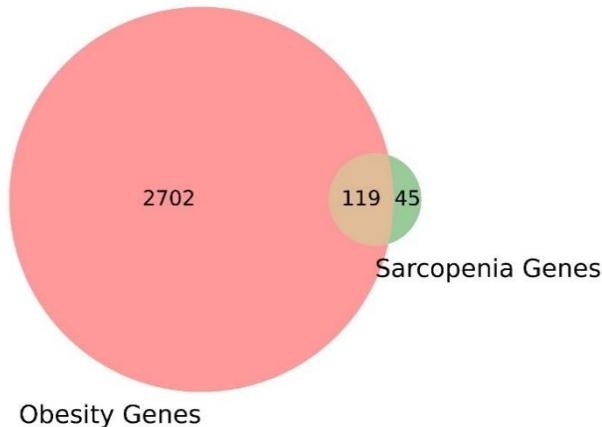


Fig.2 Venn Diagram

### Identification of Phytochemicals from Indian Medicinal Plants

- The IMPPAT database yielded 560 phytochemicals for sarcopenia (based on the "muscle weakness" category) and 1,073 phytochemicals for obesity.
- A total of 204 phytochemicals were found to be common between sarcopenia and obesity.

Venn Diagram of Phytochemicals in Sarcopenia and Obesity

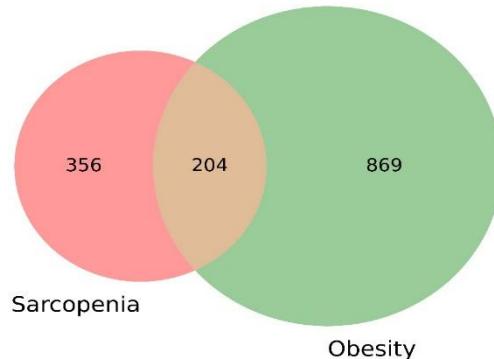


Fig.3 Venn Diagram common Phytochemicals

### Mapping of Phytochemicals to Protein Targets

- Using IMPPAT and SwissProt databases, more than 7,000 potential targets were found for the identified phytochemicals.

- Upon comparison with the 119 common genes, 70 of these genes were found to be potentially modulated by the phytochemicals.
- A total of 125 phytochemicals were identified as potentially acting on these 70 common genes.
- These phytochemicals were obtained from 57 different medicinal plant sources.
- The formation of a Cytoscape network helped visualize and analyze the interactions between the phytochemicals (source nodes) and the protein targets encoded by the common genes (target nodes).

The common names and family names of the plant specimens are listed below:

Plant Name	Family	Indian Name
Rosa damascena	ROSACEAE	Fasli Gulab
Elaeagnus rhamnoides		
Acacia catechu	MIMOSACEAE	Khair
Anogeissus latifolia	COMBRETACEAE	Dhawa, Dhaura
Camellia sinensis	THEACEAE	Cha, Chai
Phyllanthus emblica		
Lagenaria siceraria	CUCURBITACEAE	Kaddu, Lauki
Ichnocarpus frutescens	APOCYNACEAE	Kalidudhi, Siamalata
Tabernaemontana divaricata	APOCYNACEAE	Chandni, Tagar
Cajanus cajan	FABACEAE	Arhar, Tur
Cissus quadrangularis	VITACEAE	Hadjora, Harsankari
Hemidesmus indicus	ASCLEPIADACEAE	Anantamul, Kapuri
Shorea robusta	DIPTEROCARPACEAE	Sal, Sakhu
Zingiber officinale	ZINGIBERACEAE	Adrak
Artocarpus heterophyllus	MORACEAE	Kathal
Crithmum maritimum		
Aegle marmelos	RUTACEAE	Bel
Ficus benghalensis	MORACEAE	Bar, Bargad
Holoptelea integrifolia	ULMACEAE	Chilbil, Papari
Argyreia nervosa	CONVOLVULACEAE	Samudrasokha, Ghavapatta
Sesamum indicum	Pedaliaceae	Sesame
Gymnema sylvestre	ASCLEPIADACEAE	Gur-mar, Merasingi
Hibiscus cannabinus	MALVACEAE	Ambari, Patsan
Betula utilis	BETULACEAE	Bhojpatra
Diospyros malabarica	EBENACEAE	Gaab
Plumbago zeylanica	PLUMBAGINACEAE	Chita, Chitarak
Oryza sativa	Poaceae	Rice, paddy, sake
Moringa oleifera	MORINGACEAE	Sahjana, Sahijana
Cyperus rotundus	CYPERACEAE	Motha, Mutha (Beng.)
Achyranthes aspera	AMARANTHACEAE	Latjira
Commiphora wightii	Burseraceae	Guggul,
Hordeum vulgare	POACEAE	Jau, Jav

<i>Iris versicolor</i>	Iridaceae	Water Iris, Japanese iris,
<i>Withania somnifera</i>	SOLANACEAE	Punir, Asgandh
<i>Solanum melongena</i>	SOLANACEAE	Bengan, Ubhi ringani (Guj)
<i>Enicostema axillare</i>	Gentianaceae	Chota chirayata, katvinayi
<i>Gardenia gummifera</i>	RUBIACEAE	Dikamali
<i>Terminalia chebula</i>	COMBRETACEAE	Harre
<i>Ziziphus jujuba</i>	RHAMNACEAE	Pitni-ber, kandika
<i>Oroxylum indicum</i>	BIGNONIACEAE	Ullu, Saona
<i>Senna tora</i>	Caesalpiniaceae	Panwar, Chakunda
<i>Moringa pterygosperma</i>	RANUNCULACEAE	Jadwar, Nirbisi
<i>Delphinium denudatum</i>	Convolvulaceae	Indian jalap
<i>Operculina turpethum</i>	CUCURBITACEAE	Parwal
<i>Trichosanthes dioica</i>	MALVACEAE	Jasut, Jasum
<i>Hibiscus rosa-sinensis</i>	BERBERIDACEAE	Chitra, Daruhald
<i>Berberis aristata</i>	ASCLEPIADACEAE	Jiti, Chiti
<i>Marsdenia tenacissima</i>	Plantaginaceae	kardi, karoi, karu
<i>Picrorhiza kurroa</i>	Boraginaceae	Comfrey, black root
<i>Sympytum officinale</i>	ZINGIBERACEAE	Kulanjan, Barakulanjan
<i>Alpinia galanga</i>	FABACEAE	Shisham
<i>Dalbergia latifolia</i>	MORACEAE	Gular, Umar
<i>Ficus racemosa</i>	LOGANIACEAE	Bailewa, Kajra
<i>Strychnos nux-vomica</i>	Amaryllidaceae	Garlic
<i>Allium sativum</i>	BIGNONIACEAE	Rugtrora, Roheda
<i>Tecomella undulata</i>	Asparagaceae	musli
<i>Chlorophytum tuberosum</i>		

## **Conclusion:**

- 119 common genes were found between the conditions sarcopenia and obesity. These genes can be targeted for treatment.
- Plant compounds were identified that may act against sarcopenia and obesity.
- Many of these plant compounds were mapped to potentially target 70 of the common genes.
- A network was created to visualize the interactions between the plant compounds and the protein targets encoded by the common genes.
- The specific medicinal plants and their parts containing these active compounds were identified.
- Large databases, computer tools, and traditional knowledge were combined to find these potential therapeutic leads.
- The identified plant compounds and their interactions with shared targets show promise as multi-targeted therapies for sarcopenic obesity.
- Further experimental studies are needed to confirm the effectiveness and safety of these plant compounds before they can be used as treatments.
- The study demonstrates the value of combining computational methods, traditional medicine approaches to address complex health issues.
- By utilizing Indian medicinal plant resources and computer tools, the study contributes to developing effective and potentially safer treatments for sarcopenic obesity.

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