Upregulated Pathways

AS vs Healthy	CD4 T Cells	CD8 T Cells
Oxidative Phosphorylation WP623	Oxidative Phosphorylation WP623	Oxidative Phosphorylation WP623
Electron Transport Chain OXPHOS System In Mitochondria WP111	Electron Transport Chain OXPHOS System In Mitochondria WP111	Electron Transport Chain OXPHOS System In Mitochondria WP111
Selenium Metabolism And Selenoproteins WP28	Selenium Metabolism And Selenoproteins WP28	7Q11 23 Copy Number Variation Syndrome WP4932
7Q11 23 Copy Number Variation Syndrome WP4932	7Q11 23 Copy Number Variation Syndrome WP4932	Selenium Metabolism And Selenoproteins WP28
Selenium Micronutrient Network WP15	Selenium Micronutrient Network WP15	Selenium Micronutrient Network W P15
T Cell Modulation In Pancreatic Cancer WP5078	Dual Hijack Model Of Vif In HIV Infection WP3300	Dual Hijack Model Of Vif In HIV Infection WP3300
Genes Associated With The Development Of Rheumatoid Arthritis WP5033	Hijack Of Ubiquitination By SARS CoV 2 WP4860	Hijack Of Ubiquitination By SARS CoV 2 WP4860
Cholesterol Biosynthesis With Skeletal Dysplasias WP4804	Peptide GPCRs WP24	Modulators Of TCR Signaling And T Cell Activation WP5072
Dual Hijack Model Of Vif In HIV Infection WP3300	T Cell Modulation In Pancreatic Cancer WP5078	Extrafollicular And Follicular B Cell Activation By SARS CoV 2 WP5218
Hijack Of Upiquitination By SARS CoV 2 WP4860	Type 2 Papillary Renal Cell Carcinoma WP4241	Type 2 Papi llary Renal Cell Carcinoma WP4241
CD14 Monocytes	Naïve Cells	FCGR3A Monocyte
Oxidative Phosphorylation WP623	Oxidative Phosphorylation WP623	Oxidative Phosphorylation WP623
Electron Transport Chain OXPHOS System In Mitochondria WP111	Electron Transport Chain OXPHOS System In Mitochondria WP111	Electron Transport Chain OXPHOS System In Mitochondria WP111
7Q11 23 Copy Number Variation Syndrome WP4932	Selenium Metabolism And Selenoproteins WP28	Selenium Metabolism And Selenoproteins WP28
Selenium Metabolism And Selenoproteins WP28	7Q11 23 Copy Number Variation Syndrome WP4932	7Q11 23 Copy Number Variation Syndrome WP4932
Selenium Micronutrien t Network WP15	Selenium Micronutrient Network WP15	Selenium Micronutrient Network WP15
T Cell Modulation In Pancreatic Cancer WP5078	Serine Metabolism WP4688	Dual Hijack Model Of Vif In HIV Infection WP3300
mRNA Protein And Metabolite Inducation Pathway By Cyclosporin A WP3953	Cysteine And Methionine Catabolism WP4504	Hijack Of Ubiquitination By SARS CoV 2 WP4860
Cholesterol Biosynthesis With Skeletal Dysplasias WP4804	T Cell Modulation In Pancreatic Cancer WP5078	Resistin As A Regulator Of Inflammation WP4481
Dual Hijack Model Of Vif In HIV Infection WP3300	Dual Hijack Model Of Vif In HIV Infection WP3300	Type 2 Papi lary Renal Cell Carcinoma WP4241
Hijack Of Upiquitination By SARS CoV 2 WP4860	Hijack Of Ubiquitination By SARS CoV 2 WP4860	Corticotropin Releasing Hormone Signaling WP2355
	Tilgack Of Oppiditifiation by SAKS COV 2 WE4000	Coroccorop in Releasing normone Signaling Wr2555

Upregulated Ontologies

AS vs Healthy

roton Motive Force–Driven ATP Synthesis (GO:0015986)

Oxidative Phosphorylation (GO:0006119)

ATP Biosynthetic Process (GO:0006754)

Proton Motive Force-Driven Mitochondrial ATP Synthesis (GO:0042776)

Regulation Of Actin Nucleation (GO:0051125)

Regulation Of Arp2/3 Complex-Mediated Actin Nucleation (GO:0034315)

miRNA Catabolic Process (GO:0010587)

Purine Ribonucle oside Triphosphate Biosynthetic Process (GO:0009206)

listone mRNA Catabolic Process (GO:0071044)

Regulation Of T Cell Tolerance Induction (GO:0002664)

CD4 T Cells

ATP Biosynthetic Process (GO:0006754)

Proton Motive Force-Driven ATP Synthesis (GO:0015986)

Oxidative Phosphorylation (GO:0006119)

Proton Motive Force-Driven Mitochondrial ATP Synthesis (GO:0042776)

miRNA Catabolic Process (GO:0010587)

Purine Ribonucle oside Triphosphate Biosynthetic Process (GO:0009206)

Nuclear-Transcribed mRNA poly(A) Tail Shortening (GO:0000289)

Regulation Of Actin Nucleation (GO:0051125)

Histone mRINA Catabolic Process (GO:0071044)

3 Cell Mediated Immunity (GO:0019724)

CD8 T Cells

ATP Biosynthetic Process (GO:0006754)

Proton Motive Force-Driven ATP Synthesis (GO:0015986)

Proton Motive Force-Driven Mitochondrial ATP Synthesis (CO:0042776)

Oxidative Phosphorylation (GO:0006119)

Purine Ribonucleoside Triphosphate Biosynthetic Process (GO:0009206)

Negative Regulation Of miRNA-mediated Gene Silencing (GO:0060965)

TP Metabolic Process (GO:0046034)

miRNA Catabolic Process (GO:0010587)

Response To Glucose (GO:0009749)

roton Transmembrane Transport (GO:1902600)

CD14 Monocytes

ATP Biosynthetic Process (GO:0006754)

Proton Motive Force-Driven ATP Synthesis (GO:0015986

Oxidative Phosphorylation (GO:0006119)

Proton Motive Force-Driven Mitochondrial ATP Synthesis (GO:0042776)

Regulation Of Actin Nucleation (GO:0051125)

Regulation Of Arp2/3 Complex-Mediated Actin Nucleation (GO:0034315)

miRNA Catabolic Process (GO:0010587)

Purine Ribonuc eoside Triphosphate Biosynthetic Process (GO:0009206)

luclear-Transcribed mRNA poly(A) Tail Shortening (GO:0000289)

gative Regulation Of Double-Strand Break Repair (GO:2000780)

Naïve Cells

ATP Biosynthetic Process (GO:0006754)

Proton Motive Force-Driven ATP Synthesis (GO:0015986)

Oxidative Phosphorylation (GO:0006119)

Proton Motive Force-Driven Mitochondrial ATP Synthesis (GO:0042776)

Regulation Of Actin Nucleation (GO:0051125)

Regulation Of Arp2/3 Complex-Mediated Actin Nucleation (GO:0034315)

Positive Regulation Of Myeloid Leukocyte Cytokine Production Involved In Immune Response (GO:0061081)

miRNA Catabolic Process (GO:0010587)

Purine Ribonucleoside Triphosphate Biosynthetic Process (GO:0009206)

Glycine Metabolic Process (GO:0006544)

FCGR3A Monocyte

ATP Biosynthetic Process (GO:0006754)

Proton Motive Force-Driven ATP Synthesis (GO:0015986)

Proton Motive Force-Driven Mitochondrial ATP Synthesis (GO:0042776)

Oxidative Phosphorylation (GO:0006119)

miRNA Catabolic Process (GO:0010587)

Purine Ribonucleoside Triphosphate Biosynthetic Process (GO:0009206)

ositive Regulation Of Myeloid Leukocyte Cytokine Production Involved In Immune Response (GO:0061081)

legative Regulation Of Execution Phase Of Apoptosis (GO:1900118)

tegulation Of Type B Pancreatic Cell Proliferation (GO:0061469)

Regulation Of Execution Phase Of Apoptosis (GO:1900117)

Downregulated Pathways

AS vs Healthy

Platelet Mediated Interactions W Vascular And Circulating Cells WP4462

Genetic Causes Of Porto Sinusoidal Vascular Disease WP5269

Macrophage Markers WP4146

IL1 And Megakaryocytes In Obesity WP2865

Estrogen Receptor Pathway WP2881

Cell Type Dependent Selectivity Of CCK2R Signaling WP3679

ardiac Progenitor Differentiation WP2406

OSX And miRNAs In Tooth Development WP3971

Neurogenesis Regulation In The Olfactory Epithelium WP5265

Airway Smooth Muscle Cell Contraction WP4962

CD4 T Cells

Sebaleic Acid Formation And Metabolism WP5315

GLP 1 Secretion From Intestine To Portal Vein WP5 446

1Q21 1 Copy Number Variation Syndrome WP4905

Somatroph Axis GH Relationship To Dietary Restriction And Aging WP4186

Metabolism Of Alpha Linolenic Acid WP4586

Linoleic Acid Metabolism Affected By SARS CoV 2 WP4853

Prostaglandin And Leukotriene Metabolism In Senescence WP5122

Hijack Of Ubiquitination By SARS CoV 2 WP4860

Effects Of Nitric Oxide WP1995

Cytosine Methylation WP3585

CD8 T Cells

Chemokine Signaling WP3929

SARS CoV 2 Innate Immunity Evasion And Cell Immune Response WP5039

Overview Of Proinflammatory And Profibrotic Mediators WP5 095

Platelet Mediated Interactions W Vascular And Circulating Cells WP4462

Cytokine Cytokine Receptor Interaction WP5473

Eukaryotic Transcription Initiation WP405

Nucleotide Excision Repair WP4753

Translation Factors WP107

Mitochondrial Complex I Assembly Model OXPHOS System WP4324

Oxidative Phosphorylation WP623

CD14 Monocytes

Histone Modifications WP2369

T Cell Receptor And Co Stimulatory Signaling WP2583

Hematopoietic SC Gene Regulation By GABP Alpha Beta Complex WP3657

Serotonin Receptor 2 And ELK SRF GATA4 Signaling WP732

Notch Signaling WP268

Pregnane X Receptor Pathway WP2876

Non Homologous End Joining WP438

Iron Metabolism In Placenta WP2007

Microtubule Cytoskeleton Regulation WP2038

Factors And Pathways Affecting IGF1 Akt Signaling WP3850

Naïve Cells

Striated Muscle Contraction Pathway WP383

Effects Of Nitric Oxide WP1995

Irinotecan Pathway WP229

Homologous Recombination WP186

Kennedy Pathway From Sphingolipids WP3933

3Q29 Copy Number Variation Syndrome WP4906

SARS CoV 2 Innate Immunity Evasion And Cell Immune Response WP5039

GPCRs Class C Metabotropic Glutamate Pheromone WP501

Platelet Mediated Interactions W Vascular And Circulating Cells WP4462

ACE Inhibitor Pathway WP554

FCGR3A Monocyte

Interactions Of Natural Killer Cells In Pancreatic Cancer WP5092

Bone Morphogenic Protein Signaling And Regulation WP1425

Ganglio Series Sphingolipid Metabolism WP5299

OSX And miRNAs In Tooth Development WP3971

Major Receptors Targeted By Epinephrine And Norepinephrine WP4589

Airway Smooth Muscle Cell Contraction WP4962

NOTCH1 Regulation Of Endothelial Cell Calcification WP3413

GLP 1 Secretion From Intestine To Portal Vein WP5446

miR 517 Relationship With ARCN1 And USP1 WP3596

Alstrom Syndrome WP5202

Downregulated Ontologies

AS vs Healthy

B Cell Receptor Signaling Pathway (GO:0050853) Cellular Response To Lectin (GO:1990858) Stimulatory C-type Lectin Receptor Signaling Pathway (GO:0002223) Antigen Receptor-Mediated Signaling Pathway (GO:0050851) ERBB2 Signaling Pathway (GO:0038128) Heme Transport (GO:0015886)

CD4 T Cells

B Cell Receptor Signaling Pathway (GO:0050853) Kidney Morphogenesis (GO:0060993) keletal Muscle Thin Filament Assembly (GO:0030240) tetina Homeostasis (GO:0001895) celetal Myofibril Assembly (GO:0014866) ositive Regulation Of Respiratory Burst (GO:0060267) otor Neuron Axon Guidance (GO:0008045) gulation Of Respiratory Burst (GO:0060263) enal Filtration (GO:0097205) Of Cell Activation (GO:0050865) egulation Of Leukocyte Mediated Cytotoxicity (GO:0001912)

CD8 T Cells

Retina Homeostasis (GO:0001895) B Cell Receptor Signaling Pathway (GO:0050853) timicrobial Humoral Response (GO:0019730) itigen Receptor-Mediated Signaling Pathway (GO:0050851) ositive Regulation Of Respiratory Burst (GO:0060267 egulation Of Respiratory Burst (GO:0060263) omerular Filtration (GO:0003094) nslational Elongation (GO:0006414) Humoral Response (GO:0019731)

CD14 Monocytes

Kidney Morphogenesis (GO:0060993) Positive Regulation Of Dendritic Spine Morphogenesis (GO:0061003)

Regulation Of Signal Transduction By P53 Class Mediator (GO:1901796)

ositive Regulation Of Dendrite Morphogenesis (GO:0050775)

elomeric D-loop Disassembly (GO:0061820)

sitive Regulation Of Dendritic Spine Development (GO:0060999)

sitive Regulation Of Natural Killer Cell Mediated Cytotoxicity (GO:0045954)

ril Assembly (GO:0014866)

Cell Activation (GO:0042110)

zation To Chromosome, Telomeric Region (GO:0070198)

Naïve Cells

Cardiac Atrium Development (GO:0003230)

Positive Regulation Of Dendritic Spine Morphogenesis (GO:0061003)

ositive Regulation Of Dendrite Morphogenesis (GO:0050775)

Positive Regulation Of Lymphocyte Chemotaxis (GO:0140131)

ositive Regulation Of MHC Class II Biosynthetic Process (GO:0045348)

sitive Regulation Of Dendritic Spine Development (GO:0060999)

T Cell Chemotaxis (GO:0010820)

Compact Myocardium Morphogenesis (GO:0003223)

phogenesis (GO:0060993)

gulation Of Mast Cell Activation (GO:0033004)

FCGR3A Monocyte

B Cell Receptor Signaling Pathway (GO:0050853)

intigen Receptor-Mediated Signaling Pathway (GO:0050851)

etina Homeostasis (GO:0001895)

ositive Regulation Of Respiratory Burst (GO:0060267)

gulation Of Respiratory Burst (GO:0060263)

icrotubule Anchoring At Microtubule Organizing Center (GO:0072393)

omerular Filtratio (GO:0003094)

gulation Of Immune Effector Process (GO:0002697)

nal Filtration (GO:0097205)

al Humoral Response (GO:0019730)