## Reporte\_Parcial\_Final

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2023-11-22

## Metodologia

Para el desarrollo del presente trabajo utilizamos el paquete DynamicCancerDriverKM, para ello realizamos la instalación del paquete en el repositorio en github https://github.com/AndresMCB/DynamicCancerDriverKMen su interior se encuentran las instrucciones de instalación (por favor referirse al repositorio para mas información)

Posteriomente se construye una matriz de expresión genetica unificada, donde combinamos las matrices con pacientes con Primary Tumor (Tumor detectado) y pacientes con Solid Tissue Normal (Tejido normal), manteniendo la varibale sample\_type la cual sera nuestra variable clase, se eliminan las variables que no contienen la variable clase y los genes a analizar, estos pasos fueron realizados con el codigo:

Se filtra el dataset verificando cuales de los genes (variables predictoras) estan activas por cada una de las muestras, para determinar el umbral que define si la muestra esta activa, se hallo el valor maximo en el dataset, resultando un valor de 7032374, sobre este valor se definio como umbral el 0.02% del valor maximo, para concluir en dicho porcentaje, se tomo como base que al realizar el primer filtro, debian quedar entre 7.000 y 14.000 genes, se realiza con el codigo:

```
Valor_Maximo <- max(Matriz_Normal_Tumor[,2:23688], na.rm=FALSE)*0.0002
```

Binarizamos el valor que se expresa en cada Gen por observacion, donde se deja un 0 para aquellos genes que no se encuetren activos (que no superaron el umbral) se deja un 1 para los genes que superan el umbral y que se encuentran activos.

Eliminamos los genes que no se encuentren expresados en almenos el 20% de las observaciones, resultando 9122 genes que se encuentran expresados en almenos el 20% de las muestras

```
head(Matriz_Normal_Tumor_binario_filtrado)
```

```
sample_type LRIF1 MAST2 RAB22A TRAP1 STAT2 BMPR2 FYN PARD6B CHUK TRAF2
## 1 Primary Tumor
                                       0
                                              0
                                                    0
                                                                0
                                                                       1
                                                                             1
                         0
                               1
                                                           1
## 2 Primary Tumor
                                       0
                                                    1
                                                                0
                                                                       0
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                                                                                   0
                               1
                                              1
                                                           1
## 3 Primary Tumor
                         0
                               0
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                                              0
                                                    0
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                                                                       0
                                                                             0
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## 4 Primary Tumor
                         0
                               0
                                       0
                                              1
                                                    1
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                                                                       0
                                                                             1
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## 5 Primary Tumor
                         0
                               1
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                                              1
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                                                           1
                                                                0
                                                                       1
                                                                             1
                                                                                   0
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## 6 Primary Tumor
                                              1
```

##		PNRC1	HOXD4	GUCA	LB FG	F4 G	ADD45G	KDR	LDLRAP	1 PRK	CB MDM:	2 KIT	MAPK1	TRAF1	CA12
##	1	0	0		1	0	1	1		0	0	1 1	C	) 1	0
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##	3	C	-	0	0	0		1	0	1	0	0	0	0	0 0
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##		SSBP4	FN1 C	RMP1	SUMO4	PELI	P1 EIF2	2AK2	DRD2 U	BQLN4	ACTN4	ACVR	2B RAL	YL PSE	N1
##	1	1	1	1	0		0	1	1	0	0		0	1	0
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##	•	SYTL4 C	DK9 PA	PPA2 T	TBP T	. 1 TI	RAF2	LCK	C1D S	SMAD	1 PM	CH TSF	YL2	ATX	N1 F	CGR3A	STU	JB1
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##		KCNJ11	PTMA H	BA1 CA	AV1 RA	B5B	ITG	B4 MRI	FAP1	SOS	TDC1	TXNIF	GRI	M5 T	'NFRS	F10A	PTPI	16
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##		SPP1 MU	C1 RAB	11A TI	INT1 E	LK1	SNR	.PD3 El	HMT2	FHL	3 TP	73 NFA	TC2	PRK	AR1A	SERP	IND:	L

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##		TRIM24	NGFR	PKMYT	T1 TS	SHR	BMP1 P	RKDC 1	EIF:	2S2 I		UB	B CC	DC85E	АХ	XIN1	GNA	01 (	GTF2I
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##	2	0	0		1	1	0	0		0	C	)	0	C	)	1		1	0
##	3	0	0		1	1	0	0		0	C	)	0	C	)	0		1	0
##	4	0	0		1	1	0	0		0	C	)	0	C	)	1		1	0
##		0			1	1	0	0		1	C		0	C		1		1	0
##	6	0			1	1	0	0		0	C		0	C		1		1	0
##		DNM1 S			ITSN							ZZE					ADD.		
##		1	1	1		1	0	1		1	1		1	1		1		0	
## ##		1	1	0		1	0	0		0	0		1 0	1		1		0	
##		1 1	1 1	0		1	0	0		1	1		1	1		0 1		0	
##		1	1	0		1	0	0		1	1		1	1		1		0	
##		1	1	0		1	0	0		0	0		1	1		1		0	
##		LILRB1			МΔРΖ				NFKI			Δ1					AGA:		STIMO4
##		1		1		0	0	0	111	1	~~11112	0			0	1	11.011.	0	0
##		1		1		0	0	0		1		0			0	1		0	0
##		1		0		0	0	0		1		0		0	0	0		0	0
	_		•	•		•	•	•		_		U		0	0	•			
##		1		1		0	0	0		1		0			0	1		0	0

##	6	1	0	1	0	0	0		1	0		0	0	0	0	0
##		JAK2 L	IPE MCF		K3 LMN	B1 SRS	F1 BA	RD1	YWHAZ	IRAK	1 SE	PTIN	B TRAF	2 LEN	G1 KPI	NB1
##	1	1	1	1	0	1	1	0	0		1	:	1	0	1	0
##	2	1	1	1	0	1	0	1	0		1	:	1	0	1	1
##	3	0	0	0	0	1	0	0	0		1		1	0	0	0
##	4	1	1	1	0	1	1	0	0		1		1	0	1	1
##	5	1	1	1	1	1	0	1	0		1		1	0	0	1
##	6	O ANXA7	1 PPP2CA	1	0 L ECH1	1 BRCA2	0 DDI 1	0	0 1 NDO	אם פר	1 DD1		1 D1 PTF	0 м сым	0 Apksti	1
##	1	1	1		1 1	DRUAZ	UDL1		i ivrzi	52 гн 1	0	MAGEI	1	N 13 M	ALVOII	1
##	2	1	0		1 1	1	0		)	1	1		0	0		1
##	3	1	0		0 1	1	0		)	0	0		0	0		0
##	4	1	1		1 1	1	0	(	)	1	1		0	0		1
##	5	1	1		1 1	1	0	(	)	1	1		0	0		0
##	6	1	1	(	0 1	1	0	(	)	1	1		0	0		0
##		SMAD2	PLK1 AE	BL1 CB	FB TNF	RSF8 N	FKBIA	GRB2	2 YY1	PAK1	PRL	R SAI	P30 PE	ER3 PT	PN11 (	CD36
##	_	1	1	0	0	0	1		1 0	1		0	1	0	1	1
##	2	1	0	0	0	0	1		1 0	1		0	1	0	0	1
##	3	1	0 1	0	0	0	1		0 0	0		0	1	0	0	1
##	5	1 1	1	0	0	0	1 1		1 0 1 0	1 1		0 0	1 1	0	1 0	1 1
##	6	1	1	0	0	0	1	-	1 0	0		0	1	0	0	1
##	Ü	_	EIF2AK1	-		FPI RA	_	-	VDR PI	-		0 C11o1	_	-	RIM24	BTK
##	1	1	1		1	0	0	1	0	0	1		1	0	1	1
##	2	0	(	0	1	0	0	0	0	0	0		1	0	1	1
##	3	0	C	0	0	0	0	0	0	0	0		0	0	0	1
##	4	1	1	. 1	1	0	0	1	0	0	1		1	0	1	1
##	5	1	1	_	1	0	0	1	0	0	0		1	0	1	1
##	6	0		•	1	0	0	1	0	0	1		0	0	1	. 1
##		HNRNPC	PIK3R1					RA2B	GNAQ	SREB		RTAP4	4-12 F		SHANK	
##	2	0	(		0		1 1	0	1		1		0	0		1
##	3	0	(		0		0	0	0		0		0	0		)
##	4	0	(		0		1	0	1		0		0	0		1
##	5	0	(		0		1	0	1		0		0	0		1
##	6	0	C	)	0	0	1	0	1		0		0	0		1
##		CIRBP 1	MAP7D1	THOC7	EGFR	HMGA1	KAT2B	RPS6	SKB1 I	OCTN1	EEF	1G P	SMF1 H	ILA-B	RNF138	3
##	1	1	1	1	1	1	1		0	1		1	0	1	(	)
##		1	0	1	0	0	1		0	1		1	0	1	(	)
##		1	0	1	0	0	1		0	1		1	0	1		)
##		1	0	1	0	0	1		1	1		1	0	1		)
## ##		1 1	0	1 1	0	1	1		1 1	1 1		1 1	0	1 1		)
			GFBP4 S				1 4 CSN	K2∆1								)
##			0	1			0	1		0		1	0	0	1	
##		0	0	1		_	0	0	1	0		1	0	0	0	
##		0	0	0			0	0	0	0		1	0	0	0	
##	4	0	0	1	1	1	0	1	0	0		1	0	0	1	
##	5	0	0	1	0	1	0	1	0	0		1	0	0	1	
##		0	0	1			0	0	0	0		1	0	0	1	
			MAPK8													
##		1		1			0 1		1	1	1	0		. 1		
##		1		1			0 1		0	0	1	0	(			)
##	3	1	0	0		0	0 1	(	)	0	0	0	(	) 0	(	)

##	4	1		0	1		1	1	1		0	1		1	0		0	1		0
##	5	1	-	0	1		1	1	1		0	1		1	0		0	1		0
##	6	CBL EG	-	0	0 0	CDD	0 CM1.11	O ATN1	1 GIT1		0 DD1	1 מ	ΛT3	0 7N1 1	0 PSMD	11 Ľ	0	1	TD1	0 D0K4
	1	0	1	1		r n.b 1	0	AIN1 1	0		ъл 1	DLG3		0	עויוט	1 1	1	CAA	0	1
	2	1	1	1		1	0	0	0		0	0		0		1	1		0	0
	3	0	0	1		0	0	0	0		0	0		0		1	1		0	0
##	4	0	1	1	L	1	0	0	0		0	1		0		1	1		0	0
##	5	0	1	1	L	1	0	0	0	)	0	1		0		1	1		0	0
##	6	0	0	1	L	1	0	0	0	)	0	0	)	0		1	1		0	0
##		ERG28	TOP	BP1 A	ADRB2	DNM	T3B F	RGS7	PLA2G	4A	H3-4	EFN	B2 <i>I</i>	AP1M	1 EW	SR1	MAP	(7 L	TBR	LRP1
##	1	1		0	1		1	0		1	C	)	1	(	0	1		0	1	1
##	2	0		0	1		0	0		1	C	)	1	(	0	1		0	1	1
##	3	0		0	1		0	0		0	C		1		0	1		0	1	1
##	4	1		0	1		1	0		1	C		1		0	1		0	1	1
##	5	1		0	1		1	0		1	1	=	1		0	1		0	1	1
##	6	0	מזו ר	0	1 1	מעדעה	1	0	DOGIZ4	1	CMDC		1		a v a b.	1 7 TA	T1D	0	1	1
##	1	TGFBR2		4A1 M	1DM2 I 1	NFKB	IA W <i>A</i> O	0	ROCK1 1		EMP≥ 1		.I3 S 1	SRF (	CASP'	1 1 F 0	AF1D 0	PIP.	0	
##	2	1		1	1		0	0	1		1		1	1		0	0		0	
##	3	1	-	0	1		0	0	0		C	=	1	0		0	0		0	
##	4	1	_	1	1		0	0	1		1	_	1	1		0	0		0	
##	5	1	_	1	1		0	0	1		1	_	1	1	(	0	0		0	
##	6	1	_	0	1		0	0	0	)	1	_	1	1	(	0	0		0	
##		RANGAF	1 A	URKB	CCDC	85B	CCNA2	2 PTG	ER2 S	SVV3	9H1	CSNK	2A2	PDG	FB I	TSN1	EX(	DSC6	CXC	CR4
##	1		0	1		1	1	L	0		1		1		0	1	L	1		1
##	2		0	1		1	1	L	0		0		0		0	1	L	1		1
##	3		0	1		1	1	L	0		0		0		0	1	L	1		0
##	4		0	1		1	1	L	0		0		1		0	1	L	1		0
##	5		0	1		1	_	L	0		0		1		0	C		1		0
##	6	~~~~	0	1		1	1	_	0		0		0	. ~-	0					0
##	_	GNAI1	RHU			FHL3		SUFU	CASP					ACT.						HDAC2
##	1 2	0		0	0	0	1	0		1	1		1		1 1	1	. (	1	1	1 1
##	3	0		0	0	0	0	0		0	C		0		1	1		)	0	1
##	4	1		0	0	0	0	1		0	C		1		1	1		1	1	1
##	5	1		0	0	0	0	0		0	1		1		1	1	-	1	1	1
##	-	1		0	0	0	_	0		0	C	_	1		1	1		)	0	1
##			11 N											17 E						<b>K</b> 1
##	1		1	0	0	1		0	1		1	0		1	0		0	1		0
##	2		1	0	0	1		0	0		1	0		1	0		0	1		0
##	3		1	0	0	1		0	0		0	0		1	0		0	1		0
##	4		1	0	1	1		0	0		1	0		0	0		0	1		0
##	5		1	0	1	1		0	0		1	0		0	0		0	1		0
##	6		1	0	1	1		0	0		1	0		0	0		0	1		0
##		CSNK2A																		LA-C
##			1	1		1	1	1	0		1		1	1		1	1		1	1
##			0	1		1	1	1	0		0		1	1		1	0		0	1
##			0	0		1	0	1	0		0		1	1		1	0		0	0
## ##			0	1		1	1	1	0		0		1	1		1	1		1	1
##			1	1 1		1 1	1 1	1 1	0		0		1 1	1 1		1 1	1 0		1 1	1 1
##		CASP3																		
		1			0	0	1	JOLIO			C			1 01 <i>1</i>			1	1		0

##	2	1	0	0	0	1		0	0	0		1	1	1		1	0	
##	3	1	0	0	0	1		0	0	0		1	1	0	)	0	0	
##	4	1	0	1	0	1		0	1	0		1	1	1		1	0	
##	5	1	0	0	0	1		0	0	0		1	1	1		1	0	
##	6	1	0	0	0	1		0	0	0		1	1	1		1	0	
##				D88 LMI							GNA1					IGS		SST
##	_	1	0	0	0	0	1	1		0		0	1	1	1		1	1
	2	1	0	0	0	1	0	1		0		1	1	1	1		0	1
	3	0	0	0	0	0	0	C		0		0	0	0	0		0	1
	4	1	0	1	0	1	0	1	=	0		1	1	1	1		1	1
##	5 6	1 1	0	1 1	0	1	0	1	-	0		1	1	1	1		1	1 1
##	O	HNF4A	IRS2 1	_	RAF4 CO	1 "NK T	1 ~им	OLFM2	-	0	א שתי	_	-	_	•	AD C	•	_
##	1	0	0	1	1	1	3nn 1	1	0	FDC	лоз н 1	0	ACIL	1	0	4n (	ASF	0
	2	0	0	1	0	1	1	0	0		1	0		1	0	0		0
	3	0	0	1	0	0	1	0	0		0	0		1	0	0		0
##	4	0	0	1	0	1	1	1	0		0	0		1	0	0		0
##	5	0	0	1	0	1	1	1	0		0	0		1	0	0		0
##	6	0	0	1	0	1	1	0	0		0	0		1	0	0		0
##		CTSD I	PTPN11	RPS6K	A3 CDC	42 CD	C42	RAB11A	PSE	N1 (	IT1	FADD	SMC3	NFK	B1 U	CP2	AMB	P
##	1	1	0		1	0	0	1		1	0	1	1		1	1		1
##	2	1	0		0	0	0	1		0	1	0	1		1	1		1
##	3	1	0		0	0	0	C	)	0	0	0	0		0	0		0
##	4	1	0		1	0	0	1	-	0	0	1	1		1	1		1
##	5	1	0		1	0	0	1	-	0	0	1	1		1	1		1
##	6	1	0		0	0	0	C		0	0	0	0		0	0		1
##			•	CTR9 I			UBA5			GRE				ERBE			LSM	
##	_	1	0	1	1	1		0	0		1	1	0		0	1		1
	2	1	0	1	1	0		0	0		1	1	0		0	0		1
	3	1 1	0	0	1	0		0	0		1	0	0		0	0		1
##	5	1	1	1 1	1	0		0	0		1	1 1	0		0	0		1
##	_	1	0	1	1	0		0	0		1	1	0		0	0		1
##	Ü	_	•	MSC PI	_	-	5G M	•	•	CTN	_	_	•	1 HD	•	•	)	-
	1		) 1	0	1	JIIDD I	1	1	1	011	1	0		1	0	0		
##	2		) 1	0	0		1	1	1		1	0		1	0	1		
##	3	(	) 1	0	0		0	0	0		1	0		0	0	C	)	
##	4	(	) 1	0	0		1	1	1		1	0		1	1	C	)	
##	5	(	) 1	0	0		1	1	1		1	0		1	0	1		
##	6	(	) 1	0	0		0	0	1		1	0		0	1	C	)	
##				NOC4L										MAPK		TP5F		FYN
##			1 1	1	1		1	1	0		0	0	1		1		1	0
##			1 1	1	0		1	1	0		0	0	1		1		1	1
##			) 1	0	0		1	1	0		0	0	0		1		0	0
##			1 1	1	1		1	1	0		0	0	0		1		1	0
##			1 1	1	1		1	1	0		1	0	0		1		1	0
##			) 1	1 B HOXC	0		1 Fo C	1	0 TD6V	101	0 AVT1	0	0 15 MA	פעם	1 ECDO	VI.II	1	0
## ##		1			1 1	SHUR	0	13GEP A	IIPOV	0	AN11		0 0	.nn2	Lonz 1		0	
##		1			1 1		1	1		0	0		0	1	1		0	
##		0			1 1		0	1		0	0		0	0	1		0	
##		0			1 1		1	1		0	0		0	1	1		0	
##		0			1 1		1	1		0	0		0	1	1		0	
##		0	(		1 1		0	1		0	0		0	1	1		0	

##		POLDIP2	GRN H	HTT SN	RNP40	RAG1 F	PRKAR	1A S	MAD2	DAP	SKIL	HNRNP	V OA	√F ET	V6	RXFP:	1
##	1	1	1	0	1	1		1	1	1	0		0	1	0	(	0
##	2	0	0	0	1	1		1	1	1	0		0	0	0	(	0
##	3	0	0	0	0	1		1	1	1	0		0	0	0	(	0
##	4	0	1	0	1	1		1	1	1	0		0	0	0	:	1
##	5	1	1	0	1	1		1	1	1	0		0	1	0	(	0
	6	1	1	0	1	1		1	1	1	0		0	1	0	(	0
##		CHUK PDE				SH3KBF										HNF	
	1	1	0	1			1	1		)	1	1	1	1	1		1
##	2	1	0	0	_		1	1		)	1	1	1	1	0		1
##	3	1 1	0	0			0	1		) )	1 1	0	1	1	1		1
##	5	1	0	0			1	1		)	1	1	1	1	0		1
##	6	1	0	0			0	0		)	1	1	1	1	0		1
##	U	ZFPM2 IN	•	UFSF11	-	STAME	•	•		•	_	PA2G4	_	_	•	VTM I	DVL1
##	1	0	1	0			1	1 LNO		1	1	1		)	0	1	0
##	2	0	0	0			1	1		0	1	1		)	0	1	0
##	3	0	0	0	-		1	0		0	0	0		)	0	1	0
##	4	0	0	0	1	_	1	1		0	0	1	(	)	0	1	0
##	5	0	0	0	1		1	0		0	0	0	(	)	0	1	0
##	6	0	0	0	1		1	0		0	0	0	(	)	0	1	0
##		RB1 TSPA	N4 KX	KD1 NI	N EID1	ATXN1	TEA	D1 C	BL A	CTN4	GATA1	GRM7	ARHO	GAP1	SOC	S1 G	FRA1
##	1	0	0	1	1 (	) (	)	1	1	0	(	) 1		0		1	1
##	2	0	0	0	0 0	) (	)	1	1	0	(	0		1		1	1
##	3	0	0	0	0 0	) (	)	1	1	0	(	0		0		1	1
##	4	1	0	0	0 0	) (	)	1	1	0	(	) 1		1		1	1
##	5	0	0	0	0 0	) (	)	1	1	0	(	) 1		1		1	1
##	6	0	0	0	0 0	•		1	1	0	(	_		0		1	1
##		OPRD1 HS	PD1 F	PIM1 L	SM3 RF	S6KA1		BP1	_	BL EI	PHB1 7	TUBA4A	ASI	C1 HS		F2R	1
## ##	1	OPRD1 HS	PD1 F	PIM1 L O	SM3 RF	S6KA1		BP1 1	_	BL EI 1	PHB1 7	TUBA4A 0	ASI	C1 HS	1	F2R 0	1
## ## ##	1 2	OPRD1 HS	PD1 F 1 1	PIM1 L 0 0	SM3 RF 0 0	PS6KA1 1 0		BP1 1 1	_	BL EI 1 1	PHB1 T 1 1	TUBA4A 0 0	ASI	C1 HS 1	1	F2R 0 1	1
## ## ##	1	OPRD1 HS 1 1	PD1 F 1 1 1	PIM1 L 0 0	SM3 RF 0 0 0	2S6KA1 1 0		BP1 1 1	_	3L EI 1 1	PHB1 7 1 1 1	TUBA4A 0 0 0	ASI	C1 HS 1 1	1 1 1	F2R 0 1	1
## ## ## ##	1 2 3 4	OPRD1 HS 1 1 1	PD1 F 1 1 1	PIM1 L 0 0 0	SM3 RF 0 0 0 0	2S6KA1 1 0 0		BP1 1 1 1	_	3L EI 1 1 1	PHB1 7 1 1 1 1	TUBA4A 0 0 0 0	ASI	C1 HS 1 1 1	1 1 1	F2R 0 1	1
## ## ## ## ##	1 2 3 4 5	OPRD1 HS 1 1 1 1	PD1 F 1 1 1 1 1	PIM1 L 0 0 0 0	SM3 RF 0 0 0 0	PS6KA1 1 0 0 0		BP1 1 1 1 1 1	_	BL EI 1 1 1 1	PHB1 1 1 1 1 1 1	TUBA4A 0 0 0 0 0	ASIO	C1 HS 1 1 1 1	1 1 1 1	F2R 0 1	1
## ## ## ##	1 2 3 4	OPRD1 HS	PD1 F 1 1 1 1 1	PIM1 L 0 0 0	SM3 RF 0 0 0 0 0	PS6KA1 1 0 0 0 0	SH3K	BP1 1 1 1 1 1	AKAP	BL EF 1 1 1 1 1 1	PHB1 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	O 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		1 1 1 1 1 1 1	1 1 1 1 1	F2R 0 1 0 1 1 1 1	
## ## ## ## ##	1 2 3 4 5	OPRD1 HS 1 1 1 1	PD1 F 1 1 1 1 1	PIM1 L 0 0 0 0 0 0 0 0 1 PITX	SM3 RF 0 0 0 0 0	PS6KA1 1 0 0 0	SH3K	BP1 1 1 1 1 1	AKAP	BL EF 1 1 1 1 1 1	PHB1 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TUBA4A 0 0 0 0 0		C1 HS 1 1 1 1	1 1 1 1 1	F2R 0 1 0 1 1 1 EWSR:	
## ## ## ## ## ##	1 2 3 4 5 6	OPRD1 HS  1  1  1  1  1  CTSS SKI	PD1 F  1  1  1  1  1  1  L DB1	PIM1 L 0 0 0 0 0 0 0 0 1 PITX	SM3 RF 0 0 0 0 0 0 0	PS6KA1 1 0 0 0 0 0 1 FEZ1 F	SH3K	BP1 1 1 1 1 1 1 A EI	AKAP8	BL EF 1 1 1 1 1 1	PHB1 T 1 1 1 1 1 1 1	TUBA4A 0 0 0 0 0 0 0 0 0	VDR	1 1 1 1 1 1 1	1 1 1 1 1 .A1	F2R 0 1 0 1 1 1 1 EWSR:	1
## ## ## ## ## ##	1 2 3 4 5 6	OPRD1 HS	PD1 F  1  1  1  1  1  1  1  1  1  1  1  1  1	PIM1 L 0 0 0 0 0 0 0 0 1 PITX	SM3 RF 0 0 0 0 0 0 0 1 ITK 1 1	PS6KA1  1 0 0 0 0 1 FEZ1 F	SH3K	BP1 1 1 1 1 1 1 A EI	F4E2	BL EF 1 1 1 1 1 1	PHB1 T 1 1 1 1 1 1 1	TUBA4A 0 0 0 0 0 0 0 0 0 ASGRF1	VDR 1	1 1 1 1 1 1 1	1 1 1 1 1 .A1	F2R 0 1 0 1 1 1 EWSR:	1
## ## ## ## ## ## ##	1 2 3 4 5 6 1 2 3	OPRD1 HS	PD1 F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PIM1 L	SM3 RF 0 0 0 0 0 0 0 0 1 ITK 1 1 1	PS6KA1	SH3K	BP1 1 1 1 1 1 1 A EI	F4E2 0	BL EF 1 1 1 1 1 1	PHB1 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TUBA4A 0 0 0 0 0 0 0 0 0 1 SGRF1 1	VDR 1 1	1 1 1 1 1 1 1	1 1 1 1 1 .A1	F2R 0 1 0 1 1 1 EWSR:	1 0 0
## ## ## ## ## ## ##	1 2 3 4 5 6 1 2 3 4	OPRD1 HS	PD1 F  1 1 1 1 1 1 1 1 1 1 1 0 (6)	PIM1 L 0 0 0 0 0 0 0 1 PITX	SM3 RF 0 0 0 0 0 0 0 0 1 ITK 1 1 1 1 1 1 1 1 0	PS6KA1	SH3K	BP1 1 1 1 1 1 1 A EI 0	F4E2 0 0	BL EF 1 1 1 1 1 1	PHB1 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TUBA4A 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	VDR 1 1 1 1	1 1 1 1 1 1 1	1 1 1 1 1 .A1 1 1	F2R 0 1 0 1 1 1 1 EWSR:	1 0 0
## ## ## ## ## ## ##	1 2 3 4 5 6 1 2 3 4 5	OPRD1 HS	PD1 F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PIM1 L	SM3 RF 0 0 0 0 0 0 1 ITK 1 1 1 1 1 1 1 1 1 1	PS6KA1	SH3K	BP1 1 1 1 1 1 1 A EI 0 0 0 0 0	F4E2 0 0 0 0	3L EI 1 1 1 1 1 1 GPR:	PHB1 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TUBA4A 0 0 0 0 0 0 0 0 0 0 0 0 1 SGRF1 1 1 1 1	VDR 1 1 1 1 1 1 1 1	C1 HS 1 1 1 1 1 1 COL1	1 1 1 1 1 .A1 1 1 1 1	F2R 0 1 0 1 1 1 EWSR:	1 0 0 0 0 0
## ## ## ## ## ## ## ##	1 2 3 4 5 6 1 2 3 4 5 6	OPRD1 HS	PD1 F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PIM1 L	SM3 RF 0 0 0 0 0 1 ITK 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	S6KA1	SH3K	BP1 1 1 1 1 1 1 1 1 1 1 A EI 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	F4E2 0 0 0 0	BL EF 1 1 1 1 1 1 GPR:	PHB1 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TUBA4A  0  0  0  0  0  0  0  ASGRF1  1  1  1  1  1  1  1  1  1  1  1  1	VDR 1 1 1 1 1 1 1A1 P(	C1 HS 1 1 1 1 1 1 COL1	1 1 1 1 1 .A1 1 1 1 1	F2R 0 1 0 1 1 1 EWSR: ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( (	1 0 0 0 0 0 0 0 0
######################################	1 2 3 4 5 6 1 2 3 4 5 6 1	OPRD1 HS  1 1 1 1 1 CTSS SKI 1 1 1 CTSS SKI 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PD1 F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PIM1 L	SM3 RF 0 0 0 0 0 0 0 1 ITK 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	S6KA1	SH3K	BP1	F4E2 0 0 0 0 0 0 0 PK14	BL EF 1 1 1 1 1 1 GPR:	PHB1 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CUBA4A  0  0  0  0  0  0  0  ASGRF1  1  1  1  1  1  1  1  1  1  1  1  1	VDR 1 1 1 1 1 1 1 A1 P(	C1 HS 1 1 1 1 1 COL1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	F2R 0 1 0 1 1 1 1 EWSR:	1 0 0 0 0 0 0 0 0 0 0 0
######################################	1 2 3 4 5 6 1 2 3 4 5 6 1 2	OPRD1 HS  1 1 1 1 1 1 CTSS SKI 1 1 1 1 1 1 0	PD1 F  1  1  1  1  1  1  1  1  1  1  1  1  ACTR2	PIM1 L	SM3 RF 0 0 0 0 0 1 ITK 1 1 1 1 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0	S6KA1	SH3K	BP1	F4E2 0 0 0 0 0 0 PK14 1	BL EF 1 1 1 1 1 1 1 GPR:	PHB1 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CUBA4A  0  0  0  0  0  0  ASGRF1  1  1  1  1  1  1  1  1  1  1  1  1	VDR 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	C1 HS 1 1 1 1 1 COL1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	F2R 0 1 0 1 1 1 1 EWSR: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ## ## ## ##	1 2 3 4 5 6 1 2 3 4 5 6 1 2 3	OPRD1 HS  1 1 1 1 1 1 CTSS SKI 1 1 1 1 1 0 0 0	PD1 F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PIM1 L	SM3 RF 0 0 0 0 0 1 ITK 1 1 1 1 1 1 1 1 1 1 1 1 0 1 1 1 0 0 0 0	PS6KA1 1 0 0 0 0 0 1 FEZ1 F 0 0 0 0 IRAK1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	SH3K	BP1	F4E2 0 0 0 0 0 PK14 1 1	BL EF 1 1 1 1 1 1 1 GPR:	PHB1 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CUBA4A  0  0  0  0  0  0  0  ASGRF1  1  1  1  1  1  1  1  1  1  1  1  1	VDR 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	C1 HS 1 1 1 1 1 COL1	1 1 1 1 1 1 1 1 1 EX	F2R 0 1 0 1 1 1 1 EWSR: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
######################################	1 2 3 4 5 6 1 2 3 4 5 6 1 2 3 4	OPRD1 HS  1 1 1 1 1 CTSS SKI 1 1 1 1 CNTNAP1 1 0 0 0	PD1 F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PIM1 L	SM3 RF 0 0 0 0 0 0 1 ITK 1 1 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0	PS6KA1  1 0 0 0 0 1 FEZ1 F 0 0 0 0 IRAK1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	SH3K	BP1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	F4E2 0 0 0 0 0 PK14 1 1 0	BL EF 1 1 1 1 1 1 1 1 GPR:	PHB1 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TUBA4A  0  0  0  0  0  0  0  ASGRF1  1  1  1  1  1  1  1  1  1  1  1  1	VDR 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DU2F1	1 1 1 1 1 1 1 1 1 EX	F2R 0 1 0 1 1 1 1 EWSR: 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
######################################	1 2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5	OPRD1 HS  1 1 1 1 1 1 CTSS SKI 1 1 1 1 1 0 0 0 1	PD1 F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PIM1 L	SM3 RF 0 0 0 0 0 0 1 ITK 1 1 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0	PS6KA1	SH3K	BP1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	F4E2 0 0 0 0 0 PK14 1 1 0 1	CRP 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PHB1 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CUBA4A  0  0  0  0  0  0  0  0  0  0  0  0  0	VDR 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DU2F1	1 1 1 1 1 1 1 1 EX	F2R 0 1 0 1 1 1 1 EWSR: 0 0 0 0 0 0 1 1	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
######################################	1 2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5 6	OPRD1 HS  1 1 1 1 1 1 CTSS SKI 1 1 1 1 1 0 0 0 1 0	PD1 F  1  1  1  1  1  1  1  1  1  ACTR2	PIM1 L	SM3 RF 0 0 0 0 0 1 ITK 1 1 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0	PS6KA1 1 0 0 0 0 1 FEZ1 F 0 0 0 0 0 IRAK1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	SH3K	BP1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	F4E2 0 0 0 0 0 PK14 1 1 0 1	BL EF 1 1 1 1 1 1 1 1 1 GPR: CRP 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PHB1 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CUBA4A  0  0  0  0  0  0  0  0  0  ASGRF1  1  1  1  1  1  1  1  1  1  1  1  1	VDR 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DU2F1	1 1 1 1 1 1 1 1 EXX ))	F2R 0 1 0 1 1 1 1 EWSR: 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
#########################	1 2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5 6	OPRD1 HS  1 1 1 1 1 CTSS SKI 1 1 1 1 1 0 0 0 PRKCA SM	PD1 F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PIM1 L	SM3 RF 0 0 0 0 0 1 ITK 1 1 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0	PS6KA1 1 0 0 0 0 1 FEZ1 F 0 0 0 0 0 IRAK1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	SH3K	BP1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	F4E2 0 0 0 0 0 PK14 1 1 1 1 1 1 1 1	CRP 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PHB1 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CUBA4A  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	VDR 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DU2F1	1 1 1 1 1 1 1 1 1 EXX ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) )	F2R 0 1 0 1 1 1 1 1 EWSR: 0 0 0 0 0 0 0 1 0 FDN1	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
#########################	1 2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5 6 1	OPRD1 HS  1 1 1 1 1 CTSS SKI 1 1 1 1 CNTNAP1 1 0 0 0 PRKCA SM	PD1 F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PIM1 L	SM3 RF 0 0 0 0 0 1 ITK 1 1 1 1 1 1 1 1 1 1 1 0 1 1 1 1 0 0 0 0	PS6KA1 1 0 0 0 0 1 FEZ1 F 0 0 0 0 0 IRAK1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	SH3KI HSPA1	BP1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	F4E2 0 0 0 0 0 PK14 1 1 1 1 1 1 1 1 1	CRP 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PHB1 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CUBA4A  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	VDR 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DU2F1	1 1 1 1 1 1 1 1 1 1 1 EX	F2R 0 1 0 1 1 1 1 1 EWSR: 0 0 0 0 0 0 0 1 0 FDN1 0	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
#########################	1 2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5 6 1 2	OPRD1 HS  1 1 1 1 1 1 CTSS SKI 1 1 1 1 1 1 0 0 PRKCA SM 1 1	PD1 F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PIM1 L	SM3 RF 0 0 0 0 0 1 ITK 1 1 1 1 1 1 1 1 1 1 1 0 1 1 1 1 0 0 0 0 0	PS6KA1 1 0 0 0 0 1 FEZ1 F 0 0 0 0 0 IRAK1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	SH3KI CALM CALM PK3 S. 0	BP1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	F4E2 0 0 0 0 0 PK14 1 1 0 1 1 1 ARH0	CRP 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PHB1 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CUBA4A  0  0  0  0  0  0  0  ASGRF1  1  1  1  1  1  1  1  1  1  1  1  1	VDR 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DU2F1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	F2R 0 1 0 1 1 1 1 1 EWSR: 0 0 0 0 0 0 1 0 0 FDN1 0 0	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
#########################	123456 123456 123456 123	OPRD1 HS  1 1 1 1 1 CTSS SKI 1 1 1 1 CNTNAP1 1 0 0 0 PRKCA SM	PD1 F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PIM1 L	SM3 RF 0 0 0 0 0 1 ITK 1 1 1 1 1 1 1 1 1 1 1 0 1 1 1 1 0 0 0 0	PS6KA1 1 0 0 0 0 1 FEZ1 F 0 0 0 0 0 IRAK1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	SH3KI HSPA1	BP1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	F4E2 0 0 0 0 0 PK14 1 1 0 1 1 1 ARH0	CRP 1 1 0 1 1 1 GEF 12 ( ( )	PHB1 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CUBA4A  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	VDR 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DU2F1	1 1 1 1 1 1 1 1 1 1 1 EX	F2R 0 1 0 1 1 1 1 1 EWSR: 0 0 0 0 0 0 0 1 0 FDN1 0	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

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## GABPA PPIA BTG1 TNFRSF1A TUBA1B CAVIN2 PARD3 ITGB1 RBM48 EEF1D FLII S1PR1 NA
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    TBC1D5 PBK PRPH2 POLR2D ACTA1 PSMD11 PRKCA JAK1 PRRC2A REPS2 CDH1 DDR1 RFX1
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## 6
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## MSX2 SERPINH1 FGG MAPK8IP3 PRRC2A WWP1 PTPRC NR2F2 BIRC2 NEK6 SKIL EIF4B TAC1
## 1
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                              1 1
                                        1 1
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## 2
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## 3
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## PRKCG TBC1D4 DOK1 RASA1 ABL1 NTRK1 CCR9 PDZK1 SMAD5 IL1RL1 AMPH L1CAM KAT5
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## 2
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    SP3 UBE2E3 MDK BTK AR UBQLN4 PSMC5 LMO2 SAA1 KRT8 NRXN1 EIF2AK2 CACYBP TRAF6
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## YJU2B NMT1 IER3IP1 ZNF580 TGFBR1 RAF1 EPHA2 GPRASP1 ACLY SRC RBF0X1 CSNK2B
## 1
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## IL1RAP ELOB SRGN RCAN1 RUNX1T1 MET LRRC4C SMAD3 GLUL ARNT2 MTREX TK1 VASP
                                              0
## 1
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## TP53 CEP126 LCK GPS1 NFATC2 ADRA2A RAF1 SFN PTPN6 TTR FYN PLSCR1 ABR EDA2R
## 1
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     MAPK10 GABRR2 FYN PIGR CBL UBE2V2 PRKCB RAC1 STXBP3 BTK FYN ROBO1 PRKN PTH1R
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     CD82 TSC22D4 GNAO1 TNFRSF12A HEY2 TMSB4Y YLPM1 LEP YWHAE LCK RUNX3 MIEF1
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     SUMO2 CCND1 HSP90AB1 SF3B1 CSNK2A1 SPTBN1 APPL2 FLAD1 ADAM19 SHC1 CUL3 PLXNB2
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     CNOT7 ANAPC7 PSME1 DDX3X SRPK2 RXRA SH3BP2 CD93 TUBA1A BMP5 NLGN3 HDAC1
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    CREBBP IL2RB NA GAPDH MED28 CD28 CALB2 YWHAG SMAD3 YWHAE PTMA PRKCG LORICRIN
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## CEP126 FGR HIPK1 NECTIN4 CFH LAT TMOD3 NEFL SLA IL2RB VCAN ACTR3 ATF1 HAP1
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## BMPR1B SH2D3C FBXW7 S100B CAV1 RPS6KA5 DIABLO HUWE1 SDF4 SKP2 PTN ABI3 RHOH
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## RPA1 CSF2RB GRB2 CTSG YWHAG XRCC6 TSHR DUSP4 CDK4 NCK1 APOA1 ATF2 CTBP1 TP53
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## MET SMN1 YWHAB FAS FABP1 IFI35 SKI RAI14 SOX6 MAPK1IP1L COPB2 DNMT3B ARPC3
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## GABARAPL1 NELFB GABRB3 JUNB GRIN2B KRTAP4-12 TRA2A NCOR1 UBB PARD3 MEF2D PHAX
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## CHMP1B STRAP RAC1 YWHAZ MST1R EIF2AK2 SERPING1 ESR1 CHRM3 RXRB CBR3 MAPK1
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## BMPR1A DNM1 PLK1 MAPK7 APP U2AF2 RAD23A SMAD3 PPM1A COPS6 GOLGA2 CDKN1B CD55
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## CTNND2 IL1RAP FYN TRA ACVR1 EP300 LCK ATF7IP WWP2 CREB1 HSP90AA1 WEE1 PTGES3
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## RPS27 LEPR PPP1R8 FEN1 MNAT1 JUN LSM7 FKBP4 SLC6A3 PLCG1 NUDT3 RPS28 TBP
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## RASD2 TCERG1 CHUK NME1 RPL7A FHL2 NA GRB2 DMPK TIRAP NCOR2 STAT3 SH3GL3 HCFC1
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## ARID3A KDR SRC PQBP1 OTUB1 KIAAO087 AP1M2 PML STAT1 SH3GL1 NEDD4L POLR2C
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## PRKAR1A ANAPC2 MAP2 IL16 HDAC6 MBD3 PRKAR2A CSNK2B ROCK1 SLC9A1 SYT7 RET PTK2
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## INSR SGK1 LRP2BP HDAC2 ITGB3 GNA12 COPS6 ACTA1 JUN MMP7 EGFR F13A1 HDAC1
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## EPS15 DTX3L RBM14 TINAGL1 ADCYAP1 CEBPA BAG6 RAC1 LYN JAK3 ITGB5 NUDT21 MET
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## EXOC4 STAP2 TLR1 BLNK PRKCA CABLES2 ARF6 ANXA11 NFKB1 PRR13 WDR18 LRP5 SF3B4
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## STX7 BTK ATP6V1A UBR1 PPARG BRCA1 CCNK UBQLN4 KRAS FAF1 FGF6 UBE2D2 LTA4H
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    ACTB PHACTR3 CBFA2T3 FHL5 NCOA6 CASP3 FLNC KDR UBQLN4 CXCR2 SUFU KCNJ15 CAPN1
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## GRIN1 PRC1 SHC1 CTNNB1 ZBTB16 CCR3 MUTYH NA HSPA5 SMAD2 DLG4 F0X01 WNT1
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## UNC119 IRAK1 BAG6 ABL1 ATF7IP MMP9 TNFSF10 MY015A RET YWHAQ SNRPD2 HNF4A
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## SMARCA2 VAV1 RPS6KA1 ADAM9 SYNJ1 CMA1 MYCBP TINAGL1 PRKG1 GADD45A SPTBN4 TK1
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## PPP1CA ARSL RB1 PTPN6 LSM2 ANKRD24 RBPMS HDAC5 SMAD1 CSAD RTN3 GSC SNRPD2
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## HNF4A CASP1 MSX1 PLXNB1 HTRA1 RPS6KA1 HDAC1 GNB1 HMOX1 TP63 MT-ND4 BMP7 PHC2
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## CHMP1A HCK TRAF1 UPF2 MAPK8 MYD88 PCBP1 EGFR MS4A1 ALOX12 LNX1 CFLAR CCNB1
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##		IL23R	DCK	CASP8	MTMR10	KPNA	2 GF	I1B	PTK2	POM	121	DIA	ABLO E	LNA	NUP1	.53	PRPF4	10A	
##	1	0	1	0	0	(	0	0	1	L	1		0	1		1		1	
##	2	0	1	0	0	(	0	0	1	L	0		0	1		0		1	
##	3	0	1	0	0	(	0	0	1	L	0		0	0		0		1	
##	4	0	1	0	0		1	0	1	L	0		0	1		0		1	
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##		CAV1		•	4 XPA I						UBQI		IFNAF			CSI	VK2A2	YLP:	
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			EGFR		TLN1									EKHI			CDC73	S SY	K
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##		H3C1	CAPN2	STRN4	FRN2	EP30	O TUB	Δ1Δ	SMAT	)4 7.1	RTR16	HMGR1	ERBB3	URF	72R2	TOT.T.T	P
##	1	1	0	0	1		1	1	D111112	1	1	0	1	UDL	1	10221	0
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##	6	0	0	0	0		1	0		1	1	0	1		1		0
##		MAP3K	5 AP1N	12 TNF	SF13	INSR	BCCIP	TNC	CAS	K NI	R4A1 1	MYOD1	ANAPC1	O H <i>A</i>	ABP4	DAB2	SH2B1
##	1		0	0	0	1	0	1		1	1	0		1	1	0	1
##	2		0	0	0	1	0	C	)	1	1	0		1	1	0	1
##	3		0	0	0	1	0	C	)	1	0	0		0	1	0	0
##	4		0	0	0	1	0	C	)	1	1	0		1	1	0	1
##	5		0	0	0	1	0	C	)	1	1	0		1	1	0	0
##	6		0	0	0	1	0	C	)	1	1	0		1	1	0	0
##		FXR2	EEF1A1	L AKAP	9 SYK	MYB	RSRC1	RRA	S2 E	PN2	GRB2	DNAJB	1 TSC2	BCI	L2 FO	SL2 M	IRC1
##	1	1	1	L	1 1	0	1		0	1	0		0 0		0	0	0
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##		CASP3	NRAP	RBX1	SNTA1	ARHG	EF2 L	TB4R	R PLA	IY U	WHAQ I	FUNDC2	JUN J	AK2	RARA	CDK4	:
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##		RGS19		DAA1 H	AX1 T	BL1X			MBI	PTN	RASSI	F1 NCK	1 SCAM	P1 (	CASP3		.4
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##	3	1		0	0	1		0	0	0		-	0	0	1		0
##	4	1		1	0	1		1	0	0		-	0	0	1		0
##	5	1		0	0	1		1	1	1		-	0	0	1		0
##	6	1		0	0	1		0	0	1	0 mp.41	-	0	0	1		0
##	,	HAND2					F2RL1								LRIF1		_
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## CCL19 SYNJ1 MCM7 PSMC3 PRKCD E2F1 PTK2 KIAA1217 TCL1A ABCA1 EXOSC8 ABL1 CASP3
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## LRIF1 KPNA2 MAPK1 STRN UPF1 SEMA5B BMPR1B RELA TRAF5 ZHX1 CDKN1A WDR1 LMO4
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## PRNP CASP8 STX2 CREB3L3 CTNND2 PRNP RDH11 PRMT1 EIF2AK2 PRKACA PSMC6 NR3C1
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## RPH3A PIK3C3 USF2 RBL2 TNR LPXN GRAP AKT1 KRT81 LYN MY05B RAB11FIP5 YWHAO
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## CASP8 RELA MAPK12 RBBP4 GDF9 RHOA CCDC85B SMAD3 CEP70 NOTCH4 CREBBP SGSM2
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## PSMA4 DYNLT1 TRIM29 NFKBIB KPNB1 LYN KCNAB2 FGF2 STON2 PSMC3 UBE2I BTRC
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## SORBS1 CAMK2A MED8 TK1 FSHR TNFSF11 PTK2 NFKBIA SND1 FXYD6 HSPA5 KHDRBS1 DLG1
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## GNRH1 RAB4A GAPDH SIRPA PLCG2 CABIN1 ANXA7 EGFR HOMER1 TNIP1 ACTN2 TLR4 JAK1
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## CASP3 PPA1 PRMT1 BMPR2 SNCG MAP3K14 PARP1 UCP3 SYK PECAM1 AP1M1 PLSCR1 DLG4
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     PTN ARRB1 ARHGAP1 MY010 CRMP1 RASA1 CREM EP300 PPP1R12A DNM1 UBE2N NCOA1
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     MEP1B MED4 CDK3 PLCG1 ADAM17 IRAK1 NAE1 CASP8 GAPDH PARP1 DLG2 JUP CD79A
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## HMG20B SOCS1 MYOZ1 CCDC33 MED22 NOL3 GRAP2 STUB1 MMP13 AP1M1 PLCG2 FAP
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## PLEKHB2 NXF1 TP53 AMFR CMA1 PIK3R1 CRMP1 STAT3 NGFR IRAK1 MAPT GPS2 PRG2
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## KCNJ12 TPT1 PIAS1 SMN1 EPRS1 SPRED1 MYD88 PDE6D MAPT PSEN1 FZD7 NPM1 TP53BP1
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## EEF1A1 NCR1 RHOD TSC1 YWHAG KIF20B SSTR5 LRIF1 UBE2E1 MAP3K8 TNFRSF8 TNFSF11
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## DGCR6L IKZF1 STAT5B PIK3R1 KRTAP4-12 TTN UBE2G1 RPL13 MED1 MAPK8IP1 NR1H2
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## MAPK3 NA COPS2 BAD HSPB1 SNX9 GGA2 EGFR AGAP2 CSNK2A1 IL4R SCAF1 RARA DLEU1
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## MAPK3 SH3BP2 HGS CHRM5 FYN RNF130 CALM3 NR3C1 CLEC3B PHC2 PTPRZ1 MPP1 ESR1
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## ATF3 ABCC2 CSNK1G1 HSPA1A SYT1 NR1H3 ITPR3 PKM DLG4 ARHGAP8 CASP2 ADRB2
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## SH3GL3 ERBB2 LTBR APPL1 GRB2 GRIN1 IMMT FXYD6 HLF SHC1 F0X04 PRKCD GAPDH ETS1
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## NROB1 KAT2B NA TSC2 FZD3 TRIM23 KLRC4 KLK3 ATP2B4 HLA-DPA1 NA RGS2 ACVR1
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## PRKCD CD19 IL1RL2 PRKCG PLP1 PSAP YWHAG EZH2 GNAQ TK1 BAG6 ANTXR1 GRB2
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## KIR3DL1 CASP4 TNFSF11 KRT7 IRS4 HRH4 TNFRSF11B GPR39 TRAF2 VTA1 CALCOCO1 ENAH
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## DCN MAPK3 MTCP1 EPHA2 TRAF3 FABP4 PRKCI TJP1 GSK3B HDAC1 CPNE4 USP9X KHDRBS1
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## CHRM3 MAGED1 PPARA NCOA1 TCF3 ITPKA NCOA3 SHC1 RB1 CHN1 CDC20 S100B CHAF1A
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## LSM7 SNX2 TRAT1 XPC GYS1 ATN1 PLCB1 ACTA1 JAK2 ANAPC5 EGF AKT1 TAB1 KAT5
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## ATXN7L3 C1QA NEFL LCK SIM2 MAPK8 NGFR SNTA1 SRC NKX2-5 PDGFRB BDKRB2 ADRB1
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    UBR1 ZNF408 CASP3 TJP1 RASA1 ZXDC CRMP1 CSNK2B COL1A2 ZCCHC17 CDK2 VIM GRIK3
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     AIFM1 TUBB3 H3-3A USO1 SH3GL3 IGF1R KDR TP53 ZEB2 NCR3 NR1H2 NGEF BTRC LUC7L2
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## H3-4 TRA2A AKT2 ATXN7L2 STC2 SMAD2 PLSCR1 PTPRF CAPNS1 FGFR1 FGR EP300
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## MAP3K10 RBM42 PGR DCX YWHAB PPFIA4 MYBBP1A LCP2 PLXNB3 ARHGAP5 RDX CBX4 AIMP2
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    CTTN PRKCI ESR1 CREBBP AKAP8L HDAC5 YWHAG NCK1 ESR1 DEFB1 LGALS1 IL1A ARPC4
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## NA IRS2 PXN TMSB4X IGHM MUC1 S100A8 ESR1 RORB CDKN1B APC MAF CSF2RA SMURF2
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     IGFBP3 LCK ITGA4 MAP2K4 CXCR4 PLEKHF2 MCRS1 PRMT5 EIF4A2 HMGB2 CASP3 TRIP6
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## ABL2 TSHR PXN TCF25 ITGA2B NRP1 CASP3 HDAC4 MCF2 CEP126 EXOSC6 ADRA1B CSNK2B
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## MCM5 TGFBRAP1 SMAD3 HNRNPA2B1 RCN3 VAV1 NA EPOR NBPF3 EDA2R MAPK3 ITGA6 CEBPA
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## SMAD4 ANK2 PA2G4 C1QBP PTPN6 PRPF4B SERPINA4 LAMA4 DNAJA1 EGFR TLX1 DDX20
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## ITGA6 KLRC2 DLG2 SEMA3F RAD51 SLC9A3R1 MAPK8IP2 MAP3K3 GRK5 TRAF2 SMN1 COL1A2
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## HDHD2 LCK HCK ASCC2 U2AF1 TRA ERBB2 COP1 TRAF2 KLF13 PEX5 DLG1 SH2B2 IL13RA2
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## VANGL1 AKT1 STX1A SMAD9 SUMO4 KREMEN1 ATN1 RBL2 NKX2-5 CR1 RPS6KA2 PRMT1
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## SMAD3 GRIN1 TNPO1 PIK3CB CASP6 NOTCH1 PTN FYN GPS1 SNCA ZFYVE9 ZBTB16 GOLGA2
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## CSNK1E EPHA7 NUMB ITGB2 MEF2A LNX1 SCAF11 CD82 RXRA SHBG CCDC106 PRKCZ ZNF408
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MYC PPP1R8 TRAF6 PDCD6IP RARA RHEBL1 SYT7 PTK2 JUN MYBBP1A HPS6 ECT2 SLC9A3R1
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     EGR1 TRIP12 PAK6 ISL1 NFKBIE CTBP2 NDUFB11 MAPK1 GNA15 TNFAIP3 CBX4 AXIN1
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    H4C1 SGK1 BLOC1S6 NIN ADD1 LRIF1 CALR PLCG1 GNB1 LRIF1 AKT1 BAG6 SYK MAP3K14
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## ADGRB2 RBBP8 KRT19 IFNAR1 RAE1 FHOD1 DAB1 GATA1 ZNF205 TRAF1 EPRS1 TNFRSF14
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## PRKAR2A PTPRZ1 CSNK2A1 ZC3HC1 MSH2 EPB42 SMAD4 TP53 SACS ERC1 CRELD1 PPP1R9B
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## OSGEP E2F1 TEC ETV1 ATF7 GNB1 ERG28 KRT8 HOXC4 CCNB1 FES RAI14 EPS15 CELSR3
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## PTK2B DAG1 KPNA1 PHPT1 NR1D2 RAP1A EFEMP2 RGS1 IRS1 FZD4 REM1 CAV3 NRBF2
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## SKOR1 PRTFDC1 RAP1A SRC STAT1 MAPK8IP2 H3-4 CALCOCO2 TEX37 RPS6KB1 STAT2 UBB
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## CREBBP TUBA1A AP1M1 MAPK10 HGS FHL2 TRAF2 RHO TAF9 STAT3 MPPED1 RIPK1 MDFI
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## SUB1 PTPN6 CALM2 RPL5 TK1 PPARD UBAC2 FRS2 HNRNPK NCK1 COPS5 CFL1 NOTCH2
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## PPP3CB TBP KCTD15 SYNJ1 ADGRB1 POLR2E GUSBP14 UNC119 YWHAG KLHL23 RPL18A
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## YWHAE AR PDGFRA SKIL BMPR1B HSPA5 GNA12 EIF2B1 DNAJB1 EWSR1 WT1 MSX2 ACTB
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## MAPK12 CUX1 F10 GPS1 YWHAZ CASP7 PLSCR3 FLNC SMAD3 RGS19 KPNB1 COL17A1 RARA
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## CTNNB1 YWHAH YWHAZ NFATC2 MRPL44 KAT5 RHOH STAT3 BLM EEF1G STXBP1 KAT2B MST1R
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## DVL2 CAV1 HNRNPA2B1 NRP2 GLP1R SMAD2 CHUK COL2A1 GPRASP1 PIK3CD RAD23A EP300
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## GATA4 PPARG CUL1 FEZ1 EXOC8 TRAF2 KIAA1107 PRKCZ LRP3 GRB7 CDH2 HSP90AB1
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## MAPK8IP3 DNM2 PPP3CA DBNL LRP1 GRB2 TLN1 POLB ESR1 ABI2 EP300 GZMB TRAF6 NEK2
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## IL18RAP NRP1 SHBG IGLON5 PGR RELA SMN1 HDAC2 GRIA3 ITGB3 RUNX1 ADCYAP1 DNM2
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## ACTL6A KCTD17 PTPN6 ERP27 FNBP4 BIRC3 CEBPB RXRA PHF10 MAPK1 INSR STAP2 MEGF6
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## PECAM1 FGFR3 NUDT18 CHUK NR2F1 SMAD4 SRSF5 ITGA5 RASA1 PALS2 YWHAB HCFC1
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## MARK3 NFE2L2 PRKCZ SHC2 TRAF2 SP1 GNB5 PLSCR1 HSPA1A FSCN1 MYD88 FADD PJA1
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## LMNA YWHAE INA FYN GRM5 WIPF2 TXK TLE5 KRT18 ABI2 VCP MAPK6 PTK2B AP1M1 SYP
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## ACTG1 PTK2 BTK PLSCR1 SCAMP1 PRKCA FGFR3 BEX3 HIPK3 MAPK3 DDX24 TNFSF11 MMP2
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## HOOK2 BCL2 MERTK JAK1 APP NEDD8 HTT MMP7 MYC JAK2 GRM2 YWHAZ DDIT3 MPP1
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## SH3PXD2A SMAD3 PLCB2 OPRM1 RAC1 ESR1 PTK2B DNAJC7 CSNK1A1 PPP1R2 BTK LDOC1
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## PTN AGT CCNH CCK HTR2A SMAD4 TNFRSF1A EED NEDD9 MAF BARD1 FGA MAGOH COL4A5
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                                                                               0
## NCOA1 THBS1 CD4 RB1 CHAF1A PFKM NEDD4L CHAT PFKFB2 SPP1 EED PELP1 PAK1 PTPRU
## 1
                              1
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## 2
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## 3
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## 4
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## 5
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## 6
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     ORC2 RAB5B SLC9A1 DDX39B DLG1 KIT HNRNPL FLAD1 NECAP2 TNFRSF1A USP45 CFDP1
## 1
        0
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## 2
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## 3
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## 4
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## 5
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## 6
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     IRAK1 PLEKHA1 WT1 ITGA2 GABRR1 RXRB NKIRAS2 POLR1C ACTG1 BRIX1 FYN GRIN1 RAN
                                                0 0
## 1
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## 2
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## 3
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## 4
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## 5
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## 6
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## ARHGEF6 PIM1 LRIF1 CTSG SMAD2 SMAD2 CMTM6 UNC119 AHR CREBBP TRAF2 TGM2 DNAJB1
                            0
## 1
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## 2
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## 3
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## 4
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## 5
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    TJP1 GP5 SETDB1 NA CHEK2 MEF2A YWHAZ THRB MY05A UBR1 YWHAG CREBBP PPP2CA
                                                    0
## 1
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                   1 1
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## 2
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## 3
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## 4
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## NCBP1 KHDRBS1 PGAM5 MAPK6 KRT15 PDGFRA MAPK11 MON1A ARHGAP32 CD4 FGFR3 TGFBR1
                 0 0 1 0 1 1 1 0 1 1
## 1 0
```

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## 2
                 0
                                  0
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## 3
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## 6
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## MYLK CHUK CACNA1C NCOA1 PARP1 GRB10 EXOSC4 KPNB1 CDC42 IQGAP1 PTK2 CCNA2 THRA
                1
                           0 1 0
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## 2
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## 3
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## 4
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## 5
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## 6
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## UPF2 CD28 SMG1 MECR MAP4K1 ACTG1 POLA2 NRIP1 BAG6 MAPK8IP2 VTN GEMIN5 LYN
## 1
                  0
                    0
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## 2
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## 3
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## 4
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## 5
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## 6
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## SMAD2 SH3KBP1 CEP126 CAPN1 RPS6KA5 CDKN1A KIT CHEK2 CUBN DDX39A CEP70 CREBBP
## 1
        1
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## 2
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## 3
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## 4
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## 5
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                                                                         1
## MC2R CREM YWHAG ATP2A2 PPP1R16A POLI SUMO4 TGM2 STUB1 CREBBP EGFR SOS1 PTPRE
## 1
       1
            0
                1
                     1
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                                     0
                                          0
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## 2
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                         1
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        1
## 3
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## 4
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## 5
        1
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## 6
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        1
                          1
                                                         1
## CDKN1B SDC4 STXBP1 PICK1 IL31RA PPARD TFDP2 MAP1B SMARCD3 EIF3H CACNG2 JAK1
## 1
       1 1 0
                        0
                                  0 0
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## 2
         1
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## 3
          1
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## 4
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## 5
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## 6
          1
                                   1
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## C1D RBL2 RXRG CNOT4 ATXN1 KLRC4 TLE1 TSHR ITGB2 VIM CTNND2 NADSYN1 CBX1 MAPK8
                                                              1 0
## 1
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## 2
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## 3
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## 4
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## 5
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                                                              1
## RASSF1 DAPK3 PSME3 HTATSF1 FGF6 HLA-B PLOD3 CDK5R1 SERPINH1 AXIN1 COL4A1
## 1
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                0
                      0
                              0
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                                                      0
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## 2
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## 3
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## 4
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## 5
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## 6
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          0
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```

##		IQGAP2	SCMH1	SCTR	CDK9	РНҮН	UBTF	IKBKB	LRFN1	MAPI	KAPK2	KLHL20	U2AF	2 HANI	02
##	1	1	0	0	1	1	1	0	(		1			1	0
##	2	1	0	0	1	1	1	0	(	)	1		1	1	0
##	3	0	0	0	1	1	0	0	(	)	0	(	)	1	0
##	4	1	0	0	1	1	0	0		)	1	:	1	1	0
##	5	1	0	0	1	1	0	0		)	0	(	)	1	0
##	6	1	0	0	1	1	0	0	(	)	0	(	)	1	0
##		PDCD6IP	EPS8	PTPR	O NA	MAP3K	3 NFA	rc2 re	T RPS2	27A R	IN1 SM	URF2 I	PLXNB1	SELP	ICAM3
##	1	1	. 1		1 1		0	0	1	0	1	1	0	1	0
##	2	1	. 1		1 0		1	0	1	0	1	1	0	1	0
##	3	1	. 1		0 0		0	0	0	0	0	1	0	1	0
##	4	1			1 0		0		1	0	1	1	0	1	0
##	5	1	_		1 0		1		1	0	1	1	1	1	0
##	6	1	_		0 0		0		1	0	1	1	0	1	0
##														C16ori	
##	1	0	1	1	0	1	0	1	1	1	1	0	1		0
##	2	1	0	1	0	0	0	0	1	1	1	0	1		0
##	3	1 1	0	1 1	0	0 1	0	0 1	0 1	0 1	0 1	0	1 1		0
##	5	1	0	1	0	0	0	1	1	1	1	0	1		0
##	6	1	0	1	0	0	0	1	0	1	1	0	1		0
##	Ü	MAGEA1	ADRA1A	_	-	-	DL1A2	MAPK6	POU3E	_	RC3 KL	-	_	SF3 EI	LANE
##	1	1	0		1	1	0	0	1 0001	0	1	1	1	1	1
##	2	0	0		1	1	0	0		0	1	0	1	1	1
##	3	0	0		1	1	0	0		0	0	0	0	1	1
##	4	0	0		1	1	0	0		0	1	1	1	1	1
##	5	0	0		1	1	0	0		1	1	1	1	1	1
##	6	0	0		1	1	0	0		0	1	0	1	1	1
## ##	6	O PAFAH1B		ERB	_				RHR1 E	0 EP300	1 DYRK1	-	_	1 GEMII	_
	6 1	PAFAH1B		ERB	_				RHR1 E 1		DYRK1	-	_	_	_
##		PAFAH1B	1 CDK1	ERB	IN PT	GIR P	RDM1	H3-4 C		EP300	DYRK1	A TRAI	F6 DMD	_	N4
##	1	PAFAH1B	0 1	ERB	IN PT	GIR P	RDM1 I	H3-4 C	1	EP300 1	DYRK1	A TRAI	F6 DMD 1 1	_	0
## ## ##	1 2 3 4	PAFAH1B	0 1 0 1 0 1 0 1 0 1	ERB	IN PT 0 0 0 0	0 0 0 0	RDM1 I 1 0 0 1	H3-4 C 1 0 0	1 1 1	1 0 0 1	DYRK1	A TRAI	F6 DMD 1 1 1 1 1 1 1 1	_	N4 0 0 0 0
## ## ## ## ##	1 2 3 4 5	PAFAH1B	1 CDK1 0 1 0 1 0 1 0 1 0 1	ERB	O O O O	GIR P. 0 0 0 0 0	RDM1 I 1 0 0 1 1	H3-4 C 1 0 0 0	1 1 1 1	1 0 0 1 1	DYRK1	A TRAI 1 0 0 0 1	F6 DMD 1 1 1 1 1 1 1 1 1 1	_	N4 0 0 0 0 0
## ## ## ## ## ##	1 2 3 4	PAFAH1B	1 CDK1 0 1 0 1 0 1 0 1 0 1 0 1	ERB	O O O O O	GIR P. 0 0 0 0 0	RDM1 I 1 0 0 1 1	H3-4 C 1 0 0 0 0	1 1 1 1 1	1 0 0 1 1 0	DYRK1	A TRAI 1 0 0 0 0 1	F6 DMD 1 1 1 1 1 1 1 1 1 1 1 1	GEMII	N4 0 0 0 0 0 0
## ## ## ## ## ##	1 2 3 4 5 6	PAFAH1B	1 CDK1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1	ERB	IN PTO	GIR P 0 0 0 0 0 0 0 0 RPF40	RDM1 I 0 0 1 1 1 1 A GLUI	H3-4 C 1 0 0 0 0 0 0 0	1 1 1 1 1 1 H4C14	EP300 1 0 0 1 1 0 FLT4	DYRK1	A TRAI 1 0 0 0 0 1 0 EED 7	F6 DMD  1 1  1 1  1 1  1 1  1 1  TDP2 P	_	N4 0 0 0 0 0 0 0
## ## ## ## ## ## ##	1 2 3 4 5 6	PAFAH1B  XRCC6 U	1 CDK1 0 1 0 1 0 1 0 1 0 1 0 1 BB MAP	ERB K14	IN PT 0 0 0 0 0 0 0 0 UBB P 1	GIR P: 0 0 0 0 0 0 0 0 RPF40	RDM1 I	H3-4 C 1 0 0 0 0 0 0 L GRP	1 1 1 1 1 1 H4C14	EP300 1 0 0 1 1 0 FLT4	DYRK1 PTK2B	A TRAF 1 0 0 0 0 1 0 EED 7	F6 DMD  1 1  1 1  1 1  1 1  1 1  1 1  1 0  TDP2 P	GEMII	N4 0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ##	1 2 3 4 5 6	PAFAH1B  XRCC6 U 1 1	61 CDK1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0	ERB K14 1 0	IN PT	GIR P: 0 0 0 0 0 0 0 0 RPF40	RDM1 I	H3-4 C 1 0 0 0 0 0 L GRP 0 1	1 1 1 1 1 1 H4C14 1	EP300 1 0 0 1 1 0 FLT4 0	PTK2B	A TRAI 1 0 0 0 1 0 EED 5 1	F6 DMD  1	GEMII	N4 0 0 0 0 0 0 0 0 6 A 1
## ## ## ## ## ## ##	1 2 3 4 5 6 1 2 3	PAFAH1B  XRCC6 U 1 1 1	61 CDK1 0 1 0 1 0 1 0 1 0 1 0 1 BB MAP 1 0	K14 1 0 0	IN PTO 0 0 0 0 0 0 0 0 UBB P: 1 0 1	GIR P: 0 0 0 0 0 0 0 0 RPF40	RDM1 I  1 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	H3-4 C 1 0 0 0 0 0 0 L GRP 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 1 1 H4C14 1	EP300 1 0 0 1 1 0 FLT4 0 0	DYRK1  PTK2B  0  0 0	A TRAI 1 0 0 0 1 0 EED 7 1 0	F6 DMD  1	GEMII	N4 0 0 0 0 0 0 0 0 6 A 1 1
## ## ## ## ## ## ## ## ## ## ## ## ##	1 2 3 4 5 6 1 2 3 4	PAFAH1B  XRCC6 U 1 1 1	1 CDK1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0	K14 1 0 0	IN PTO 0 0 0 0 0 0 0 0 UBB P. 1 0 1 1	GIR P: 0 0 0 0 0 0 0 RPF40	RDM1 I  1 0 0 1 1 1 A GLUI 1 1 0 1 1 1 0 1 1 1 0 1 1 1 1 0 1	H3-4 C 1 0 0 0 0 0 L GRP 0 1 0 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0	1 1 1 1 1 1 H4C14 1 1	EP300 1 0 0 1 1 0 FLT4 0 0	DYRK1  PTK2B  0  0  0	A TRAI 1 0 0 0 1 0 EED 5 1 1 0 1	F6 DMD 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0 0 0 0	GEMII	N4 0 0 0 0 0 0 0 0 6A 1 1 1
## ## ## ## ## ## ## ##	1 2 3 4 5 6 1 2 3 4 5	PAFAH1B  XRCC6 U  1  1  1  1	1 CDK1 0 1 0 1 0 1 0 1 0 1 0 1 EBB MAP 1 0 0 1	K14 1 0 0 1	IN PTO 0 0 0 0 0 0 0 UBB P. 1 0 1 1 1 1	GIR P: 0 0 0 0 0 0 0 RPF40	RDM1 I  1 0 0 1 1 1 A GLUI 1 1 0 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1	H3-4 C 1 0 0 0 0 0 L GRP 1 0 0 0 1 0 1 1 0 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 H4C14 1 1 1	EP300 1 0 0 1 1 0 FLT4 0 0 0	DYRK1  PTK2B  0  0  0  0  0	A TRAH 1 0 0 0 1 0 EED 1 1 0 1 1	F6 DMD  1	GEMII	N4 0 0 0 0 0 0 0 0 6A 1 1 1
## ## ## ## ## ## ## ##	1 2 3 4 5 6 1 2 3 4 5 6	XRCC6 U 1	1 CDK1 0 1 0 1 0 1 0 1 0 1 0 1 BB MAP 1 0 0 1	K14 1 0 0 1 1	IN PTO 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1	GIR P: 0 0 0 0 0 0 0 RPF40	RDM1 I  1 0 0 1 1 1 1 A GLUI 1 1 (1) (1) (1) (1) (1) (1) (1) (1) (1)	H3-4 C 1 0 0 0 0 0 L GRP 0 1 0 0 1 0 1 0 1 1 0 1 1 1 1 1 1 1 1	1 1 1 1 1 1 H4C14 1 1 1	EP300 1 0 0 1 1 0 FLT4 0 0 0 1	PTK2B 0 0 0 0 0	A TRAH 1 0 0 0 1 0 EED 1 1 0 1 1 1	F6 DMD  1	GEMII	N4 0 0 0 0 0 0 0 0 6A 1 1 1 1
## ## ## ## ## ## ## ##	1 2 3 4 5 6 1 2 3 4 5 6	PAFAH1B  XRCC6 U  1  1  1  1	1 CDK1 0 1 0 1 0 1 0 1 0 1 0 1 BB MAP 1 0 0 1	K14 1 0 0 1 1	IN PTO 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1	GIR P: 0 0 0 0 0 0 0 RPF40	RDM1 I  1 0 0 1 1 1 1 A GLUI 1 1 (1) (1) (1) (1) (1) (1) (1) (1) (1)	H3-4 C 1 0 0 0 0 0 L GRP 0 1 0 0 1 0 1 0 1 1 0 1 1 1 1 1 1 1 1	1 1 1 1 1 1 H4C14 1 1 1	EP300 1 0 0 1 1 0 FLT4 0 0 0 1	PTK2B 0 0 0 0 0	A TRAH  1  0  0  1  0  EED 1  1  1  NOS1	F6 DMD  1	GEMII	N4 0 0 0 0 0 0 0 0 6A 1 1 1 1
## ## ## ## ## ## ## ## ##	1 2 3 4 5 6 1 2 3 4 5 6 1	XRCC6 U  1  1  1  1  CREBBP	1 CDK1 0 1 0 1 0 1 0 1 0 1 0 1 BB MAP 1 0 0 1 1 1 1 SNRPF	K14 1 0 0 1 1	IN PT 0 0 0 0 0 0 0 UBB P 1 0 1 1 1 1 33 RB	GIR P: 0 0 0 0 0 0 0 RPF40	RDM1 I	H3-4 C 1 0 0 0 0 0 L GRP 0 1 0 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 H4C14 1 1 1 1 1	EP300 1 0 0 1 1 0 FLT4 0 0 0 0 1 0 0 TLT4	PTK2B 0 0 0 0 0 0 0 0 0 0 0 0	A TRAH 1 0 0 0 1 0 EED 1 1 0 1 1 NOS1	F6 DMD 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0 0 0 0	GEMIN	N4 0 0 0 0 0 0 0 0 6A 1 1 1 1 1 1 1 1 1 1 1 1
## ## ## ## ## ## ## ## ## ## ## ## ##	1 2 3 4 5 6 1 2 3 4 5 6 1 2	XRCC6 U  1  1  1  1  CREBBP  1	1 CDK1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 1 0 0 1 1 1 1	K14 1 0 0 1 1	IN PT 0 0 0 0 0 0 0 0 UBB P 1 0 1 1 1 1 33 RB 1	GIR P: 0 0 0 0 0 0 0 0 RPF40	RDM1 I	H3-4 C  1 0 0 0 0 0 L GRP 0 1 0 0 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	EP300 1 0 0 1 1 0 FLT4 0 0 0 1 0 0 0 TLT4 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1	DYRK1  PTK2B  0  0  0  0  HOXB7	A TRAH  1 0 0 0 1 0 EED 7 1 1 NOS1 1	F6 DMD 1 TDP2 P 0 0 0 0 0 SMN1 1	GEMIN PP1R10 DUSP1	N4 0 0 0 0 0 0 0 0 6A 1 1 1 1 1 1 1 1 1
## ## ## ## ## ## ## ## ## ##	1 2 3 4 5 6 1 2 3 4 5 6 1 2 3	XRCC6 U  1  1  1  1  CREBBP  1	1 CDK1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0	K14 1 0 0 1 1	IN PT 0 0 0 0 0 0 0 0 UBB P 1 0 1 1 1 1 1 33 RB 1 1 1	GIR P:     0    0    0    0    0    0    0	RDM1 I  0  0  1  1  1  A GLUI  1  1  Control  Control	H3-4 C  1 0 0 0 0 0 L GRP 0 1 0 0 0 1 1 0 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	EP300 1 0 0 1 1 0 FLT4 0 0 0 0 1 0 0 0 TLT4 0 0 0 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0	PTK2B 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	A TRAH  1 0 0 0 1 0 EED 1 1 1 NOS1 1 1 0	F6 DMD 1	GEMIN PP1R16 DUSP1 1 1	N4 0 0 0 0 0 0 0 6A 1 1 1 1 1 1 1 1 1 1
## ## ## ## ## ## ## ## ## ## ##	1 2 3 4 5 6 1 2 3 4 5 6 1 2 3 4	XRCC6 U 1 1 1 1 CREBBP 1 0	1 CDK1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0	K14 1 0 0 1 1	IN PT 0 0 0 0 0 0 0 UBB P 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	GIR P:     0    0    0    0    0    0    0	RDM1 I	H3-4 C  1 0 0 0 0 0 0 L GRP 0 1 0 0 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	EP300  1 0 0 1 1 0 FLT4 0 0 0 1 1 0 CDM6A 1 1 1	PTK2B 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	A TRAH  1 0 0 0 1 0 EED 1 1 1 NOS1 1 0 1	F6 DMD 1 TDP2 P 0 0 0 0 0 0 SMN1 1 1 0	GEMIII PP1R16 DUSP1 1 1 1	N4 0 0 0 0 0 0 0 6A 1 1 1 1 1 1 1 1 1 1 1
### ### ### ### ### ### ### ### ### ##	123456 123456 123456	XRCC6 U  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 CDK1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 SNRPF 1 1 1 1 1	K14 1 0 0 1 1 CCDC	IN PTO 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1	GIR P:     0    0    0    0    0    0    0	RDM1 1 0 0 1 1 1 0 0 0 1 1 1 1 0 0 0 1	H3-4 C  1 0 0 0 0 0 0 L GRP 0 1 0 0 1 0 1 1 0 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	EP300  1 0 0 1 1 0 FLT4 0 0 0 1 1 1 1 1 1 1	PTK2B 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	A TRAH  1 0 0 0 1 0 EED 1 1 1 NOS1 1 1 1 1 1	F6 DMD  1	DUSP1 1 1 1 1 1	N4 0 0 0 0 0 0 0 0 6A 1 1 1 1 1 1 1 1 1 1 1 1 1
######################################	123456 123456 123456	PAFAH1B  XRCC6 U  1  1  1  1  1  CREBBP  1  1  PBLD SH	1 CDK1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 SNRPF 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	K14 1 0 0 1 1 CCDC	IN PTO 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1	GIR P:     0    0    0    0    0    0    0	RDM1 I	H3-4 C  1 0 0 0 0 0 0 L GRP 0 1 0 0 0 1 0 1 1 0 1 1 1 1 1 0 0 0 0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0 0 0 0	EP300  1 0 0 1 1 0 FLT4 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PTK2B 0 0 0 0 0 HOXB7 1 0 0 0 0 TN PTP	A TRAH  1 0 0 0 1 0 EED T 1 1 NOS1 1 1 1 NOS1 1 1 1 NOS1 1 1 1 NOS1	F6 DMD  1	DUSP1 1 1 1 1 1 F1A1	N4 0 0 0 0 0 0 0 0 6A 1 1 1 1 1 1 1 1 1 1 1 1 1
######################################	1 2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5 6 1	PAFAH1B  XRCC6 U  1 1 1 1 1 CREBBP 1 1 PBLD SH 1	S1 CDK1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 SNRPF 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ERB  K14  1  0  1  1  CCDC	IN PTOP2B	GIR P:     0    0    0    0    0    0    0	RDM1 1 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 1	H3-4 C  1 0 0 0 0 0 0 L GRP 0 1 0 0 0 1 0 1 0 1 1 0 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	EP300  1 0 0 1 1 0 FLT4 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PTK2B 0 0 0 0 0 HOXB7 1 0 0 0 0 TN PTP	A TRAH  1 0 0 0 1 0 EED 7 1 1 1 NOS1 1 1 1 NOS1 1 1 1 N6 HMC	F6 DMD  1	DUSP1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	N4 0 0 0 0 0 0 0 6A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
######################################	123456 123456 123456 12	XRCC6 U  1 1 1 1 1 CREBBP 1 1 0 1 1 PBLD SH	S1 CDK1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 IBB MAP 1 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0	K14 1 0 0 1 1 1 CCDC	IN PT 0 0 0 0 0 0 0 0 0 UBB P 1 0 1 1 1 1 1 1 1 1 1 1 1 TOP2B 0 0	GIR P:     0    0    0    0    0    0    0	RDM1 1 0 0 1 1 1 0 0 0 1 1 0 0 0 1 1 1 1 1	H3-4 C  1 0 0 0 0 0 0 L GRP 0 1 0 0 0 1 0 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	EP300  1 0 0 1 1 0 FLT4 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 0 CTT 1 0	PTK2B	A TRAH  1 0 0 0 1 0 EED 7 1 1 1 NOS1 1 1 1 NOS1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	F6 DMD 1 0 0 1 1 1 1	DUSP1 1 1 1 1 1 1 1 1 1 1 1 0 0 0	N4 0 0 0 0 0 0 0 6A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0 0 0 0 0
######################################	123456 123456 123456 123	PAFAH1B  XRCC6 U  1 1 1 1 1 CREBBP 1 1 PBLD SH 1	S1 CDK1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 SNRPF 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ERB  K14  1  0  1  1  CCDC	IN PTOP2B	GIR P:     0    0    0    0    0    0    0	RDM1 1 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 1	H3-4 C  1 0 0 0 0 0 0 L GRP 0 1 0 0 0 0 1 1 0 1 L1A1 P 0 0 0 0 0 0 0 BB AKT 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	EP300  1 0 0 1 1 0 FLT4 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PTK2B 0 0 0 0 0 HOXB7 1 0 0 0 0 TN PTP	A TRAH  1 0 0 0 1 0 EED 7 1 1 1 NOS1 1 1 1 NOS1 1 1 1 N6 HMC	F6 DMD  1	DUSP1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	N4 0 0 0 0 0 0 0 6A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

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                                   1 1 0 0
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                                   1 1
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       0
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                             0
                                               0
                                                                0
                                                                       0
## SREBF2 MAPK1 PLSCR1 PLCG2 PDE6D DLG3 ITGB2 CDK4 PLXNB1 PTPRM MDM2 UBTF BDKRB2
                      0
                            0
                                            0
                                                 0
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         1
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## 2
         0
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## 3
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         1
## 5
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         1
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         1
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                      0
                            0
                                  0
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                                                 0
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                                                                        0
## SMAD2 GSK3B CYCS ITGB4 LAMA4 UBA52 EEF1D HSPG2 NA PFN1 NCOA3 PSMC3 CDK4 BMP4
        1
          1
                   0
                      1
                              1
                                     1
                                           1
                                                1 0
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                                                              0
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## 2
                   0
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## 3
        0
              1
                         1
                                     1
                                           0
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## 4
                   0
                         1
                               0
                                           1
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                                                                    0
        1
              1
                                     1
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## 5
                   0
                               0
                                           0
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        1
              1
                         1
                                     1
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## 6
        1
              1
                   0
                         1
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                                     1
                                           1
                                                0 0
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                                                              0
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                                                                         1
## CTNNB1 TBK1 H2AX BCL2 PTPN2 COPS6 ING2 SAE1 NR1D2 ANXA1 PCYT2 FXR2 GPRASP2
         0
            1
                   0
                        0
                              0 1 0 1
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                                                               0
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## 2
                   0
                        0
                              1
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         0
              1
                                    1
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## 3
         0
              0
                   0
                        0
                              0
                                    0
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                                                                            0
## 4
         1
              1
                   0
                        1
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                                    1
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                                                                    1
## 5
                   0
                        1
                              0
                        0
## 6
         0
                   0
                                                         0
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                                                                    0
              1
                              1
                                    1
                                         1
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                                                   1
## PACSIN2 HAUS2 KPNB1 IL12RB2 ATP5F1B SLC25A4 TNIP2 MAG DSP HSPB3 RB1 KIR2DS1
## 1
          1
             1
                   0
                              0
                                 0
                                              1
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                                                           0
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## 2
          0
                1
                      0
                              0
                                      0
                                              1
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                                                       1
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## 3
          0
                0
                      0
                              0
                                      0
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## 4
                      0
                              0
                                      0
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          1
                1
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                      0
                              0
                                      0
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                                                           0
## 5
          1
                1
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                              0
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                1
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                                                                 1
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                                                                             1
## KNG1 GABPB1 FLNC DLG3 SOSTDC1 SMAD2 ARHGEF11 SEPTIN8 SRC SNRPD2 MAPK6 PRPF40A
## 1
       1
              1
                 1
                        0
                            1
                                      1
                                              1
                                                      0
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## 2
       1
              1
                   1
                        0
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                                      1
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## 3
                        0
                                0
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              1
                   1
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       1
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## 4
       1
              1
                   1
                        0
                                1
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                                                      0
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## 5
              1
                   1
                        0
                                1
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       1
              1
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                                                          1
##
    TIAM1 PRKCZ MIB1 ACTN2 STAT5A TUBA1A TOP3B SLC9A3R2 GPR135 SMAD9 COPG1 LNX1
## 1
        0
              0
                   1
                       1
                                1
                                   0
                                             1
                                                     1
                                                            0
                                                                  1
                                                                        0
                                0
                                      0
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## 2
        0
              1
                   0
                         0
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                                             1
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## 3
        0
                   1
                         0
                                0
                                      0
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                                                      1
## 4
        0
                   1
                         1
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              1
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              1
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              1
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                                1
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                                                            0
                                                                  1
                                                     1
## TNFRSF17 HMG20A NOMO1 PIK3CA PDGFRA MAPK8 P2RY1 TGFBR1 CD28 SMAD4 IL1R1
       0
                        0
                                   0
## 1
                  1
                           1
                                        1
                                              1
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                                                             1
                                                                   1
                                                                         1
           0
                        0
                                      0
                                           0
## 2
                  1
                               1
                                                 0
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                                                                         1
## 3
           0
                        0
                                      0
                                           0
                                                 0
                  1
                               1
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## 4
           0
                  1
                        0
                               1
                                      0
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## 5
           1
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           0
                  1
                               1
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                                                                   1
## MAP3K2 LDLR CLEC3B NOTCH4 RAP1A TSPAN4 LINGO1 TNFRSF9 RABAC1 CALM1 DIAPH1
## 1
       1 0 1 1 1 1 0
                                                       1
                                                             1
                                                                    1
## 2
         0
              0
                     0
                           0
                                 0
                                        1
                                               0
                                                       1
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##	3	C	) 1		0	1	1		1	C	)	1	1		0	0
##	4	1	_		0	1	1		1	C		1	1		1	1
##	5	1	0		0	1	1		1	C	)	1	1		1	1
##	6	1	1		0	1	1		1	C	)	1	0		1	1
##		ATN1 Z	ZBTB17	ATXN3	B DNM2	NLRC4	HK2	ANK1	NEK2	2 CF	RIP2	GNAI1	NONO	CCL5	JAG2	ALK
##	1	1	0	(		1	0	1		)	1	1	0	0	0	1
##	2	1	0	(		1		0		)	0	1	0	0	0	0
##	3	0	0	(		0	0	1		)	0	1	0	0	0	0
##	5	1	0	(	-	1	0	0		)	0	1 1	0	0	0	0
##	6	1 1	0	(	-	1	0	0		)	1	1	0	0	0	0
##	U	HDAC6	EEF1G	RPS10	-	_	-	FURIN	HNRI	-	ARF1	_	2A SNR	•	-	LCK
##	1	1	1	101.010		1	0	1	1111101	0	0		0	0	0	0
##	2	1	1	(		0	1	1		0	0		0	0	0	0
##	3	0	1	(	)	0	0	0		0	0		0	0	0	0
##	4	1	1	1	L	1	1	1		0	0		0	0	0	0
##	5	1	1	1	L	1	1	1		0	0		0	0	0	0
##	6	0	1	1	_	0	1	1		0	0		0	0	0	0
##		NUDT21		CCDC3					DC136			RPL11	SPTBN			PTIN5
##	1	C			0 0		0	0		)	1	0		0	1	0
##	2	C			0 0		0	0		)	1	0		0	1	0
##	3	C			0 0		0	0		)	1	0		0	1	0
##	5	C			0 0		1 1	0		) )	1	0		0 0	1	0
##	6				0 0		1	0		)	1	0		0	1	0
##	Ü	-		SNX4 (	-	SNRPD1	SNR	-		J VIM	HTR2	-		-	1B AS	•
##	1	1	0	0	0	1	21111	0	1	0		1 1			0	1
##	2	1	0	0	0	1		0	1	0		1 1	L 0		0	0
##	3	1	0	0	0	1		0	0	0		0 1	L 0		0	0
##	4	1	0	0	0	1		0	1	0		1 1	L 0		0	0
##	5	1	0	0	0	1		0	1	0		1 1	L 0		0	1
##	6	1	0	0	0	1		0	1	0		1 1	- 0		0	0
##		CAPN2			PHOX2A	HDAC2				FRD1				E2F1		
##	1 2	0	0	0	0	0		0	0	1		0	1 1	C		
##	3	0	0	0	0	0		) )	0	1		0 0	1 1 0 0	C		
##	4	1	0	1	1	0		)	0	1		0	0 1	C		
##	5	1	0	1	0	0		)	0	1	=	0	1 1	-	_	1 1
##				0	0			)	0	1		0	0 1			) 1
##		RPA1 S	SDC1 T	AF1 UE	BQLN2	SHC1 R	CN2	SMURF	1 FE	Z1 E	BEGAI	N CNOT	7 ADR	A2A R	NF126	MY018B
##	1	1	1	0	0	1	1		1	1		1	0	0		1 0
##		1	1	1	0	1	1		1	1		1	0	0	-	1 1
##		1	1	0	0	1	1		1	1		1	0	0		1 0
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##		MED31	OTX1	SDC3 1	TRHR P	IK3CA	SDC2	PRKC.	A EEI	F1A1	PSA	P RNF1	L1 ACT	R3 SK	AP1 H	100K1

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##		ABCF3	CREB	BP R	B1 Al	DORA2	WDR:	33 E	72 CD	K5R1	AF	RPC1B	LIE	PE ZI	MYM2	DLG4	4 REL	A EG	FR
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##		AQP1 C	38orf	33 S	DC2	EIF6 F	PCNA 1	EPB4	11 FH	L5 AS	SIF	MET	JAF	(1 K)	RTAP	4-12	ATXN1	SO	X10
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## ARFIP2 ID2 PABPN1 YWHAB LCK AXIN1 AQP1 AP2B1 SRF ACTG1 CASP9 KLRC4 KIF5B SMN1
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## ICAM4 LAT HDAC1 TAF6 H1-1 FOXM1 FCHO1 PSEN1 EPHA8 SMAD2 CXCL8 UBTF BMX IL1RAP
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## CREM RTN4 RBBP4 PRPH TRAF2 PRLR NFATC1 ITGA2 PTBP1 TUBG2 SRC ATF1 CCDC85B
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## CDC42 JUN PRKCD RPLP1 RDX RAC1 RAB27A CHEK1 ATF2 MY07A DTX2 SYTL1 RAB5A RAC1
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## MYOD1 ZNF512B TSC22D1 ITGB7 BTRC VRK3 RHOA USHBP1 CDK5R2 DOK2 KCNK15 DCAF7 AR
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## RB1 BECN1 BCAN PSMD11 PELP1 MRGBP LACRT CEP70 PTPN4 VLDLR SP1 ITGB2 RFC2
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## AHR ATF7IP CD38 YLPM1 TRPC3 PARD3 RIPK1 PARP1 MAD1L1 SP1 NPDC1 LFNG MUC1
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##		ZNF346	ZBT	TB16	SORE	3S1 F	OS EI	F2B	2 01	PRM1	PRI	KCG	MME	YWH	AG F8	3 FN	V1 C	SNK2A:	l FO	XO1	
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##		HIPK3	TK1	TUBB	MYC	06 CO	L4A5	CEP	126	VCP	IP1	CRE	ELD1	DSN:	1 PEX	(5 (	GABB	R2 GRI	32 C	D22	
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##		BAX ID	3 TA	NDA3	SNTA	1 PP	ARD H	IGF 1	NCL	SMAI	04 \$	30S1	. EG	F EX	OSC2	POI	LA2	TRAM2	RIC	88	
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## YWHAQ ARF6 PAK2 TGFB1 PIK3R1 THRA PIAS4 RTN4IP1 TACR3 CRMP1 ASCC2 DAXX CCNB2
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## MAGI1 TYK2 C1QB ITSN1 CSF2RA TLE1 A2M HCK NR3C1 IFI16 CAMK2A NEFL SNRPD1
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## KLHL23 MMP2 DVL3 SRC TFG FYN BBS10 SNAP25 YWHAH MAPK1 YWHAB STXBP1 EP300 RNF4
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## NFKBIA GSK3B APEX1 PTPRA PPL RAF1 ATXN1L SIAH1 MAP3K3 RASA1 ERG28 GOT2 TFCP2
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## YWHAQ TP53 MAGEH1 MKRN1 NRIP1 COIL CREBBP FCGR3A GRK2 XIAP PTPN11 GNAI2 CCS
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##		MST1R	SMC1	A MCF	2 CREE	BP O	SGEP	MAP	K14	DLC	34 A	LDH2	MAP	K6 S0	CS7	AC	TN2	NME:	2 SG	TA	
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     IGHM IL17RB RUNX1T1 TAF1 EGFR WWP2 NLGN2 PLXNB1 EGFR UBB CTSL MOAP1 HOXD10
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## NDUFS6 EEF1G XP06 GSK3B NCK2 TP53 RFX6 MRPL4 TUBG1 EGFR FGFR4 RNF11 CALR
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## NFYC CALM2 MTA2 EXOSC6 NUDT3 FASLG RRAS CREBBP DAZAP2 WIPF1 SNRPD1 SDC2 TOP1
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## PPP2R3A COPS6 GRB2 KXD1 HCK ADRB3 RAC1 APOA1 EEF1A1 SRGN OBSCN PRKCA IMMT
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     WASF2 DNAJA3 BMPR1A TRAF2 CCNT1 CDK1 SMURF2 CCNT1 SON F2RL1 SOCS1 SH3GL3 TDG
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   CHEK1 PTPN1 NAGK TAF10 AR PSMC1 MESD UTP14A PRKCQ NEDD4L SYK APOE STAT5B EZR
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    LNX1 RTN4 EGFR CD44 HSPA8 APOA1 CNKSR2 STAT6 SDC2 SRGAP2 SEC61B CDH1 TP53
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     VDAC2 H2AZ1 NELL2 TBXA2R SMN1 PRKCA MAP3K7 TNNI2 ACVRL1 NR1H2 RUNX1T1 CSNK2A2
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## TICAM2 NA ADRB2 SHC1 SMAD1 SP1 DAZAP2 NUP214 HDAC1 RAB27A ACHE DLGAP2 CCL7
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   PROS1 KLK1 VIM DRD1 PTPRS STX5 STAT1 RAF1 RELA MYD88 PHPT1 XRCC6 NDUFB9 XRCC6
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     RPA1 FGF2 SMAD4 CD99 PTPN6 CASP3 PLCG1 XRN1 CYTH2 SDF4 CRK CSNK2B PIAS1 PDCD6
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## COPB1 MAP1A STAT1 TNFRSF4 PHF1 TFG JUP DYNLT3 ATN1 CDK1 DAZAP2 FASLG UNC13B
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## CEBPA BCAP31 PRKAR2B GADD45A ARHGAP1 GRIN2B CCNE1 KIR2DL4 DNAJA3 TLR1 SIVA1
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## PLSCR1 CDC37 UBE2I PIP4K2C FCGR1A PICK1 SPAG8 CREB3 NUP85 HDAC2 AGTR1 F2 IRS1
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## E2F5 ETS2 PHLDA1 F11R INPP5D IRAK1 SNCA CREBBP CSAD CREBBP RELB LPAR1 SRF
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## C10orf62 TGFBR1 TFRC FXR1 ACP5 MAGEA11 ATN1 EIF4EBP1 PSMD9 YWHAG NPAS2 VCL
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## MAPK8IP2 FGFR1 XP01 SMAD9 IL6R EZR SH3GLB1 PNRC2 KRTAP4-12 EGFR RET DRD3
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## EWSR1 CSNK1A1 SUV39H1 STAT3 PRKCA SRF MRPL20 VCP KNG1 PEX14 KNG1 DNPEP SDF4
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## CAVIN1 ITGB2 MAP3K7 CRKL SERPINH1 PPP1R14A RAB13 FURIN DLG3 FYN WBP1 WWP1
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## EP300 CTSB RAB25 RAB17 APAF1 EP300 EED CSNK1E PLSCR1 UTP14A APEX1 POLA2 DNM2
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## EIF3H CRIPT YWHAG VIM CDYL APP SHANK2 ID1 RB1 GSK3B CTNND2 FNBP4 MCM7 APP ATM
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## F2 SMAD7 AKT1 POLDIP2 MAP2K6 GPC1 WDR33 BMP1 CCDC90B MESD MYC CSNK2A1 IL4R
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    BID DRD3 NA STX5 PPP2R3A FGFR4 CTSB ADRA1D AP2A1 ITGB4 ERBB4 CBLB LNX1 VAV2
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## PTGES3 HCK MAPK1 CRHR1 H3-4 PML ARR3 GRB2 RAD9A ITGB1 ZAP70 PLXNB1 CPNE6
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## PIAS1 DLEU1 HADHB IL6 SERPINF2 C1QA MTMR9 TNFAIP3 GTF2F2 CD44 STRBP GAPDH
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## HMGB1 GAP43 APEX1 CEP126 ORC2 RAC1 LACRT ABL1 MNT TRAF2 CSF2RB DLG4 PPP2R1A
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## EPHB2 SRC EID1 YWHAG VTN GBP2 JUN SF3B1 ZHX1 PRPH2 CSF1R CXCR1 CREBBP NSD1
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    DLK1 SKI FYN ORC1 SHBG VDR VTN XRCC6 ITGB2 NRCAM NFKB1 KRT1 EP300 NDUFA4L2
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    CSNK2B DLG1 NCOA1 MY05B TUBA3C GNA13 SMAD1 DLG4 LUC7L2 VAMP2 APLP1 COPS5
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## EPHA2 SWAP70 GSK3B MEN1 TMEM132A LYN LEPR LYN SPI1 PDZD3 PTPRH TNPO3 PRKCD
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    PGR FPR1 GRK6 H1-5 RANBP2 CASP9 IFNLR1 IRS1 JAK3 NR3C1 FSHR TBCD WEE1 TSNAX
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     RBX1 PIK3R3 CAV1 ZNF227 CCND1 CDC5L SYT11 MAFG CCNB1 E2F1 LYN ITSN2 GRB2
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## CKS1B PRKAR1A SH3GL2 LDOC1 MAPK1 PTMA NR3C1 HDAC1 DNAJB1 GNAS CHUK PTK2B
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## ADRA2B RPS6KA5 RELA YWHAG IL2RB TNPO1 ATXN1 PDGFRB TTR F3 SF3B3 RBBP8 LSM4
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## FYN RAB1A KCNK15 F11 MASP1 RHOG FOS ACTG1 EGFR ATG12 ZBTB16 ITGB1BP2 SUMO1
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    MAPK9 TAF11 MEST EGFR PIK3CA NECTIN2 DDIT3 TUBB ATP5MF HGS CDKN2A PCNA DLG2
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## ATXN1L GDF5 EPS8 CRADD ERCC6 OPRM1 MAP2K1 POLA2 GRIN1 ULK2 INSR CCDC85B KIF5B
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## MYOD1 RAB8A KAT5 DRD4 CASP4 TAF11 LGALS3 STRN ACTA1 NKX3-1 JAK3 TCF4 DAXX
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## ITGB2 CSK TYK2 CENPU PTK2 ZNF446 PTN THAP7 PRLR BAG6 TOMM20 CDH5 NFYC TUBA1A
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## MDM2 SYK CDK5RAP1 NAGK IFNAR1 MAPK6 DUSP23 PER1 AFF4 TIAM1 SOS1 NRXN1 DDX5
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    SDC3 SMAD1 NCAM1 HTRA1 CDKN2A RPA1 SF3A2 CBFA2T2 CCDC91 TNFAIP3 RAF1 ATP1A1
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## PRKCA LYN CTNNB1 CDC42 F8 TGFBRAP1 TGFBR2 TRAT1 HERPUD1 SHANK2 TGFBR1
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##		CALCOC	)2 USI	71 PP.	ARG T	ΓLE3	DNMT3L	PCNA	SNF8	CD1D	CAMK	2A ARI	HGDIB	SELL (	GDF9 I	EPOR
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##	6		1	0	1	0	0	0	0	0		1	0	0	1	1
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##	4 5	0	1 0	0		1	0	0	1 1		1 1	0	1 1	1		1 1
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	•						()	()								
##		MBP MAI	-	APK14	PHLI	_	CP1A P	0 RKRA Z	_	32 MA	GEA11	-	-	_		1 √WP1
## ##	1	MBP MAI	-	-	PHLI	_	-	-	_	32 MA	-	-	-	_		
	1 2		PK1 M	APK14	PHLI	DB2 D	CP1A P	RKRA Z	_		GEA11	-	O1 GTF	2H1 EF	PB41 V	WP1
##	_	0	PK1 M	APK14 0	PHLI	DB2 D	CP1A PI	RKRA Z	_	0	GEA11 0	-	O1 GTF 1	2H1 EF	PB41 V 1	WP1 1
## ##	2 3 4	0 0 0 0	PK1 M 0 1	APK14 0 1 0	PHLI	OB2 D 0 0 0 0	0 0 0 0 0	RKRA Z O O	_	0 0 0 1	GEA11 0 1 0	-	01 GTF 1 0 0 1	2H1 EF 1 0 0	PB41 V 1 1 0 1	WP1 1 0 0 1
## ## ## ##	2 3 4 5	0 0 0 0	PK1 MA 0 1 0 0 0	APK14 0 1 0 0 0	PHLI	OB2 D 0 0 0 0 0 0	0 0 0 0 0	RKRA Z 0 0 0 0 0	_	0 0 0 1	GEA11 0 1 0 0 0	-	0 0 0 1 0	2H1 EF 1 0 0 0 0	PB41 V 1 1 0 1	WWP1 1 0 0 1
## ## ## ## ##	2 3 4	0 0 0 0 0	PK1 MA 0 1 0 0 0 0	APK14 0 1 0 0 0 0		DB2 D 0 0 0 0 0 0 0	O O O O O O	RKRA Z 0 0 0 0 0 0 0 0	SCAN	0 0 0 1 1	GEA11 0 1 0 0 0	SNRPI	0 0 0 1 0 0	2H1 EF 1 0 0 0 0 0	PB41 V 1 1 0 1 1 1	WP1 1 0 0 1 0
## ## ## ## ## ##	2 3 4 5 6	0 0 0 0 0 0 0 NEDD9	PK1 MA 0 1 0 0 0 0 0 PFDN1	APK14 0 1 0 0 0	2A1 F	DB2 D 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 BUB1	OP1A PI 0 0 0 0 0 0 0 TRPC5	RKRA Z 0 0 0 0 0 0 0 0	SCANS	0 0 0 1 1 0 AHSG	GEA11 0 1 0 0 0 0 0 CHFR	SNRPI	0 GTF 0 0 1 0 0 0 A COPS	2H1 EF 1 0 0 0 0 0 0 0	PB41 V 1 1 0 1 1 1 1 1 C1QI	WP1 1 0 0 1 0 0
## ## ## ## ## ##	2 3 4 5 6	0 0 0 0 0 0 0 NEDD9 I	PK1 M.  0 1 0 0 0 0 0 PFDN1 0	APK14 0 1 0 0 0 0	2A1 H O	OB2 D 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	OP1A PI 0 0 0 0 0 0 0 TRPC5	RKRA Z	SCANS	0 0 0 1 1 0 AHSG	GEA11 0 1 0 0 0 0 0 CHFR 0	PRKCA	01 GTF 1 0 0 1 0 0 0 A COPS	2H1 EF 1 0 0 0 0 0 0 4 MCM4	PB41 V 1 1 0 1 1 1 1 1 1 C1QI	WP1
## ## ## ## ## ##	2 3 4 5 6 1 2	0 0 0 0 0 0 NEDD9 I	PK1 M.  0 1 0 0 0 0 0 PFDN1 0 0	APK14 0 1 0 0 0 0	2A1 E 0 0	OB2 D 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	OCP1A PI 0 0 0 0 0 0 TRPC5	RKRA Z 0 0 0 0 0 0 0 0 IRAK1 1 0	SND1	0 0 1 1 0 AHSG 1	GEA11 0 1 0 0 0 0 0 CHFR 0	PRKC	0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2H1 EF 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	PB41 V  1 0 1 1 1 1 C1QI	WP1 1 0 0 1 1 0 0 0 3P 0 0
## ## ## ## ## ##	2 3 4 5 6 1 2 3	0 0 0 0 0 0 0 NEDD9 I	PK1 M.  0 1 0 0 0 0 0 PFDN1 0	APK14 0 1 0 0 0 0	2A1 H O	OB2 D 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	OP1A PI 0 0 0 0 0 0 0 TRPC5	RKRA Z	SCANS	0 0 0 1 1 0 AHSG	GEA11 0 1 0 0 0 0 0 CHFR 0	PRKC	D1 GTF 1 0 0 1 0 0 0 A COPS 0	2H1 EF 1 0 0 0 0 0 0 4 MCM4	PB41 V 1 0 1 1 1 1 1 C1QI	WP1
## ## ## ## ## ## ##	2 3 4 5 6 1 2 3 4	0 0 0 0 0 0 NEDD9 I 1 1	PK1 M/ 0	APK14 0 1 0 0 0 0	2A1 F 0 0 0	OB2 D 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	OP1A PI 0 0 0 0 0 0 TRPC5	RKRA Z 0 0 0 0 0 0 0 IRAK1 1 0 0	SND1 1 0	0 0 1 1 0 AHSG 1 1	GEA11  0  1  0  0  0  0  CHFR  0  0  0	PRKC	D1 GTF 1 0 0 1 0 0 A COPS 1	2H1 EF 1 0 0 0 0 0 4 MCM4 0 0 0 0 0	PB41 V 1 0 1 1 1 C1QI	WP1
## ## ## ## ## ## ##	2 3 4 5 6 1 2 3 4 5	0 0 0 0 0 0 NEDD9 I 1 1 1	PK1 M/O	APK14 0 1 0 0 0 0	2A1 F 0 0 0	OB2 D 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	OCP1A PI 0 0 0 0 0 0 TRPC5	RKRA Z 0 0 0 0 0 0 0 IRAK1 1 0 1	SND1 1 0 0	0 0 1 1 0 AHSG 1 1	GEA11  0  1  0  0  0  0  CHFR  0  0  0	PRKC	D1 GTF 1 0 0 1 0 0 A COPS 1 1 1	2H1 EF	PB41 V 1 0 1 1 1 1 C1QI	WP1
## ## ## ## ## ## ## ## ##	2 3 4 5 6 1 2 3 4 5 6	0 0 0 0 0 0 NEDD9 I 1 1 1 1	PK1 M.  0 1 0 0 0 0 PFDN1 0 0 0 0 0 0 0 0 0	APK14 0 1 0 0 0 0 0 CSNK	2A1 F 0 0 0 0 0	OB2 D 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	CP1A PI 0 0 0 0 0 0 TRPC5	RKRA Z 0 0 0 0 0 0 0 0 IRAK1 1 0 1 1	SND1 1 0 0 1 1	0 0 1 1 0 AHSG 1 1 1 1	GEA11  0  1  0  0  0  0  CHFR  0  0  0  0  0  0  0  0  0  0  0	PRKCA	D1 GTF 1 0 0 1 0 0 A COPS 1 1 0 1	2H1 EF  1  0  0  0  0  4 MCM4  0  0  0  0  0  0  0  0  0  0  0  0  0	PB41 V 1 0 1 1 1 1 C1QI	WP1
## ## ## ## ## ## ## ## ## ## ## ## ##	2 3 4 5 6 1 2 3 4 5 6	0 0 0 0 0 0 NEDD9 I 1 1 1 1	PK1 M.  0 1 0 0 0 0 PFDN1 0 0 0 0 0 0 0 0 0	APK14 0 1 0 0 0 0 0 CSNK	2A1 F 0 0 0 0 0	OB2 D 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	OP1A PI 0 0 0 0 0 0 TRPC5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	RKRA Z 0 0 0 0 0 0 0 0 IRAK1 1 0 1 1	SND1 1 0 0 1 1	0 0 1 1 0 AHSG 1 1 1 1	GEA11  0  1  0  0  0  0  CHFR  0  0  0  0  0  0  0  0  0  0  0	PRKCA	D1 GTF 1 0 0 1 0 0 A COPS 1 1 0 1	2H1 EF  1  0  0  0  0  4 MCM4  0  0  0  0  0  0  0  0  0  0  0  0  0	PB41 V 1 0 1 1 1 1 C1QI 0 0 1 5 C1QI 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	WP1
## ## ## ## ## ## ## ## ## ## ## ## ##	2 3 4 5 6 1 2 3 4 5 6 1	0 0 0 0 0 0 NEDD9 I 1 1 1 1 1 1 1 1 SMURF2	PK1 M.  0  1  0  0  0  0  PFDN1  0  0  0  0  RAC1	APK14 0 1 0 0 0 0 0 CSNK	2A1 F 0 0 0 0 0	DB2 D 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 A1 TU	OCP1A PI O O O O O O TRPC5 O O O O O O O O O O O O O O O O O O O	RKRA Z 0 0 0 0 0 0 0 IRAK1 1 0 1 1 1 F SLC3	SND1 1 0 0 1 1 1 38A2 A2	0 0 1 1 0 AHSG 1 1 1 1 1 1	GEA11  0  1  0  0  0  CHFR  0  0  0  CHFR  0  0  0  0  0  0  0  0  0  0  0  0  0	PRKCA	D1 GTF 1 0 0 1 0 0 A COPS 1 1 0 AP3K5	2H1 EF  1  0  0  0  0  4 MCM4  0  0  0  0  0  0  0  0  0  0  0  0  0	PB41 V 1 0 1 1 1 1 C1QI 0 0 1 1 1 1 C1QI 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	WP1
## ## ## ## ## ## ## ## ## ## ## ## ##	2 3 4 5 6 1 2 3 4 5 6 1 2	0 0 0 0 0 NEDD9 I 1 1 1 1 1 1 SMURF2	PK1 M.  0 1 0 0 0 0 PFDN1 0 0 0 RAC1 0	NGEF 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2A1 F 0 0 0 0 0	OB2 D 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	OCP1A PI O O O O O TRPC5 O O O O O O O O O O O O O O O O O O O	RKRA Z 0 0 0 0 0 0 0 IRAK1 1 0 1 1 1 F SLC3	SND1 1 0 0 1 1 1 3A2 A2	0 0 0 1 1 0 AHSG 1 1 1 1 1 1 1 1 0 KS	GEA11  0  1  0  0  0  CHFR  0  0  0  CHFR  1  0  1	PRKCA	D1 GTF 1 0 0 1 0 0 A COPS 1 1 0 AP3K5 0	2H1 EF  1  0  0  0  0  0  4 MCM4  0  0  0  0  0  PIN1 S	PB41 V 1 0 1 1 1 1 C1QI 0 0 1 1 1 1 C1QI 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	WP1
######################################	2 3 4 5 6 1 2 3 4 5 6 1 2 3 4	0 0 0 0 0 NEDD9 I 1 1 1 1 1 1 SMURF2 0 0	PK1 M.  0 1 0 0 0 0 PFDN1 0 0 0 0 RAC1 0 0 0	NGEF 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1	2A1 F 0 0 0 0 0	DB2 D 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	OCP1A PI O O O O O O TRPC5 O O O O O O TRPC5 1 O O O TBA8 VWI 1 O TBA8 VWI 1 O TBA8 VWI 1 O TBA8 VWI	RKRA Z 0 0 0 0 0 0 0 IRAK1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SND1 1 0 0 1 1 1 3A2 A2 1 1 1	0 0 0 1 1 0 AHSG 1 1 1 1 1 1 1 2M KS 1 0 0	GEA11  0  1  0  0  0  0  CHFR  0  0  0  0  CHFR  1  0  1  1  1  0  1	PRKCA	D1 GTF 1 0 0 1 0 0 1 0 0 A COPS 1 1 1 0 AP3K5 0 0 0	2H1 EF  1  0  0  0  0  0  4 MCM4  0  0  0  0  0  0  0  0  0  0  0  0  0	PB41 V 1 0 1 1 1 1 C1QI 0 0 1 1 1 C1QI 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	WP1
######################################	2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5	0 0 0 0 0 0 NEDD9 I 1 1 1 1 1 1 1 SMURF2 0 0	PK1 M.  0 1 0 0 0 0 PFDN1 0 0 0 0 RAC1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NGEF 0 0 0 0 0 0 0 0 0 0 0 0 1 1	2A1 F 0 0 0 0 0	DB2 D 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	OCP1A PI O O O O O O O O O O O O O O O O O O O	RKRA Z 0 0 0 0 0 0 0 IRAK1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SND1 1 0 0 1 1 1 3A2 A2 1 1 1 1	0 0 0 1 1 0 AHSG 1 1 1 1 1 1 0 KS 1 0 0 1	GEA11  0  1  0  0  0  CHFR  0  0  0  CHFR  1  1  1	PRKCA	D1 GTF 1 0 0 1 0 0 1 0 0 A COPS 1 1 0 AP3K5 0 0 0 0 0	2H1 EF  1  0  0  0  0  0  4 MCM4  0  0  0  0  0  0  0  0  0  0  0  0  0	PB41 V 1 0 1 1 1 1 C1QI 0 0 1 1 1 1 C1QI 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	WP1 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1
######################################	2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5 6	0 0 0 0 0 0 NEDD9 I 1 1 1 1 1 1 1 SMURF2 0 0	PK1 M.  0 1 0 0 0 0 PFDN1 0 0 0 0 RAC1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NGEF 0 0 0 0 0 0 0 0 0 0 0 0 1 1 0 0 0 0 0	2A1 F 0 0 0 0 0 0 0 0 ANXA	OB2 D O O O O O O O O O O O O O O O O O O O	OCP1A PI O O O O O O O O O O O O O O O O O O O	RKRA Z 0 0 0 0 0 0 0 IRAK1 1 1 1 1 F SLC3 0 0 0 1 1 1	SND1 1 0 0 1 1 1 1 3A2 A2 1 1 1 1 1	0 0 0 1 1 0 AHSG 1 1 1 1 1 1 2M KS 1 0 0	GEA11  0  1  0  0  0  0  CHFR  0  0  0  0  CHFR  1  1  1  1	PRKCA	D1 GTF 1 0 0 1 0 0 1 0 A COPS 1 1 0 AP3K5 0 0 0 0 0 0	2H1 EF  1 0 0 0 0 0 4 MCM4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	PB41 V 1 0 1 1 1 C1QI 0 0 1 1 1 C1QI 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	WP1  1 0 0 1 0 0 3P 0 0 0 0 2 1 1 1 1 1
######################################	23456 123456 123456	0 0 0 0 0 0 NEDD9 I 1 1 1 1 1 1 1 SMURF2 0 0 0 0	PK1 M.  0 1 0 0 0 0 PFDN1 0 0 0 0 RAC1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NGEF 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2A1 F 0 0 0 0 0 0 0 ANXA	DB2 D 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	OCP1A PI O O O O O O TRPC5 O O O O O O O TRPC5 I O O O TRPC5 I I I I I I I I I I I I I I I I I I I	RKRA Z 0 0 0 0 0 0 0 IRAK1 1 0 1 1 F SLC3 0 0 0 1 1 1 P53 CF	SND1 1 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 1 1 0 AHSG 1 1 1 1 1 2M KS 1 0 0 1 1 1 1 21 1 1 1 1 1 1 1 1 1 1 1	GEA11  0  1  0  0  0  CHFR  0  0  0  0  CHFR  1  1  1  1  1  1  1  1  1  1  1  1  1	PRKCA	D1 GTF 1 0 0 1 0 0 1 0 0 A COPS 1 1 0 AP3K5 0 0 0 1 BCAS	2H1 EF  1  0  0  0  0  0  4 MCM4  0  0  0  0  0  0  0  0  0  0  0  0  0	PB41 V  1  0  1  1  1  C1QI  0  1  C1QI  0  CIQI  CICI  CIQI  CICI  CICI	WP1 1 0 0 1 0 0 0 0 0 0 0 0 0 0 1 1 0 1
###########################	2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5 6 1	0 0 0 0 0 0 NEDD9 I 1 1 1 1 1 1 1 1 SMURF2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	PK1 M.  0 1 0 0 0 0 PFDN1 0 0 0 0 RAC1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NGEF 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2A1 F 0 0 0 0 0 0 ANXA	DB2 D 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	OCP1A PI O O O O O O O O O O O O O O O O O O O	RKRA Z 0 0 0 0 0 0 0 IRAK1 1 0 1 1 F SLC3 0 0 1 1 1 P53 CF	SND1 1 0 0 1 1 1 3A2 A2 1 1 1 1 1 1 1 1 1 1	0 0 0 1 1 0 AHSG 1 1 1 1 1 1 0 0 0 1 1 1 1 1 1 1 1 1 0 0 1	GEA11  O  1  O  CHFR  O  O  CHFR  O  O  T  T  T  T  T  T  T  T  T  T  T	PRKCA	01 GTF 1 0 0 1 0 0 A COPS 1 1 0 AP3K5 0 0 0 1 BCAS 1	2H1 EF  1  0  0  0  0  0  4 MCM4  0  0  0  0  0  0  0  0  0  0  0  0  0	PB41 V  1  0  1  1  1  C1QI  )  )  )  CSLC2A2	WP1 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1
##########################	23456 123456 123456 12	0 0 0 0 0 0 NEDD9 I 1 1 1 1 1 1 1 SMURF2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	PK1 M.  0 1 0 0 0 0 PFDN1 0 0 0 0 RAC1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NGEF 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2A1 F 0 0 0 0 0 0 ANXA	DB2 D 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	OCP1A PI O O O O O O O TRPC5 O O O O O O O O TRPC5 I O O O O O O O O O O O O O O O O O O	RKRA Z 0 0 0 0 0 0 0 IRAK1 1 0 1 1 1 F SLC3 0 0 1 1 1 1 P53 CF 1 1	SND1 1 0 0 1 1 1 3A2 A2 1 1 1 1 1 1 1 1 1 1 1	0 0 0 1 1 0 AHSG 1 1 1 1 1 1 0 0 0 1 1 1 1 1 1 1 1 1 0 0 1 1 1 1 0 0 1 1 1 1 0 1 1 1 1 0 1	GEA11  O  1  O  CHFR  O  O  CHFR  O  O  T  T  T  T  T  T  T  T  T  T  T	PRKC. () () () () () () () () () () () () ()	D1 GTF 1 0 0 1 0 0 A COPS 1 1 0 0 AP3K5 0 0 0 0 1 BCAS 1	2H1 EF  1  0  0  0  0  0  4 MCM4  0  0  0  0  0  0  0  0  0  0  0  0  0	PB41 V  1 0 1 1 1 1 C1QI 0 0 1 1 1 C1QI 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	WP1  1 0 0 1 0 0 3P 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1
###########################	2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5 6 1 2 3	0 0 0 0 0 0 NEDD9 I 1 1 1 1 1 1 1 1 SMURF2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	PK1 M.  0 1 0 0 0 0 PFDN1 0 0 0 0 RAC1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NGEF 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2A1 F 0 0 0 0 0 0 ANXA	DB2 D 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	OCP1A PI O O O O O O O O O O O O O O O O O O O	RKRA Z 0 0 0 0 0 0 0 IRAK1 1 0 1 1 F SLC3 0 0 1 1 1 P53 CF	SND1 1 0 0 1 1 1 3A2 A2 1 1 1 1 1 1 1 1 1 1	0 0 0 1 1 0 AHSG 1 1 1 1 1 1 0 0 0 1 1 1 1 1 1 1 1 0 0 1	GEA11  0 1 0 0 0 0 CHFR 0 0 0 0 0 R2 M0 1 1 1 1 1 1 CDK 0 0 0 0	PRKC. (NIA M. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	D1 GTF 1 0 0 1 0 0 A COPS 1 1 0 0 AP3K5 0 0 0 0 1 BCAS 1 1	2H1 EF  1  0  0  0  0  0  4 MCM4  0  0  0  0  0  0  0  0  0  0  0  0  0	PB41 V  1 0 1 1 1 1 C1QI 0 0 1 1 1 C1QI 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	WP1 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1

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1 1
0 1
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          0
                 0
                      0
                            1
                                 0
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                                                                     0
                                                                        0
## EFEMP2 ARRB1 MMP9 PSMD7 CSNK2A1 DTX2 SHC1 ATP1B1 CHMP4C STAT1 DSG3 ASAP2
                                    0
                                              0
                                                                   0
          0
                     0
                                         0
                                                     1
                                                             0
                1
                           1
                                                                        1
## 2
          0
                1
                     0
                           1
                                    0
                                         0
                                              0
                                                     0
                                                             0
                                                                   0
                                                                        0
## 3
          0
                0
                     0
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                                    0
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                                              0
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## 4
                     0
                                    0
                                         1
          0
                           1
## 5
          0
                1
                     0
                           0
                                    0
                                         1
                                              1
                                                     1
                                                                   0
                                                                              0
## 6
          0
                1
                     0
                           0
                                    0
                                         0
                                              0
                                                     1
                                                             0
                                                                   0
## SMAD4 LTA SUMO4 SPARC ITGA5 PPARG YWHAZ XRN2 CCT7 EDNRB HSPA8 PPP1R17 KAT2B
                   1
                         0
                                0
                                     0
                                            0
                                               1
                                                      1
                                                             1
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                         0
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                                            0
## 2
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                   1
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## 3
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## 4
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                   1
## 5
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                         0
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                   1
## 6
         0
             0
                   1
                         0
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                                                 1
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                                                                           0
                                                                                  0
## NR2F6 ADM IPO5 WAS TGFBR1 VIM BAX PIK3R1 SMARCA2 PRKAA2 CASP7 SREBF1 RPS6KA3
             0
                  1
                      0
                             0
                                 1
                                      0
                                             1
                                                     1
                                                             0
## 2
             0
                      0
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                                  0
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         1
                  1
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## 3
         1
             0
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                      0
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## 4
         1
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                  1
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## 5
                      0
                              0
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                      0
## 6
             0
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                                  0
                                      0
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         1
                  1
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                                                                          1
## KRTAP4-12 OPRD1 HK2 NUCB1 STARD13 TIMP3 CHEK2 RGS2 ITGA6 NUDT3 RLIM MAP1LC3B
## 1
             0
                             0
                                      0
                                                     0
                                                              0
                                                                         0
                 1
                       1
                                            1
                                                  1
                                                                    0
## 2
             1
                   1
                       1
                             0
                                      0
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## 3
             0
                   0
                              0
                                      0
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                       1
## 4
                   1
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## 5
             0
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             0
                   1
                       1
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                                                                         0
## UBQLN4 SKI VIM TCF3 ALOX12B CD99 BCL10 ACTR1A RIC8A ACTG1 LSM8 CREBBP SIX1
## 1
         1
              0
                  0
                       1
                               0
                                     1
                                           1
                                                  1
                                                         1
                                                               0
                                                                    1
                                                                           1
## 2
          1
              0
                  0
                       1
                                0
                                     1
                                           1
                                                  1
                                                               0
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## 3
              0
                  0
                                0
                                                  0
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          1
                                     1
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                       1
## 4
          1
              0
                  0
                       1
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## 5
              0
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## PAPOLA RGL1 EPN1 WHRN RAC1 GRB2 CD19 RAF1 IL1RAP PTPRS HLA-DRB3 TEC WDR73
## 1
          0
               0
                    1
                         1
                              1
                                   1
                                         1
                                              1
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## 2
          0
               0
                    1
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## 3
               0
                    1
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          0
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## 4
          0
               0
                    1
                         1
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## SHC3 MAGI2 KLC1 ZSCAN4 GNAO1 GTF2H1 YWHAG LDB1 VCAN OAT BTK GNAI1 SF3A3
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## FCGR3A SMAD4 TRAF6 ZHX1 ITGB3BP EGFR GFI1B TAF1 IGHM CALM1 PRKACA LAMTOR1
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     CCR8 NR3C1 EP300 IKBKB PRKCZ NCKIPSD COL1A1 ETV1 GTF2H1 STAT6 GMFB PRPF6
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     CLDN4 XRCC6 AXIN1 MTNR1A TUBA4A ENO2 CANX BTRC ACACA CTNNB1 ATN1 SHANK1 TBP
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## PDLIM7 CAMK4 FGFR1 TAF5 CASP8 CREBBP RAB10 ACTR1B NCOA3 E2F1 BMPR2 DCC PPP2CA
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## YWHAH KCNA2 GIT1 ZAP70 HMOX2 RYBP CASP1 MDM2 GIT1 YWHAQ DMTN PAX6 AHNAK ATXN1
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     INTS11 IGSF21 BRCA1 LSM8 STX6 GPSM3 CBX8 EIF3E SMAD1 AHR FEZ1 CD44 POLD2 GRB2
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     PTK2B DCTPP1 PLAUR TNNI2 HCFC1R1 ITGA9 CSNK2B ADAP1 RCC1 TRAF1 BBS10 LRIF1
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## GRM3 CANX CD226 CSNK2A2 PLCG1 CDK1 ANXA1 SQSTM1 ITGB2 MAP3K7 AKT1 PIK3R1 KIT
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## CHMP5 TRAF1 H4-16 SRSF1 PSEN1 FLT1 GNA12 YWHAG RAB33A INSR ZAP70 ATP2B1
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## CSNK2A2 TNFRSF11A EWSR1 PLCG1 EGFR GRIN1 LYN KCNK15 TXNDC17 CTTN GHSR GAL
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## ATP5F1B PPARGC1A GABBR2 PRKACA PFDN2 SERTAD2 CDC42 RELA H3-4 RFC3 PRKDC DLG1
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## IGF2R PLSCR1 SIX1 SRC SHANK3 NFYC PORCN FGF7 SERPING1 FGF5 CCL4 CD58 DIS3L2
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## CCSER2 TMSB4X PAG1 PTPN11 CD63 PTPN6 VDR CCNT1 KCNJ4 CAMK2G SUMO2 GDF9 YWHAH
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## GNAI1 MAGI1 BRK1 NDEL1 DIAPH2 JAK3 UTP14A SYNE2 SIVA1 MAD2L2 CTBP1 HNRNPH1
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## C1QB JAK3 CEBPA TBXA2R TAF15 SNCA NONO GADD45G TIAM1 SMYD3 FGF1 RAB38 TNFSF11
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     SRC COL1A2 GDF9 ARHGEF7 KAT2B SMARCB1 KAT7 COL4A1 IL5RA AFAP1 EGFR TLR4 FGFR3
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## H3-4 EPRS1 RPL8 FYN UBXN11 JUND UBB EEF1A1 FRMD6 CD46 NTRK3 GABBR2 CEP126
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## HDAC4 GRB2 CUL1 MY05B BMPR1B PPP2R2A RGS2 ATM HTR1A PIK3R2 GCG NR1H2 VAV3
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## SMARCE1 CCDC33 SOCS6 NTRK1 EED KPNB1 KAT5 KIT IRS1 SRY CHEK2 NUDT21 GNAI3
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## EP400 SCARB1 DDX24 LMNB1 PICK1 JAK2 TGFBR2 ARHGAP1 VAMP2 GRB2 CLTC RHOA
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## NKIRAS1 HMGN1 WNT3A EPB41 HDAC2 HSPE1 PTN CASP3 KAT5 ESR1 FDPS GYPC ALDOA
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    IL4R CDK9 CCDC33 YWHAZ AKT1 E2F1 ITGAE KHSRP ZNF512B NCOA6 TICAM1 NANOS1 TK1
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##		SMN1 N	PR1 CF	LAR PF	KM STA	AP2 YW	HAG (	GRK5	YY1 I	FYN	NEDD8	UBQL	.N4	SRGA	.РЗ Т	NFSF	11
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##		DPYSL4							MAFA	PTF		TB16	CSF			•	
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##	3	0	1	0	1	0	0	0	0		1	0		0	1		1
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##		ACTA1	IRS2 I	FI16 P	SMD2 S	SIX2 S	MAD3	H2AX	HDAG	C2 1	TRAF2	ITK C	CAV1	PDZ	K1 P	DZK1	
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		DNAJA3												CAAI		LRPA:	
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## SMAD3 EDA2R HSPA8 GNAI1 CD244 EXOC8 HMOX2 SERTAD1 PXN LSM7 XCL1 ACTA2 BLNK
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## ELF3 METTL17 BRCA1 CASP1 TRAF6 IMMT SLC4A1 IRS1 PGR UBXN11 NR4A1 HOMER1
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## PYCARD CCND1 S1PR2 GIPC1 HRAS PIK3R1 ADAM17 C8orf33 SERPINH1 CENPA EPB41 URI1
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## UBE2I CDKN1B TAC1 JUP HABP4 CD48 GPRASP1 JAG1 NRXN1 SRC RBBP4 BCAR1 NCAM1
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## CASP3 L1CAM NRP1 MY05B A2M PPARG SNRNP70 KLF5 XPNPEP1 TOLLIP E4F1 APP SACS
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## CAPN2 RASA1 ABI1 TJP1 ANXA7 COL7A1 BRCA1 PIK3R1 PLCG1 BACE1 DDX20 TESC ENKD1
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## HDAC5 XRCC6 H3-4 MUSK COPS5 MAPK6 GATA2 TNNI3 THRA CASP4 GRIA4 LRSAM1 PBXIP1
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##		CUL4B	WDR77	ITGB1	IL13R	A1 P	ARP1	NUP98	TSG101	MYOG	IGF2R	NPPA	PRKCI	B MBF	TDO	3
##	1	0	0	1		1	0	0	1	1	0	1	(	) (	) :	1
##	2	0	0	0		1	0	0	1	1	0	0	(	) (	) (	)
##	3	0	0	0		1	0	0	1	0	0	0	(	) (	) (	)
##	4	0	0	1		1	1	0	1	1	0	0	(	) (	) :	1
##	5	0	0	1		1	1	0	1	1	0	0	(	) (	) :	1
##	6	0	0	0		1	0	0	1	1	0	0	(			1
##		MCRIP2	C1101			SHBG		HOXA1	3 AFDN					JBA1A		PC4
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##	3	0		0	0	1	0		1 0			0	1	C		0
##	4	1		0	0	1	0		1 1	1		0	1	C		0
##	5	1		0	0	1	0		1 1	1		1	1	C		0
##	6	0	DTADI	0	0	1	0	OTTO D	1 0	-		0	1	C		0
##	4	PTPN21			CH1 NU		CFLAR		KDR M				PPP2R1		.4R	
##	1	0		0	0	1	0	1		0	0	0		1	1	
##	2	0		0	0	0	0	0		0	1	0		1	1	
##	4	0		0	0	0	0	0 1		0	0	0		1	0 1	
##	5	0		0	0	0	0	1		0	1	0		1	1	
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##	Ü	SNAPIN	RRAS	•	·	-	-	-	PCDHA	•	_	•	5E STA	_	_	PLK1
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##	2	0		1	1	0	0	C		0	0	1	1	1	0	0
##	3	0	_	1	1	0	0	C		0	0	0	1	1	0	0
##	4	0	1	1	1	0	0	C	)	0	0	1	1	1	1	0
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##	6	0	1	1	1	0	1	C	)	0	0	1	1	1	0	0
##		PRC1 C	מען	NNB1	CITMO	NT / A NT		DDIA	TAPPD	5 BIRC	5 TK1	GIPC	1 001/	D MC		
##		11001	DK1 C	TOMM	SUMO4	NCAN	FADD	PRKCE	IGFBP	O DIIIC	0 1111	GIIO	I GDV	BB MC	B4	
##	1	0	1	1	0 SUMU4	NCAN 1	0	PRKCE		1	0 1		1 GSAS	38 MC 1	1 1	
##	1 2								·							
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##	2 3 4 5	0 0 0 0	1 1 1 1	1 1 0 1	0 0 0 0	1 1 0 1 1	0 0 0 0	1 1 0 1 1	)	1 1 1 1	0 1 0 1 0 1 0 1 0 1		1 1 1 1	1 1 1 1	1 1 0 1	
## ## ## ##	2 3 4	0 0 0 0 0	1 1 1 1 1	1 1 0 1 1	0 0 0 0 0	1 1 0 1 1	0 0 0 0	1 1 0 1 1		1 1 1 1 1 1	0 1 0 1 0 1 0 1 0 1 0 1		1 1 1 1 1	1 1 1 1 1	1 1 0 1 1	
## ## ## ## ##	2 3 4 5 6	0 0 0 0 0 0 0 CSNK1E	1 1 1 1 1 1 PMCH	1 1 0 1 1	0 0 0 0 0 0 0 B EGFR	1 0 1 1 1 UBR	0 0 0 0 0 0 5 CBX	1 1 0 1 1 4 UBQL	)	1 1 1 1 1 1	0 1 0 1 0 1 0 1 0 1 0 1 55B CHA	AF1A	1 1 1 1 1 1 PARP1	1 1 1 1 1 1 RPA1	1 1 0 1 1 1 DYI	RK1B
## ## ## ## ## ##	2 3 4 5 6	0 0 0 0 0 0 CSNK1E 1	1 1 1 1 1 1 PMCH 0	1 1 0 1 1	0 0 0 0 0 0 0 B EGFR 1	1 0 1 1 1 UBRS	0 0 0 0 0 0 5 CBX	1 0 1 1 1 4 UBQL		1 1 1 1 1 1 CCDC8	0 1 0 1 0 1 0 1 0 1 0 1 55B CHA	AF1A 1	1 1 1 1 1 1 PARP1 1	1 1 1 1 1 1 RPA1	1 0 1 1 1 DYI	1
## ## ## ## ## ##	2 3 4 5 6	0 0 0 0 0 0 0 CSNK1E 1	1 1 1 1 1 1 PMCH 0	1 0 1 1 1 BMPR1	0 0 0 0 0 0 B EGFR 1 0	1 0 1 1 1 UBRS	0 0 0 0 0 0 5 CBX	1 0 1 1 1 4 UBQL 0		1 1 1 1 1 1 CCDC8	0 1 0 1 0 1 0 1 0 1 0 1 55B CHA	AF1A 1 1	1 1 1 1 1 1 PARP1 1	1 1 1 1 1 1 RPA1	1 0 1 1 DYI	1 1
## ## ## ## ## ##	2 3 4 5 6 1 2 3	0 0 0 0 0 0 CSNK1E 1 1	1 1 1 1 1 1 PMCH 0 1	1 0 1 1 1 BMPR1	0 0 0 0 0 0 0 8 EGFR 1 C	1 0 1 1 1 UBRS	0 0 0 0 0 0 5 CBX	1 0 1 1 1 4 UBQL 0 0		1 1 1 1 1 1 1 CCDC8	0 1 0 1 0 1 0 1 0 1 0 1 0 1 55B CHA	AF1A 1 1	1 1 1 1 1 1 1 PARP1 1 1	1 1 1 1 1 1 RPA1 1	1 1 0 1 1 DYI	1 1 0
## ## ## ## ## ## ##	2 3 4 5 6 1 2 3 4	0 0 0 0 0 0 CSNK1E 1 1 0	1 1 1 1 1 1 PMCH 0 1 1	1 0 1 1 1 BMPR1	0 0 0 0 0 0 0 8 EGFF 1 C 1 C 0 C	1 1 0 1 1 1 1 1 1 UBR!	0 0 0 0 0 0 5 CBX	1 0 1 1 1 4 UBQL 0 0 0	.N4 JUN 1 1 1 0 0 0	1 1 1 1 1 1 1 1 CCDC8	0 1 0 1 0 1 0 1 0 1 0 1 0 1 5B CH. 1	AF1A 1 1 1	1 1 1 1 1 1 1 PARP1 1 1	1 1 1 1 1 1 RPA1 1 1	1 0 1 1 DYI	1 1 0 1
## ## ## ## ## ## ##	2 3 4 5 6 1 2 3 4 5	0 0 0 0 0 0 CSNK1E 1 1 0 1	1 1 1 1 1 1 1 PMCH 0 1 1 1	1 1 0 1 1 1 BMPR1	0 0 0 0 0 0 0 8 EGFF 1 C 1 C 0 C	1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 0 5 CBX	1 1 0 1 1 4 UBQL 0 0 0 0	.N4 JUN 1 1 1 0 0 0 1 1 1 1	1 1 1 1 1 1 1 CCDC8	0 1 0 1 0 1 0 1 0 1 0 1 0 1 55B CHA 1 1	AF1A 1 1 1 1	1 1 1 1 1 1 1 PARP1 1 1 1	1 1 1 1 1 1 RPA1 1 1 1	1 0 1 1 DYI	1 1 0 1
## ## ## ## ## ## ## ## ##	2 3 4 5 6 1 2 3 4 5 6	0 0 0 0 0 0 CSNK1E 1 1 0 1 1	1 1 1 1 1 1 PMCH 0 1 1 1 1	1 0 1 1 1 BMPR1	0 0 0 0 0 0 0 B EGFR 1 C 1 C 0 C 1 1 1 1	1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 0 0 5 CBX	1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1		1 1 1 1 1 1 1 CCDC8	0 1 0 1 0 1 0 1 0 1 0 1 0 1 15B CHJ 1 1 1	AF1A 1 1 1 1 1	1 1 1 1 1 1 1 PARP1 1 1 1 1	1 1 1 1 1 1 RPA1 1 1 1	1 0 1 1 1 DYI	1 1 0 1 1
## ## ## ## ## ## ## ##	2 3 4 5 6 1 2 3 4 5 6	0 0 0 0 0 0 CSNK1E 1 1 0 1 1 1 EDF1 A	1 1 1 1 1 1 PMCH 0 1 1 1 1 0	1 1 0 1 1 1 BMPR1	0 0 0 0 0 0 0 B EGFR 1 C 1 C 0 C 1 1 1 1 1 1 1 1 1 PA5 ZF	1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 0 5 CBX 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 1 1 1 4 UBQL 0 0 0 0 0 0 0		1 1 1 1 1 1 1 CCDC8	0 1 0 1 0 1 0 1 0 1 0 1 1 55B CHA 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	AF1A 1 1 1 1 1 1 1 GF2R	1 1 1 1 1 1 1 PARP1 1 1 1 1 0 SUM04	1 1 1 1 1 1 RPA1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 0 1 1 1 DYF	1 1 0 1 1 1
## ## ## ## ## ## ## ## ## ## ## ## ##	2 3 4 5 6 1 2 3 4 5 6 1	0 0 0 0 0 0 CSNK1E 1 1 0 1 1 EDF1 A	1 1 1 1 1 1 1 PMCH 0 1 1 1 1 0 XL MY( 1	1 1 0 1 1 1 1 BMPR1	0 0 0 0 0 0 0 8 EGFR 1 C 1 C 0 C 1 1 1 1 1 1 1 1 1 PA5 ZF	1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 0 0 5 CBX 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 1 1 1 4 UBQL 0 0 0 0 0 0 0 0 0 0 0 1		1 1 1 1 1 1 1 CCCDC8	0 1 0 1 0 1 0 1 0 1 0 1 0 1 55B CHJ 1 1 1 1 1 1 1 1	AF1A 1 1 1 1 1 1 GF2R 1	1 1 1 1 1 1 1 1 1 1 1 0 SUMO4	1 1 1 1 1 1 RPA1 1 1 1 1 1 1 1 1 1 1	1 1 0 1 1 1 DYF	1 1 0 1 1 1
## ## ## ## ## ## ## ## ## ## ## ## ##	2 3 4 5 6 1 2 3 4 5 6 1 2	0 0 0 0 0 0 CSNK1E 1 1 0 1 1 1 EDF1 A	1 1 1 1 1 1 PMCH 0 1 1 1 1 0	1 1 0 1 1 1 BMPR1	0 0 0 0 0 0 0 8 EGFR 1 C 1 C 0 C 1 1 1 1 1 1 1 1 1 PA5 ZF 1	1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 0 5 CBX 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 1 1 1 4 UBQL 0 0 0 0 0 0 0	.N4 JUN 1 1 1 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 CCDC8	0 1 0 1 0 1 0 1 0 1 0 1 55B CHJ 1 1 1 1 1 1 1 1 0	AF1A 1 1 1 1 1 1 1 GF2R	1 1 1 1 1 1 1 PARP1 1 1 1 1 0 SUM04	1 1 1 1 1 1 RPA1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 0 1 1 1 1 DYH	1 1 0 1 1 1
## ## ## ## ## ## ## ## ## ## ## ## ##	2 3 4 5 6 1 2 3 4 5 6 1 2 3	0 0 0 0 0 0 CSNK1E 1 1 1 1 EDF1 A 1	1 1 1 1 1 1 1 PMCH 0 1 1 1 1 0 XL MY( 1	1 1 0 1 1 1 1 BMPR1	0 0 0 0 0 0 0 8 EGFR 1 C 1 C 0 C 1 1 1 1 1 1 1 1 1 PA5 ZF	1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 0 5 CBX 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 1 4 UBQL 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1	.N4 JUN 1 1 1 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 CCCDC8	0 1 0 1 0 1 0 1 0 1 0 1 55B CH 1 1 1 1 1 1 1 1 0 1	AF1A 1 1 1 1 1 1 1 GF2R 1	1 1 1 1 1 1 1 1 1 1 1 0 SUMO4 1	1 1 1 1 1 1 RPA1 1 1 1 1 1 1 1 1 1 1 1	1 1 0 1 1 1 DYH	1 1 0 1 1 1 1 5
######################################	2 3 4 5 6 1 2 3 4 5 6 1 2 3 4	0 0 0 0 0 0 CSNK1E 1 1 1 1 EDF1 A 1 1	1 1 1 1 1 1 1 1 0 XL MY( 1 1 0 1	1 1 0 1 1 1 1 BMPR1	0 0 0 0 0 0 8 EGFF 1 C 0 0 C 1 1 1 1 1 1 1 PA5 ZF 1	1 1 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 0 5 CBX 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 0 1 1 1 4 UBQL 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1	.N4 JUN 1 1 1 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 CCCDC8	0 1 0 1 0 1 0 1 0 1 0 1 55B CH 1 1 1 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1	AF1A 1 1 1 1 1 1 GF2R 1 0	1 1 1 1 1 1 1 1 1 1 0 SUMO4 1 1	1 1 1 1 1 1 RPA1 1 1 1 1 1 RAF1	1 1 0 1 1 1 DYF	1 1 0 1 1 1 1 S
######################################	2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5	0 0 0 0 0 0 CSNK1E 1 1 1 1 EDF1 A 1 1	1 1 1 1 1 1 1 PMCH 0 1 1 1 1 0 XL MY( 1 1	1 1 0 1 1 1 1 BMPR1	0 0 0 0 0 0 8 EGFF 1 C 0 0 C 1 1 1 1 1 1 1 PA5 ZF 1	1 1 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 0 5 CBX 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 1 4 UBQL 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1		1 1 1 1 1 1 1 1 1 CCDC8	0 1 0 1 0 1 0 1 0 1 0 1 55B CH 1 1 1 1 1 1 1 1 0 1	AF1A 1 1 1 1 1 1 GF2R 1 0	1 1 1 1 1 1 1 1 1 1 0 SUMO4 1 1	1 1 1 1 1 1 RPA1 1 1 1 1 1 RAF1	1 1 0 1 1 1 1 DYF	1 1 0 1 1 1 1 5 0
######################################	2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5 6	0 0 0 0 0 0 CSNK1E 1 1 1 1 EDF1 A 1 1 1	1 1 1 1 1 1 1 1 0 XL MY( 1 1 0 1 1	1 1 0 1 1 1 1 BMPR1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 0 0 5 CBX 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 0 1 1 4 UBQL 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1		DOK4 C 1 1 1 1 0 0	0 1 0 1 0 1 0 1 0 1 0 1 55B CHJ 1 1 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1	AF1A 1 1 1 1 1 1 GF2R 1 0 0 1	1 1 1 1 1 1 1 1 1 0 SUMO4 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 0 1 1 1 1 DYH	1 1 0 1 1 1 1 5 0 0 0 0
######################################	2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5 6	0 0 0 0 0 0 CSNK1E 1 1 1 1 EDF1 A 1 1 1	1 1 1 1 1 1 1 0 XL MY( 1 1 0 1 1 1 1 PPKCH 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 0 1 1 1 1 BMPR1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 1 1 1 TRAI	0 0 0 0 0 0 5 CBX 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 0 1 1 4 UBQL 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1		DOK4 C 1 1 1 1 0 0	0 1 0 1 0 1 0 1 0 1 0 1 55B CHJ 1 1 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1	AF1A 1 1 1 1 1 1 GF2R 1 0 0 1	1 1 1 1 1 1 1 1 1 0 SUMO4 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 0 1 1 1 1 DYI	1 1 0 1 1 1 1 5 0 0 0 0
######################################	23456 123456 123456 1	0 0 0 0 0 0 CSNK1E 1 1 1 1 EDF1 A 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 0 XL MY( 1 1 0 1 1 1 1 PIK3R:	1 1 0 1 1 1 1 BMPR1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 1 1 1 1 1 TRAI	0 0 0 0 0 0 5 CBX 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 4 UBQL 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1	.N4 JUN 1 1 1 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 CCCDC8  DOK4 C 1 1 1 1 1 1 0 0 GB1 HM	0 1 0 1 0 1 0 1 0 1 0 1 55B CHJ 1 1 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1	AF1A 1 1 1 1 1 1 GF2R 1 0 0 1 0 1 1 31 GA	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 RPA1 1 1 1 1 RAF1 1 1 1 1 1 1	1 1 0 1 1 1 1 DYI	1 1 0 1 1 1 1 5 0 0 0 0 0 0 0 0 0 0 0 0
######################################	23456 123456 123456 12	0 0 0 0 0 0 CSNK1E 1 1 1 1 EDF1 A 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 0 XL MY( 1 1 0 1 1 1 1 PIK3R:	1 1 0 1 1 1 1 BMPR1 0 0 0 0 0 0 0 0 ACTN	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 0 1 1 1 1 1 1 1 1 1 1 TRAI	0 0 0 0 0 0 5 CBX 0 0 0 0 0 0 0 0 1 1 1 1 0 1	1 1 1 1 4 UBQL 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1	.N4 JUN  1 1 1 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1	DOK4 C 1 1 1 1 1 1 1 0 GB1 HN 1	0 1 0 1 0 1 0 1 0 1 0 1 55B CHJ 1 1 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1	AF1A 1 1 1 1 1 1 1 GF2R 1 0 0 1 0 1 31 GA	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 0 1 1 1 DYF	1 1 0 1 1 1 1 5 0 0 0 0 0 0 0 0 0 0 0 0

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   SRC AFDN ANXA7 WIPF2 HSPA1A PPARG ETS1 ESR1 DPPA2 PRKCQ SIN3B CABP1 BLNK
                   0
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     SH3GL3 PPARD VCL LSM2 ARNTL KIF23 CENPU PGR GLUL GPS2 CCL14 RAF1 PCBD1 ESR2
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## 6
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## DNMT3A FCGR2B KLHL42 LYN TSC22D1 SH3GL3 EPRS1 CITED4 FGF2 MAD2L2 STK36 GRK2
          0
               1
                         1
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## 2
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## 3
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## 4
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## 5
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## 6
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                         1
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## TRERF1 GRM3 COPS3 FAS GZMA IL1RAP CUL5 AXIN1 EPOR KPNB1 TNFRSF10D ARID4A
## 1
                                0
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          1
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## 2
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## 3
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## MED22 BRCA2 GRIPAP1 SRC PFN2 TRAF2 HNRNPU PSMC5 SKIL GPRASP2 PGR PDCD6IP
## 1
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## 2
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## 3
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## 4
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## 5
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## PLAUR ST13 REL PDGFA POLDIP2 PIGC VAV1 LZTS2 PIP4K2C MAP1A LRIF1 KHSRP BMI1
## 1
         0
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                   1
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## 2
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## 3
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## 4
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                   1
## RELA PSMD4 FSCN1 PSG3 PRKCA TUBA1A LRP1 STRAP GSK3B IL18 RNF19A YWHAG IFI16
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## 1
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## 2
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## 3
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## BAG6 GHR EP300 UBB NUDT21 TNFRSF1A APEX2 PARP1 SUMO3 ERRFI1 TYK2 NA SNCA
## 1
        1
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                   0
                       1
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                                        0
                                               1
                                                     1
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                                                                        1 0
## 2
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## 3
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## 4
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## 5
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## 6
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     ACTA1 MEF2C PXN CD40 UBB SYK GNAQ SMAD9 C1QBP PIK3R1 CAPN1 TNFRSF10B PNKP
## 1
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                    0
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## 2
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## 3
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## 6
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     ARF6 SKIL CDK1 ROBO2 EDN3
                                 SRC BMPR2 COL4A6 SNRPD2 EGFR GNA13 DAG1 ZBTB17 BRAF
##
                                          0
                                                  0
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     CD36 SMAD7 SNAP23 OPRM1 AVEN TRIP6 FAF1 ACVR1B PRKDC MYOC CASP3 RPS2 SUMO1
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     UBE2I GRB2 YWHAB TNFAIP3 ESR1 MEF2C ADGRB2 SMAD7 RRAS PPP5C TRA2B RAB1A TRADD
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## AP1G2 CD4 NCK1 ESR1 TAF1 SNAPIN PLCG1 MYC CABLES2 SMAD7 CASP8 CDK3 THBS1 BTK
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## EWSR1 VPS18 SMN1 CRMP1 CDK9 PAG1 GRK3 NCF2 TGFBR1 MYD88 CEACAM1 HES1 HHIP
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## BUB1 CR2 PLG ARPC3 PTN BCAP31 RASD2 RAD1 HNRNPA2B1 TH EEF1A1 CEP126 KAT2B
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    TYK2 MOB1A TRAF6 NA DUSP10 ARID3A SETDB1 NCOA1 AP1B1 ERBB3 THBS1 RABAC1 DLG1
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## HSD17B10 GPRASP1 MAP1B UBE3A ELOC NCK1 GZMB OSGEP EEF1A1 SPAG9 CPE COL4A2
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## PTPRK TBP DST MAP2K4 PTPRZ1 VCAM1 CEP126 RUNX1 ACTA1 SMAD2 ALDOA PTK2 RPIA
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## IKBKB ITGAV TNFRSF1A CSNK2B CFLAR MMP14 SNTG1 GNAI2 DLG1 PTPRC MAP3K14 FKBP10
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## MDFI RAC1 VEGFD PLCG2 TNNT1 CHMP4B F11R ATF7IP STEAP3 PSG9 GAB3 CRMP1 IFNAR1
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    RGS1 MATR3 GMCL1 REN STAP2 NOS3 CLTC HRAS PRKCA PTPN11 RNF11 KPNA2 HRAS EPHB3
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## CSF1R GPSM1 MAGEA11 SRF FADD DGKA SRSF1 SH3BP2 KAT2B CRMP1 YWHAH EPHA2 CDC25A
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## ACKR4 NCOR2 CCDC106 ALDH2 ANXA2 ERN1 RBBP4 ROCK1 PRMT1 PLSCR1 DOK1 YWHAZ HHEX
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## DYRK1B GSK3B MBIP PLAUR ATN1 RUNX1T1 TNNI1 PDGFRB CDK5 USP45 CSNK2B HDAC5
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## USP33 CNTNAP4 SMARCE1 NROB2 MAD1L1 ACKR4 ADCY6 REL ADRB1 GRIN1 CALCOCO2 NUCB1
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## LSM2 LDOC1 CASP9 GDF9 FHIT APBB1 NR112 PHYHIP FYN MAPK3 GNAZ ITGA6 CKMT2 ELK1
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## RAC1 GRB2 HNRNPA1 MED31 CSNK1D HIPK3 PLEKHO1 GNAO1 WDCP TGFB1 RAB27A SUMO4
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##	4	0	0		1	1		0	0		0		1	0		0		1	1
##	5	0	0		0	0		0	0		0		1	0		1		1	1
##	6	0	0		1	0		0	0		0		1	0		0		1	1
##		ACVR2E	3 HNF	4A SHO	C1 SEI	LL CA	SP3	FUS	TNF	RSF14	TNF	RSF	71A G	RB2	EGFR	AP3E	32	RPS6	KA5
##	1	1	L	0	1	0	0	1		0			0	0	0		1		1
##	2	1		0	1	0	0	1		0			0	0	0		1		0
##	3	C		0	1	0	0	1		0			0	0	0		1		1
##	4	C		0	1	0	0	1		0			0	0	0		1		1
##	5	C		0	1	0	0	1		0			0	0	0		1		1
##	6	(7,7,7,7,7,7,7,7,7,7,7,7,7,7,7,7,7,7,7,		0	1	0	0	1		0	DOLL		0	0	0	40 DE	1	D.4.4.	1
##	4	GRB10	IL6R	CDT1	NCOA		HOC		LHX9	STX6	POLI			WHR			КKА		EP300
##	1 2	0	0	1		0 1		1	1	1		0	0		1	1		1	1
##	3	0	0	1		0 1		1 1	0			0 0	0		1 1	1 1		1 1	1 0
##	4	0	0	0		0 1		1	0	-		0	0		1	1		1	1
##	5	0	0	0		0 1		1	0	-		0	0		1	1		1	0
##	6	0	0	0		0 1		1	0	0		0	0		1	1		1	0
##	U	-	-	-		NUP50	SMN	_	-	SCNN1			PTPN		L PLCB2	_	33	RPS1	-
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##	4	0	0	0	1	1		1	0	(	0	0		0	1		0		1
##	5	0	0	0	1	1		1	0	(	0	0		0	1		0		1
##	6	0	0	0	1	0		0	0	(	0	0		0	0		0		0
##		CRKL M	(PHOSI	РН6 СС	LQ LI	PAR1 '	ΓAF1	D F	KR2	SCAMP	1 NCF	K1	PTPR	B L	CK DY	NLL1	CS	F2RB	
##	1	0		1	1	0		0	1	(	О	0		1	1	0		1	
##	2	0		0	1	0		0	1	(	0	0		1	0	0		0	
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##	4	0		0	1	0		0	1	(	0	0		1	1	0		0	
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##	6	0		0	1	0		0	1		0	0		1	0	0		1	
##		ITGB3E		MTOR5	DNAJI		A11	DNM1			EUROI		MAPK				IXF		ARCD1
##	1		0	0		0	1	(		0		1			1	0		0	0
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		FLNC C			TGA3						STR		PI.CG						
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##	6	0	0	0	0	1	C	)	1	0		0		1	1		0	0	0
##		HDAC2	RPS6	KA3 S7	TUB1 S	SPTAN	1 HS	SPB2	GPR	ASP1 1	RALBI	P1	CRMP	1 F	BX034	EEF1	LA1	TAF	1 VTN
##	1	0		0	1		)	1		1		0		1	0		1		1 1
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##		0		0	1		)	1		1		0		1	0		0		1 1
##		0		0	1		)	0		1		0		0	0		0		1 1
##		GRK2 V				SERPI							PRPF						
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##	3	0	0		0	0			0	0		1		0		0	0	0	C	)	0
##	4	0	0		0	1			1	1		1		0		0	1	0	C	)	1
##	5	0	0		0	1			0	0		1		0		0	1	0	C	)	1
##	6	0	0		0	0			0	1		1		0		0	1	0	C	)	1
##				NTA	•	PIK3				PP2R1			TR		ADC		CCNB1	YTHDO			
##		0	0		1		0	C		(	)	0		0		0	1		0	C	
##	_	0	0		1		0	1			)	1		0		1	1		0	C	
##		0	0		0		0	C			)	0		0		0	1		0	0	
##		0	0		1		1	C			1	1		0		0	1		0	0	
	5	0	0		0		1	C			0	0		1		0	1		0	0	
##	6	0	0	DEO.	0	, n	1	(			) Z T O C	0	TAT	O CDME	NT A C	0	1	TTO 1 1	0	0	
## ##	1	SNAP2	23 11	0	BICE	ע בע. 0	0	FNBF	0	1	7122	1	О ИС	GRM5	NAC	0 AD	IAP1A ] O	LIGAI O	EPHA	0	AMP 1
##			0	0		0	0		1	0		1	0	1		0	0	0		0	1
	3		0	0		0	0		0	1		0	0	1		0	0	0		0	1
##			0	0		0	0		0	1		1	0	1		0	0	0		0	1
##	5		0	0		0	0		0	1		1	0	1		0	0	0		0	1
##			0	0		0	0		0	1		1	0	1		0	0	0		0	1
##		CDH1	LUC7	L3	OGT	F2	ATXN	I UE	BTF	SNW1	SP1	L NA	BR	CA1 I	PTPF	RF MA	РКЗ Н	IP1R I	_MO2	MAD	D
##	1	0		1	0	0		1	1	1	(	) 1		1		0	0	0	0		0
##	2	0		1	0	0		0	0	0	(	) 1		0		0	0	0	0		0
##	3	0		0	0	0		0	0	0	(	) 1		0		0	0	0	0		0
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##	6	1		1	0	0		0	0	1	(			0		0	0	0	0		0
##		SERP1		FGF		JNC1			S10	OOB N				TGFBI			IDK SLO				PNN
##			0		0		0	0		0	(		1		0	1	0	1	0	1	1
##			0		0		0	0		0	(		0		0	1	0	0	0	0	1
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## ##			0		0		0	0		0	(		1		0	1	0	1 1	0	0	1 1
##			0		0		0	0		0	(		0		0	1	0	1	0	0	1
##	U	WWP1	-	т тс	-	ΔR			RRF					TAKS			7010 HO				
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	2	0	(		1			0		0	(		0		1	0	0	0	1		0
##	3	0	(	)	C	0		0		0	(	)	0	-	1	0	0	0	C	)	0
##	4	0	(	)	1	. 0		1		0	(	)	0	1	1	0	0	0	1		1
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##		0	(		1			0		0	(		0		1	0	0	0	1		0
##					IK30			NOTO							IRF		GAP1				
##		(		1		1	0		1	0	1		1	0		0	0	1			0
##		(		1		1	0		1	0	0		)	0		0	0		L		0
##		(		0		0	0		0	0	0		1	0		0	0		)		0
##		(		1		1	0		1	0	1		)	0		0	0		)		0
##		(		0		1	0		1	0	1		)	0		0	0		L		0
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##		OBULL	14 C <i>i</i>	IISP	0		2 SP 1	001	LII	2AK3		пк <b>G</b>	CU	VI, I	имі 1	1	HDHD2	2 15P <i>I</i> 1	0		0
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##			1		0		1	0		1	1	0		0	1	1		1	0		0
##			1		0		1	0		1	1	0		0	0	1		1	0		0
##			1		0		1	0		1	1	0		0	0	1		1	0		0

##		GNAI3	TRPC4	EDF1 F	RAC2 (	DK1	GNG2	AXIN	1 FK	BP5	TAF6	HAP1	FASL	G PKN2	FGF1	MSX1
##	1	0	1	0	1	1	0		1	0	1	0		0 (	1	0
##	2	0	0	0	1	1	0		1	0	1	0		0 (	1	0
##	3	0	0	0	1	0	0		1	0	1	0		0 (	1	0
##	4	0	0	0	1	1	0		1	0	1	0		0 (	1	0
##	5	0	1	0	1	1	0		1	0	1	0		0 (	1	0
##	6	0	0	0	1	1	0		1	0	0	0		0 (	_	0
##			RUNX1T1	TRAF2				ZNF51		GFR	NTRK1				SP90AA1	UBE2I
##	1	1	0		0	1	0		0	0	1		0	1	1	1
##	2	0	0		)	1	0		0	0	1		0	0	1	1
##	3	0	0		)	0	0		0	0	(		0	0	1	0
##	5	0	0		) )	0	0		0	0	1	_	0	1 1	1 1	0
##	6	0	0		)	0	0		0	0	1		0	1	1	0
##	U			•	HSPA8	SPAI	-	AT3 N	JP21		CVR1B	_	CLIC1		_	TLE5
##	1	1	0	0	0	DI A	0	0		0 A	0	1	0	0	0	0
##	2	0	0	0	0		0	0		0	0	1	0	0	0	0
##	3	0	0	0	0		0	0		0	0	1	0	0	0	0
##	4	1	0	0	0		0	0		0	0	1	0	0	0	0
##	5	1	0	0	0		0	0		0	0	1	0	0	0	0
##	6	0	0	0	0		0	0		0	0	1	0	0	0	0
##		LDLR 1	NME2 MAI	P1A ST	ΓAT1 (	CSNK	2B SP	RED1	JBE2	G2 I	FCER10	3 MAP	3K8 M	BTPS1	SMAD3	GRK2
##	1	1	0	0	0		0	0		0	1	L	0	1	1	1
##	2	1	0	1	0		0	1		0	(	)	0	1	0	1
##	3	1	0	0	0		0	0		0	(		0	0	0	0
##	4	1	0	0	0		0	0		0	(		0	0	0	1
##	5	1	0	0	0		0	0		0	(		0	0	0	1 1
##	6	1 MAPK1	0 BMPR2 1	O EGF HS	0 SF2 II	SN2	0 PLCD	0 1 POL	01D	0 RBP.	( J PGR	•	0 ACP1	1 FLNC F	O RKCG M	-
##	1	1	1	1	0	0		1 FUL.	0	ndr. 1		0	0	0 O	nncg m	1
##	2	1	0	1	1	0		0	1	1		0	0	0	0	0
##	3	1	0	0	0	0		0	0	(		0	0	0	0	0
##	4	1	0	1	0	0		0	1	(	0	1	0	0	0	0
##	5	1	0	1	0	0		0	0	1	L 0	1	0	0	0	0
##	6	1	0	1	0	0		0	0	(	0	0	0	0	0	0
##		CASP3	CCDC901	B AVPI	R2 CS1	TB H	FE CR	KL NR	4A1	GRII	PAP1 F	RELA	NPM1	NF2 CA	LM1 DY	NC1I1
##	1	0		1	1	0	0	0	1		0	0	1	0	0	1
##		0	(	)	0	0	0	1	0		0	0	0	0	0	1
##		0		0	0	0	0	0	0		0	0	0	0	0	1
##		0		1	0	1	0	0	1		0	0	0	0	0	1
##		0		1	1	0	0	0	1		0	0	1	0	0	1
##		0	TFR2 GI	1 >>> TI	0	0	0 ~f17	0 отори	0 HCM	млт	0 1 NNN	1	0	0	0 DTDN11	1 TTCD1
##		0	0	1	0	040.	1	0	001		1	1	1 1		0	
##		0	0	1	0		1	0	0		1	0	1		0	
##		0	0	0	0		1	0	0		1	0	1		0	
##		0	0	1	0		1	0	0		1	0	1		1	
##	5	1	0	1	0		1	0	0		1	0	1	0	1	1
##	6	0	0	1	0		1	0	0		1	0	1	0	1	1
##		PCBP1	CDC25A	YTHDO	C1 PRF	(CA 1	KRTAP	4-12	SMMC	F2	VAV1	TP53	LRP1	SRC F	HOA HS	F1
##		0	1		1	0		1	0		0	1		0	1	1
##		0	0		1	0		1	0		0	1			1	0
##	3	0	0		0	0		1	0	0	0	0	0	0	1	0
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## TGIF1 CHMP4A CYTH2 IL6ST SMAD3 FGFR3 FOXP1 PLXNB2 TRIP6 TRIM37 PSG4 TOP2A
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## MBIP BRCA1 YWHAE C5 TNFRSF10C PRPH TNK2 MAPT SMARCA4 BMPR1B DLG2 ATF71P2 DAXX
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##
   AHR KDR FEN1 CAMK2D RBL2 CALM1 MED10 SUM01 CD44 DNM1 GRB7 TLE4 PRKCD MMP9 SRC
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    RPL36AL GAB2 FGF7 TK1 TLR4 PRKG1 CENPC SDC1 CHGA SRC EPAS1 CASP6 ARHGAP1
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## ATP6V1E1 MPHOSPH6 ATG7 CSNK2A2 RAC1 RNF11 SLC9A3R1 NEDD4 MAPK14 PSMD11 E2F4
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## PIK3R1 MAPK8IP3 PTMA ZMIZ1 FANCC MMP1 C3 PTPN18 PDLIM5 RPS6KA3 GOT2 GRB2
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## SREK1 PLD2 ITGB1 VASP VCP SMAD3 UBR1 MAPK6 EZH2 CDH1 FBLN1 RASA1 RFC2 DLGAP2
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## NECTIN3 SATB1 SHC1 LMNB1 PTPRC CALCRL TNFRSF10C GSK3B DLG1 PIN1 VTN PTN
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     HOMER1 PDGFRA RER1 CRTC2 CST3 CDK5RAP2 FCGR1A PPP1R8 TRIM37 CLU KRT18 RXRA
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     SOX10 ACTN2 TP63 FHL2 BAG6 NFYA ITGB5 TK1 PRKCA PRKD1 FOXO1 FYB1 LINGO1 RNPS1
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## TGM2 FAM124B ID2 DAXX MSN ESR1 IL18 PTN TLR5 RCC1 TFE3 CDK2 JUN SHC1 GNAI2
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## KIAAO408 SPTAN1 CALM1 PDGFRB TRAF2 DOK4 PSMD11 LILRB4 RGS1 GADD45G LHB PML
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## TCEA2 SSTR4 MPRIP SOS2 EFNA1 ITPR1 PLSCR1 RAB11A KDR CCDC120 PSMC1 ACVR2B
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## MCM7 OPRD1 FAF1 BID PTPRF MAPT ID3 FGFR3 FEZ1 SRF SP1 MAP6 PDZD2 MEX3B TGFBR1
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## ENG USHBP1 PRKAA2 NLGN1 VCL HNF4A LUC7L3 BCL3 RAB5A TRAF2 MAGEA11 VBP1 HTR2A
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## ACTA1 DNM1 TK1 SOS1 BMPR1B AIMP2 SYT1 IL33 PRKCD PKN1 AKAP8 EEF1B2 SRC PFKP
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## CELSR3 SRY BCL2 HLA-DQA1 WDR77 AMHR2 STAM CDKN1B CBL DDX20 HSP90AB1 F2R
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## CLEC5A GNB2 HMGB1 SERF2 ELOC VAV1 RHOA ITGA5 GPRASP2 TNNT1 IL1R1 AGT CDH1
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## HAND2 KLC1 PLCG2 TBL3 CLIC4 VTA1 CDK9 MCF2 FHL2 PTK2 MBIP TRIP11 ATF7IP NAGK
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## KAT2B CEBPA TRAF2 NACA TGFBR3 VAPB MDC1 PPP1R15A SMN1 KPNB1 WWP2 DCTD SMN1
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## CCNC KCNJ2 JUN CPNE7 CDK1 FLNA ENKD1 CDK1 HNRNPL XRCC6 PAFAH1B1 FSHR FADD
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## GTF2B RAMP3 BNIP3 ESR1 TNFRSF1A CTNNB1 RAC1 GPC4 CEBPB HMGN2 SMAD2 TACC1
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## CDC25A CCR10 TRAF6 IGF1R SNUPN ESR1 EIF4G1 ADORA1 TGM2 ERBB3 DNAJA3 CSNK2B
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## GNAO1 NA NCK1 TGFB1I1 LSM1 ACTG1 XRCC6 YWHAG RAF1 IL1RL1 PRTN3 HDHD2 GRB7
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##		CSTA 2	ZNF446	CD19	GADD4		RAB3		OLN2	YWH		ATXN		RC4	LYN	BMX	CLNS		UBQLN4
##	1	0	1	1		1		1	1		0		1	0	1	1		0	0
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##	3	0	0	0		0		)	0		0		1	0	1	0		0	0
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##		HDAC9	KCNJ1			IHAB	FANG		ASP8	RIC		SLC3		TGM		BE2E2		P3K1	
##	1	0		0	0	1		1	0		1		0		1	(			1 1
##	2	0		0	0	1		1	0		1		0		1	(			1 0
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##	4	YWHAZ	TRAF3	SERBI			SLC9				DC3		EB1	ROB		MED31			IL18R1
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##	6	1	1		0	0		1		0		1	0		0	(		0	0
##	O	PRKCZ		ITGA3	UBE2V	-	CR3 I	r GF2		0 D54B		_	O MF:T	YWH	-	SPAC <i>I</i>		O SMD1	-
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##	4	0	0	0		0	0		1	0		1	1		0		0		1 1
##	5	1	0	0		0	0		1	0		1	0		0		0		1 1
##	6	0	0	0		1	0		1	0		1	1		0		0		1 1
##	Ū	-		KPNB1	IL21	. AU		CALM	- [1 IT]	-	CEP	_	SCAN	ID1	TRA:	F3 AN	IXA2	STF	RADB
##	1	1	1	1	(		0		1	0		0		1		1	0		1
##	2	1	1	1	(		0		0	0		0		1		0	0		1
##	3	1	0	1	(	)	0		0	0		0		1		0	0		0
##	4	1	1	1	(	)	0		0	0		0		1		0	0		1
##	5	1	1	1	(	)	0		0	0		0		0		1	0		0
##	6	1	1	1	(	)	0		0	0		0		0		0	0		0
##		RTN4	CNFRSF	1A TAC	CC2 RA	F1	VCL (	CTSG	COL	4A2 (	COL	4A3 '	TSC2	22D1	UN	C119	MAD	2L2	GATA2
##	1	0		0	1	0	1	0	)	0		0		0		1		0	1
##	2	0		0	0	0	0	0	)	0		0		0		1		0	1
##	3	0		0	0	0	0	0	)	0		0		0		1		0	1
##	4	0		0	1	0	1	0	)	0		0		0		1		0	1
##	5	0		0	1	0	1	0	)	0		0		0		1		0	1
##	6	0		0	1	0	0	0	)	0		0		1		1		0	1
##		BRCA2	MAPK6	HES1	COL4	13 T	REX2	MAP	K8 G	RAP2	TS	PAN4	HTF	RSA S	SOS	1 DNN	11 TI	3CD	LCK
##	1	0	0	0		0	0		1	0		0		0		0	0	0	0
##	2	0	0	0		0	1		0	0		0		0		0	0	0	0
##	3	0	0	0		0	0		0	0		0		0		0	0	0	0
##	4	0	0	0		0	1		0	1		0		0	(	0	0	0	0
##	5	0	0	0		1	1		0	1		0		0		0	0	0	0
##	6	0	0	0		0	0		0	0		0		0		0	0	0	0
##		TRIM46	WEE1	CRMP1	L EID3	SR	C PRI	KCB	вехз	DDX	20	вехз	EPE	341L:	1 S	KP2 1	ICK1	EEF	71G
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## HIPK3 APBA1 SH3GLB2 HIPK3 PRKACA PARD6B DDX39A PAX6 TUBB2B SNCA CD4 SMAD7
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## ITGA4 GAK SIGIRR BEND5 GRIA1 NSG2 CEBPB PIK3R1 CSF2RB TAB1 HDAC4 LMNA SDC1
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## HNRNPH3 TOMM70 MBP ATXN7 FEZ1 PIN1 CARD14 ESR2 CXCR4 PTPN6 ARHGDIB TARDBP
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## CCND1 AR KRTAP4-12 COL7A1 GCC1 PPP1R9B SH3GL2 RASGRP2 IL10RA MAP3K5 HOXA9
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## 6
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## CLIC1 FLT1 TP53 CRMP1 SRRM1 ACTC1 EPRS1 PRKCG LMNB1 TUBB2B CTNNB1 EWSR1 BAD
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    SMC5 MAGED1 ABHD16A ACTN1 CLEC3B CRMP1 FOXO3 AKAP7 SLC35F6 HSPA8 GABRG2 ACKR2
## 1
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## 6
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## PIK3R1 CDK1 CSNK2A1 FOS HMGB1 KIR2DL2 SCFD1 ERG28 AKT1 STAT1 MMP2 PLCG2
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##		BDKRB2	KLF4	SORL1	AURKB	SYK	CASP1	EEF1	A1 ST	AT3	MBL2	ZHX1	BMPR1	B NR2E3	AGTR2
##	1	0	0	1	1	0	1		0	0	1	0		0 1	1
##	2	0	0	1	1	0	0	)	0	0	1	0	(	0 1	1
##	3	0	0	0	1	0	0	)	0	0	0	0		0 0	0
##	4	0	0	1	1	0	0	)	0	0	1	0	(	0 1	1
##	5	0	0	1	1	0	1		0	0	1	0	(	0 1	1
##	6	0	0	0	1	0	0	)	0	0	1	1	(	0 1	1
##		MAPK6 R	RANBP9	TUBA	BC PDG	FRA F	PEX5 C	SNK2A	1 JAK	1 AB	I1 CI	OK2 GA	PDH P	IK3R2 NF	IC
##	1	1	0		1	1	1		0	1	1	1	1	0	1
##	2	0	0		1	0	1		0	1	0	1	1	0	1
##	3	0	0		1	0	0		-	0	0	1	0	0	1
##	4	0	0		1	0	1		-	0	0	1	1	1	1
##	5	1	0		1	0	0		-	0	0	1	1	0	1
##	6	0	0		1	0	1		•	0	0	1	1	0	1
##		CDKN1A	THOP1	MAP3							RKG1				CCL7
##	1	0	1			1	1	0	1	1	1	1	1	1	0
##	2	0	1			1	0	0	1	1	0	1	0	1	0
##	3	0	1		_	1	0	0	1	0	0	1	0	0	0
##	4 5	0	1		1 1	1 1	0	0	1 1	1	1	1 1	1	1	0
##	6	0	1		_	1	0	0	1	1	0	1	1 1	0	0
##	O	•	_	ITGB7	MAP1L	_	•	GSK3B	_	_	IPO5	_	_	NR1H2 C	ŭ
##	1	1	1 1	1	TIME IL	0	0	1	DLG1	1	1	1		0	0
##	2	1	0	1		0	0	1	0	0	0	1		0	0
##	3	0	0	0		0	0	1	0	0	0	1		0	0
##	4	1	0	0		0	0	1	0	1	1	1		0	0
##	5	1	0	1		0	0	1	0	1	1	1		0	0
##	6	1	0	1		0	0	1	0	1	0	1		0	0
##		STAP1 T	K1 ST	AT3 A1	PP BMP	R1A C	OCLN E	P300	VCP T	NFRS	F1A E	BAZ1B	FGFR1	GNAS PA	2G4
##	1	0	1	1	1	1	0	1	1		0	0	0	0	0
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##	5	1 0 0 SMN2 WN	1 1 1 1 1 IT3A H	0 0 0 0 0 NF1A	1 1 1 1 ERBIN	0 0 0 0 0 GIT1	0 0 0 0 0 ERH H	0 0 0 0 IRH4 C	0 0 0 0 0 ALM1	FZD7	0 0 0	0 0 0 0 0	0 0 0 0 0 IA1 HII	0 0 0 0 0 PK3 SNX2	0 0 0 0
##	5 6	1 0 0 SMN2 WN	1 1 1 1 IT3A H	0 0 0 0 0 NF1A I	1 1 1 1 ERBIN 1	0 0 0 0 0 GIT1 0	0 0 0 0 0 ERH H	0 0 0 0 IRH4 C 1	0 0 0 0 0 ALM1	0	0 0 0	0 0 0 0 0 1R KPN	0 0 0 0 0 1A1 HI	0 0 0 0 0 PK3 SNX2 1 0	0 0 0 0
## ## ##	5 6 1 2	1 0 0 SMN2 WN 0	1 1 1 1 1T3A H 0	0 0 0 0 NF1A 1 0	1 1 1 1 ERBIN 1 0	0 0 0 0 0 GIT1 0	0 0 0 0 0 ERH H 0	0 0 0 0 IRH4 C 1 0	0 0 0 0 ALM1 1	0	0 0 0 0 IGF1	0 0 0 0 0 1R KPN 0	0 0 0 0 0 1A1 HI	0 0 0 0 0 PK3 SNX2 1 0	0 0 0 0
## ## ## ##	5 6 1 2 3	1 0 0 SMN2 WN 0 0	1 1 1 1 1 173A H 0 0	0 0 0 0 NF1A I 0 0	1 1 1 1 ERBIN 1 0	0 0 0 0 0 GIT1 0	0 0 0 0 ERH H 0 0	0 0 0 0 IRH4 C 1 0	0 0 0 0 ALM1 1 1	0 0	0 0 0 0 IGF1	0 0 0 0 0 1R KPN 0 0	0 0 0 0 0 0 0 1A1 HII	0 0 0 0 0 PK3 SNX2 1 0 1 0	0 0 0 0
## ## ## ##	5 6 1 2 3 4	1 0 0 SMN2 WN 0 0 0	1 1 1 1 1 1 1 1 1 3 4 0 0 0	0 0 0 0 0 NF1A 1 0 0	1 1 1 1 ERBIN 1 0 0	0 0 0 0 0 GIT1 0 1	0 0 0 0 ERH H 0 0	0 0 0 0 IRH4 C 1 0 0	0 0 0 0 ALM1 1 1 1	0 0 0	0 0 0 0 IGF1	0 0 0 0 0 LR KPN 0 0	0 0 0 0 0 0 1A1 HII	0 0 0 0 0 PK3 SNX2 1 0 1 0	0 0 0 0
## ## ## ## ##	5 6 1 2 3 4 5	1 0 0 SMN2 WN 0 0 0 0	1 1 1 1 1 1 1 1 3A H 0 0 0	0 0 0 0 0 NF1A 1 0 0 0	1 1 1 1 1 ERBIN 0 0 0	0 0 0 0 0 GIT1 0 1 0	0 0 0 0 ERH H 0 0 0	0 0 0 0 IRH4 C 1 0 0	0 0 0 0 ALM1 1 1 1 1	0 0 0 0	0 0 0 0 IGF1	0 0 0 0 0 LR KPN 0 0 0	0 0 0 0 0 0 141 HII	0 0 0 0 0 PK3 SNX2 1 0 1 0 0 0	0 0 0 0
## ## ## ## ## ##	5 6 1 2 3 4 5 6	1 0 0 SMN2 WN 0 0 0 0	1 1 1 1 1 1 1 1 1 0 0 0 0 0	0 0 0 0 0 NF1A 1 0 0 0	1 1 1 1 1 1 1 0 0 0 0 0	0 0 0 0 0 GIT1 0 1 0	0 0 0 0 ERH H 0 0 0	0 0 0 0 IRH4 C 1 0 0 1	0 0 0 0 ALM1 1 1 1 1 1	0 0 0 0	0 0 0 0 IGF1	0 0 0 0 0 1R KPN 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 PK3 SNX2 1 0 1 0 1 0 1 0	0 0 0 0
## ## ## ## ## ##	5 6 1 2 3 4 5 6	1 0 0 SMN2 WN 0 0 0 0 0 0 CFAP206	1 1 1 1 1 1 1 1 1 3 3 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 NF1A 1 0 0 0 0 0	1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 RC RUN	0 0 0 0 GIT1 0 1 1 0 1 1	0 0 0 0 ERH H 0 0 0 0	0 0 0 0 IRH4 C 1 0 0 1 0 0	0 0 0 0 ALM1 1 1 1 1 1 1 EIF3D	0 0 0 0 0 TDG	0 0 0 0 IGF1	0 0 0 0 0 1R KPN 0 0 0 0 0	0 0 0 0 0 1A1 HI 0 0 0 0 0 0	0 0 0 0 0 PK3 SNX2 1 0 1 0 1 0 1 0 1 0	0 0 0 0 0
## ## ## ## ## ##	5 6 1 2 3 4 5 6	1 0 0 SMN2 WN 0 0 0 0 0 0 CFAP206	1 1 1 1 1 1 1 1 1 3 4 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 NF1A I 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 1 ERBIN 1 0 0 0 0 0 0 RC RUN 0	0 0 0 0 GIT1 0 1 0 1 1 0 X2 RF	0 0 0 0 ERH H 0 0 0 0 0	0 0 0 0 IRH4 C 1 0 0 1 0 0 0 F2S2	0 0 0 0 ALM1 1 1 1 1 1 1 EIF3D	0 0 0 0 0 TDG	0 0 0 0 IGF1 FYN 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 1A1 HII 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 PK3 SNX2 1 0 1 0 1 0 1 0 MY06 WAS	0 0 0 0 0
## ## ## ## ## ## ##	5 6 1 2 3 4 5 6	1 0 0 SMN2 WN 0 0 0 0 0 0 CFAP206	1 1 1 1 1 1 1 1 3 4 0 0 0 0 0 0 0 0 0 0 S SNRN	0 0 0 0 NF1A 1 0 0 0 0 0	1 1 1 1 1 ERBIN 1 0 0 0 0 0 CRC RUN 0 0	0 0 0 0 GIT1 0 1 1 0 1 1	0 0 0 0 ERH H 0 0 0 0	0 0 0 0 IRH4 C 1 0 0 1 0 0	0 0 0 0 ALM1 1 1 1 1 1 1 EIF3D	0 0 0 0 0 TDG	0 0 0 0 IGF1 FYN 0	0 0 0 0 0 1R KPN 0 0 0 0 0	0 0 0 0 0 1A1 HI 0 0 0 0 0 0	0 0 0 0 0 PK3 SNX2 1 0 1 0 1 0 1 0 1 0	0 0 0 0 0
## ## ## ## ## ##	5 6 1 2 3 4 5 6 1 2 3	1 0 0 SMN2 WN 0 0 0 0 0 0 CFAP206	1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 NF1A I 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 1 ERBIN 1 0 0 0 0 0 0 RC RUN 0	0 0 0 0 GIT1 0 1 0 1 1 0 0 X2 RF	0 0 0 0 ERH H 0 0 0 0 0 0 0 RAD EI	0 0 0 0 IRH4 C 1 0 0 0 1 0 0 0 F2S2 0	0 0 0 0 ALM1 1 1 1 1 1 1 1 EIF3D 0	0 0 0 0 0 TDG 0	0 0 0 0 IGF1 FYN 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 1A1 HII 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 PK3 SNX2 1 0 1 0 1 0 1 0 1 0 MY06 WAS 1 0	0 0 0 0 0 0
## ## ## ## ## ## ##	5 6 1 2 3 4 5 6 1 2 3 4	1 0 0 SMN2 WN 0 0 0 0 0 CFAP206	1 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 NF1A 1 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 1 ERBIN 1 0 0 0 0 0 0 RC RUN 0 0 0 0 0	0 0 0 0 GIT1 0 1 1 0 1 1 0 X2 RF	0 0 0 0 ERH H 0 0 0 0 0 0 0 RAD EI	0 0 0 0 IRH4 C 1 0 0 1 0 0 0 F2S2 0 0	0 0 0 0 ALM1 1 1 1 1 1 1 1 EIF3D 0 0	0 0 0 0 0 TDG 0	0 0 0 0 IGF1 FYN 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 1A1 HII 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 PK3 SNX2 1 0 1 0 1 0 1 0 1 0 MY06 WAS 1 0	0 0 0 0 0 0
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## ## ## ## ## ## ## ## ## ## ## ## ##	5 6 1 2 3 4 5 6 1 2 3 4 5 6 1 2	1 0 0 0 SMN2 WN 0 0 0 0 0 0 CFAP206	1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 1 1 1	0 0 0 0 GIT1 0 1 1 0 X2 RF 1 0 0 1 1 1 1 ANXA2	0 0 0 0 0 ERH H 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 IRH4 C 1 0 0 0 1 0 0 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 1 0 0 0 0 1 0 0 0 0 1 0 0 0 1 0 0 0 0 1 0 0 0 0 0 1 0	0 0 0 0 ALM1 1 1 1 1 1 1 1 1 EIF3D 0 0 0 0 0 1 NCO	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 IGF1 0 0 0 0 0 0 0 0 0 0 8P1 F	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 T-C01

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    AP2A1 TBL1X TOE1 RPP14 TNFRSF11A CTBP1 GBP2 ICMT PICK1 PIK3R1 MAP1A CRK TERT
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## EEF1A1 PFN2 PDGFRA SYNJ1 TGFB1 PIAS1 YAP1 DST ZNF24 MYB FAS GRB10 CCR5
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## ARHGAP1 NUMBL TNIP1 BAG6 HGS EIF4A2 CDC16 MDFI GADD45G WDCP CD79B UPF3B GHR
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## PIK3CD PRPF40A PSEN1 PML MAPT LPXN CALM2 CFLAR DUSP4 LSM1 SOCS6 SCARB1 F13A1
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## CRHR2 MRPL44 OSGEP SET RASA3 MAPK8IP2 ATXN3 MAP2K2 MY06 MAP3K3 DES GMEB2 MC3R
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## ADAM10 NRXN1 FLNA POLR2M BEGAIN CREBBP SMAD4 ERBB3 ZNF579 GPRASP1 RALGDS CD44
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## HAX1 BCL2 PDGFRA SETDB1 PRDX1 PTPRD PIK3R1 P2RY2 TNIP1 NGFR CPSF1 NRF1 ZNF184
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## TRAF6 IL2RB CBL RPS6KA6 ATF7IP2 ASAP1 BCL6 RGS19 ACTA1 SNW1 TRAF2 BTBD2
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     S100A1 CSTF2 NAT9 PMEPA1 RNF11 ARL4D NDUFS2 CRMP1 TK1 PXN NR3C1 MAPK6 RGS1
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     CBL DAPK1 PLK1 EIF6 PFN2 PTPN6 AKT1 MYO16 PRKAR1A GRIN2D MMP14 AP2B1 LRP2
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## ANTKMT TNFRSF8 GRM3 BLK JUNB UBB NAPA FGF7 HSPA8 TOB1 FHL2 TTR NGFR FHL2 SGTA
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## ACTA1 ACKR2 POU3F4 TAB1 AKT1 PPARA SMN1 NA DHX16 MY05A SUV39H1 PRNP EPB41L2
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## TAB2 ABHD16A MAGEA1 CEP126 POU2F1 FOXO4 FANCA PDPK1 RFC1 REPS2 SQSTM1 PTPN2
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## MRPS12 GDA ESR1 LPA RPS19 HSPA4 TCF3 LRP1B VIM NADK GPS2 ANXA11 GNAZ BMP3
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     TSC2 XRCC5 STAT3 CCDC85B DDR2 A2M TGFBR1 PSMC2 HCRT CDK1 NOTCH2 XPO1 SPINK7
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## LSM8 IFNAR2 PPP1R9A CASP8 PACSIN3 PTPN11 A2M TK1 ID2 ACACA PRKAR1A LCK ELANE
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## PFN2 UBE2A PXN MAPK6 C8orf33 STAMBP TP53 CCDC85B TMSB4X RPA2 AXL RBMX DNAJA1
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## PDGFRA GRIK1 WAS KITLG TGFBR3 CASP6 HOXB1 NCOR2 PLCG1 EPHA2 ID1 PVR PXN PHC1
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## GNAO1 SNW1 MAG UBE2W ARHGEF11 MERTK BLNK NPR3 PIK3R1 SH3GL2 AKT1 CARD11
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##		PTPN11	RAPGE				3S2 F		CPE				USP54	BMPI		CREBBP
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##	3	0		0 0	_		0	0	0		0	1	1		0	1
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##	1		BL1 GF		22D1 R		JBE4B	RTN4			EFEMP					PTPN6
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##	6	0	1	C	0	1		1	0		1	0	1	0	1	0
##		GSTP1	ASF1A	TAL1 L	RP5 RR	AS2 F	PHAX '	TRAF2	2 YW	HAB 1	NCK2	PDGFRI	3 TP53	PIK	3R1	ELANE
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##		CDKN1A	BANP	HOXC8	ARF6 Y	WHAG	MED1	4 SNO	CA F	AM10'	7A SY	T5 ZNI	7579 G	RB2 (	CDC3	7 CCL8
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##		TNFRSF	21 TNF	RSF11A	HTT E	РНАЗ	SHC1	GTF2	2B M	AP2K	4 TAS	P1 PC	GF2 CR	EM DO	CN C	REBBP
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## VDR CSF1R CTNND1 CD93 PLCG2 F0X01 DX0 GSN PLCG1 RBP1 PDE6D NEK2 RAE1 VPS33B
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## PRKAR2A PLPP2 MATK MAP1LC3B BTK NROB2 CDK5RAP2 SPEF1 RPGR ABL1 CBL NCOA1
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## FBX028 COL1A2 MAPK1 HSPA8 ARRB2 MED8 BUB1 FXR2 ARHGEF1 PTPN6 PHF10 ESR1
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## ADAMTS10 HLA-E TIE1 AP2A1 KRT5 SNIP1 CAMK2A TP53 TBP HDAC11 CALM3 XIAP TRAF1
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## PPP2R1A BCR RPLP1 TTF2 HIF1AN ACTN2 TAC3 SIN3A CSNK1A1 TK1 ATXN1 CD55 NTRK1
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## 6
## TRAK2 DLX5 POU2F1 ADORA2A CEP55 TTR CDK16 PLAUR TRIM23 DCN DDX3X IRAK1 UFD1
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##		ZNF8 1	RGS2	RAP	1A H	NRNPM	ZBTB	17	STK39	NR3C	:1 B2	2M R	AC1	ITPR	1 FU	S TG	FBR	1 ZN	F76	64	
##	1	1	1		1	0		0	C		1	1	1		1	1		С		0	
##	2	1	1		1	0		0	C	)	0	1	0		1	0	(	С		0	
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##	4	1	1		1	0		0	C	)	1	1	0		1	1	(	С		1	
##	5	1	1		1	0		0	C	)	1	1	0		1	1	(	С		1	
##	6	1	1		1	0		0	C	)	0	1	1		1	1	(	С		0	
##		NFKBI	A NCK	1 T	RAF6	COG2	CXCR	4 (	CDH1 N	IOTCH2	NLA	STA	U1 S	SYT2	IRS2	KRT	1 H	SPA5	C7	TNNB	1
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##	6		0	0	0	0		1	0		1		0	1	1		0	0			0
##		PKNOX			DEFB		CUL5	CI	C42 C					RKACA			FAH		TF		
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##		ESR1	ARHGA	P1	AFP	C1QA	CEBPG	RM	IND5B	CACYE	P PI	RKCA	RAI	P1A M	IAPK6	FN1	EL	OF1	MAF	PK1	
##	1	1		0	0	1	0		1		0	0		0	0	0		1		1	
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##		CCND1																	ZFF		
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## LILRB2 EPHA4 MAP2K4 STIP1 AXIN1 STAT3 RBPMS HINFP CADM1 MDFI SP3 TAP1 NFKBIB
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     CTTN LAT DDR1 PSMD11 APP CSNK1E IL1RL1 PKNOX1 ZNF598 RPS6KA3 IFNG STRN4 KIT
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##
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## ZBTB16 CCNA2 RPS6KA1 RELA STX3 ANXA1 TMSB4X ITGB4 MAPK8IP3 PAK1 NDUFB9 LCK
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## PARD6A TRAF6 PDGFRA RALA LUC7L2 CAST GRB2 MAP4 CD247 TLE5 BTK TDG MAPK9 SMN1
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## UNC119 PRKDC LSM7 BACE1 SUPT4H1 RBL1 SIAH2 GNG13 ITGA8 UBE2I GLRX EYA2 HDAC1
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## EP300 NFIC RXRG WWTR1 PDCD6 HLA-F DLG1 TOX4 CDKN2A YWHAZ ACTC1 KIF4A RPS27A
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## PHB GNA13 PTPN6 ITGB1 FZD5 FAM107A LILRB2 PHYH ATN1 STK11 YAE1 PTPRA PDZK1
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     TRIP6 FEZ1 FZD6 PTMA RHOXF2 EIF3E PSEN2 HEXD SLC18A2 SWAP70 MUC7 CRKL
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## FOXG1 ACVR2B TACR1 SMARCA2 UBQLN4 COIL CXCR4 DLG1 PHC1 SIRT2 FGFR3 POU2F1
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## C1QTNF1 PXN TLR5 AKT1 IGF2R PLCB2 YWHAG PIM2 PFDN1 TLR3 FANCD2 PPARA GIT1
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    AURKA ERBB3 SMAD2 HUWE1 POLR2A BAD TNK2 XPO1 ODC1 ANKS1A RUNX3 AKT1 SPTAN1
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     MYOC GRK5 TRAF3IP2 KLC1 BAG6 EXOC7 EZH2 ZNF76 ARHGAP1 IER3IP1 ASB13 PDCD6IP
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## RACK1 GNAI1 MBP CEP76 COPS6 BIRC5 AKAP13 EHMT2 RPL5 YWHAZ ELANE NUAK1 CUL9
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## MCM10 FASLG GABARAPL1 TGFBR1 UBE2G2 EMSY GRIN2D E2F6 NOTCH3 HBP1 SH3BP1
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## RABAC1 KNG1 MAPK14 GAB3 TNNT1 CASP3 UNC119 RAMP3 TCOF1 PMF1 YWHAG MOB4 FCGR2B
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## PRKCA FLI1 TYK2 PLSCR1 SRC ITGB1 TRAK1 LAMA4 ERBIN CBX1 HNRNPL CNKSR1 TERF1
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## CAP1 H2AX ZBTB16 RASSF1 TUBB4A ESR1 PNRC2 PRMT2 CRKL RPS27 SLC9A3 EXOSC10
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## ETS1 CBX2 CSK CREBBP EIF2AK2 MAPK8 GRIA4 GATA2 DLG4 NCK1 SHC1 LRRC7 EEF1A1
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## IFITM1 FTL RNF19A COPS6 GOPC XAB2 PLEC SCIN BCL3 CSF3R UBE2D4 SSRP1 NAGK
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## NUP98 IL2 MAP3K20 MAPK9 APEH PLSCR1 YWHAE SMN1 CASP1 GORASP1 PML ATXN1 PBX3
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    BCR NRXN1 BTK LRP1 PLXNB2 MAPT KNG1 RXRG DLG4 APOA1 KARS1 BMPR1B CCNE1 DPYSL5
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     JAK2 PRKCA EPB41 UTRN BUB1B PRKAR1A CREBBP ENO2 MAPK14 TNFRSF1B PRG2 GAST
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## RPS6KA6 TP53 PRKCD XRCC6 ID2 NECAB2 GPRASP1 PABPN1 CAV1 BRCA1 E2F1 EP300
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## PRAG1 PAK1 PIN1 NAPA NTRK1 LYN RB1 BID RAC2 SMAD4 MYOD1 NTAQ1 MAPK1 SERPINA4
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## TSPO RAC1 KLHL23 LYN DUSP13 ACTG1 TTR UNC13D GRB2 ESR1 PPP5C EFNA1 EGLN2
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## POLA2 DVL2 CCDC106 GAB1 CEBPZ JUN CFL2 TRPM7 C3 SPRR2D KIT ITGA7 VCL SOCS3
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## UPF2 PRKCA GNAZ RFC1 RPA1 PNMA1 JUN RUNX1 METTL23 DLG2 CDK5 GRB2 BTBD2 CNTFR
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## GMNN TSG101 SSRP1 BIN1 RTN4 ENKD1 CALM1 INPP4A SP1 PSMC2 ESR1 MED17 HTT SHB
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##		NUP62	RNF2	CAP1	FOS	TNNT	1 CD	K1	SUV	39H1	CD	C25B	MY	OD1	KRT15	LIN7E	B ETHE	E1 FL	NA
##	1	1	1	0	0	(	)	0		0		0		0	0	(	)	0	0
##	2	1	1	0	0	(	)	1		0		0		0	0	(	)	0	0
##	3	1	0	0	0	(	)	0		0		0		0	0	(	)	0	0
##	4	1	1	0	0	(	)	1		0		0		0	0	(	)	0	0
##	5	1	0	0	0	(	)	1		0		0		0	0	(	)	0	0
##	6	1	0	0	0	(	)	1		0		0		0	0	(	)	0	0
##		ACAP1	NEFM	TGFBR	1 KL	C2 KI	RT81	MA	APK8	CBL	S	OX10	MA	РКЗ	LSM1	VDAC1	PPM1	CD8	A
##	1	0	1	(	C	0	1		0	(	)	1		1	1	0	(	)	1
##	2	0	1	(	C	0	1		0	(	)	1		1	0	0	(	)	0
##	3	0	1	(	)	0	0	)	0	(	)	1		0	0	0	(	)	0
##	4	0	1	(	)	0	1		0	(	)	1		1	1	0	(	)	0
##	5	0	1		1	0	1		0	(	)	1		1	1	0	(	)	0
##	6	0	1	(	)	0	0	)	0	(	)	1		0	1	0	(	)	0
##		CAMK2E	B MAPK	6 CAC	NA1A	SOS	l GS	КЗЕ	B EPF	HA2 I	BL	N2 RA	AB1	1FIP	2 SPT	BN2 FO	GF17 (	CSNK2	A1
##	1	(	)	1	0	(	)	1	L	0		0			0	1	0		0
##	2	(	)	1	0		1	1	L	1		0			0	1	0		0
##	3	(	)	0	0	(	)	(	)	0		0			0	0	0		0
##	4	(	)	1	0	(	)	1	L	1		0			0	1	0		0
##	5	(	)	1	0	(	)	1	L	1		0			0	1	0		0
##	6	(	)	1	0	(	)	(	)	0		0			0	1	0		0
##		RNF11	SIL1	SMURF:	2 TP	53 E	SR1	ITO	3A9 (	CCNT1	L L	GALS	3 F	CSK5	EGR2	MVP N	1AGEA:	l1 MS	T1R
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##	3	0	0		)	0	1		0	(			)	0	_	0		1	0
##	4	1	0		)	0	1		1	1			)	1	_	0		1	0
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##		CASP8	NUP62	RNF1			ΓRDM		APP	GHRI		RAPP(		GRID	2 PLA			STAT2	
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##	3	1	0		)	1		0	1	(			0		0	0	0	0	
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##		1 ARHGAF			1 DDKC		Z1 N	0 d t		ONEO 1		ттсц	0		0 TDD1//	0 DI C4	0	0	
##		ANNGAR	0	veri . 1		1	0	LNF	0	NIV Z .	1	0	no	016	0		1	0	
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##			0	1		1	0		0		0	0		1	0	1	1	0	
##			0	0		0	0		0		0	0		0	0	1	1	0	
		UBE2D3						CCI		2 <b>A</b> 2 G Z			ΔΕ						
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## BCL2L1 LAMTOR5 MAPT MTNR1A SLC22A5 RPH3A CDC27 RBBP4 KIT BIRC2 KIF1B OBSCN
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## MED14 HNF4A RELA CSNK2B S100A13 FGFR1 CDK2 GNAQ CSAD BTRC KEAP1 TAF7 HEXD
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## KLRC3 DMD PRKDC CALM1 PRSS23 HNRNPK SMAD1 BRCA1 PLEKHJ1 GRIN1 EEF1G DUSP4
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## UBQLN4 CEBPB EEF1D DNM1L PSEN1 UBB ELANE STK11 ERCC5 LNX1 METTL17 RELA
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## SLC35F6 CALM2 RGS2 MPDZ CHMP2B RUNX1T1 EWSR1 MAPK6 KLF6 FZD8 YWHAH BATF ERBB2
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## MCM2 NUAK1 FCGR1A ZBED1 TPM3 FEZ1 PIN1 MAP3K7 STAT3 CSNK2B KAT5 XPNPEP1 CCL2
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    CDK4 SERPINE1 JUN LCK CDK4 TAF11 RPL13 MDFI EYA1 LCP2 PRKAR1B HSP90AA1
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##		PRPF40	λ GT	r1 RTRI	<b>1 ΔΤΡ</b> ΄	DR1 71	IF227	RFT	FIIRP1	NFΔT	rco Fi	JSR1	IIBUI I	N4 CFLA	R MFI	NA RMX	7
##	1	11111111	0	1	0	0	1	1	1		0	0	ידאטרי	0	0	0 1	
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##	3		0	0	0	0	0	1	1		0	0		0	0	0 1	L
##	4		0	1	0	0	0	1	1		0	0		0	0	0 1	L
##	5		0	0	0	0	0	1	1		0	0		0	0	0 1	L
##	6		0	1	0	0	0	1	1		0	0		0	0	0 1	L
##		VAV1 I	PNMA1	USP4 (	CREBBP	HABP4	PTPN	V11 T	P53 P	TPN6	NXF1	CSP	G4 UB	B EEF1A	1 RBI	3P8	
##	1	1	0	1	1	(	)	0	0	0	0		0	1	0	0	
##	2	1	0	1	1	(	)	0	0	0	0		0	1	0	0	
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## ## ## ## ## ##	2 3 4 5 6	1 0 0 0 0 0 SYNE1	PRSS2	23 DCP2 0 0 0 0 0 0 0 0 0 0 0 0 KNG1	2 ACTG: 0 (0) 0 (0) 0 (0) 0 (0) 0 (0) 0 (0) 0 (1) 0 (1) 0 (1) 0 (1)	RARA  CONTRACTOR  CONTRACTOR	BAG4 ) 1 ) 1 ) 1 ) 1 ) 1 ) 1 PS6KB1	SNT	B1 RA 0 0 0 0 0 0 0 0 0 RA PI	0 1 0 1 1 1 TX2	PTK2 1 0 0 1 1	STXI	BP2 TI 1 1 0 1 1 1 5PA1A	K1 BAIA 1 1 1 1 1 1 FBN1 F	0 0 0 0 0 0 0	ABPC1 0 0 0 0 0	
## ## ## ## ## ##	2 3 4 5 6	1 0 0 0 0 0 0 SYNE1	PRSS2	23 DCP2 0 0 0 0 0 0 0 0 0 0 0 0 KNG1	2 ACTG: 0 (0) 0 (0) 0 (0) 0 (0) 0 (0) 1TGA2 I	RARA  () (	BAG4  1  1  1  1  1  1  1  1  1  1  1  1  1	SNT	B1 RA 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 1 1 1 TX2 7	PTK2 1 0 0 1 1	STXI	BP2 TI  1 0 1 1 1 SPA1A 0	K1 BAIA 1 1 1 1 1 1 FBN1 E	0 0 0 0 0 0 0 CCH1 1	ABPC1 0 0 0 0 0	
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     JAK2 HDAC9 IL1RAP TNFRSF11A KDR ITPR1 APOA1 PTK2 CCDC33 WASF2 A2M FUS PRKCG
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## CD93 LILRB1 DLG4 TADA3 PAPPA TAF4 TNFRSF25 ACVR1B HDAC1 PTPN6 PDE3B PTGES3
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## MMP7 CRKL BAG6 DLG1 CENPJ ARHGEF12 PLAUR PRKDC ATF2 TUBB CPNE4 IRAK1 C6orf47
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## AURKB SELPLG MYB CACNA1B NA APOA1 ITGB4 MAG YWHAG FGG CHAF1B YWHAQ COL4A2
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## EPHB2 ADAM17 SRC ESR2 AATF VIM DTX2 PPARD INHBB PDCD6 CASP3 CDKN1A NFYA
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     TPD52 HRG EED SULT1E1 MEP1A SIAH1 ACVR2B RGS2 ZC2HC1C RAF1 CNOT8 PPP1R14A LAT
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     FAM107A REN SMN2 GTF3C1 RPS27A NR2C2 FMR1 PIK3R1 YWHAZ RBPMS DYNLL1 TMEM161A
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     NPPC GTF2I PRKG1 TRAFD1 GADD45A YJU2B PGR NUDT21 ARAP1 YBX1 RXRB TUBA4A BRCA1
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     LRIF1 STAT2 PRKAR2A BMPR1B EPAS1 ST3GAL3 RGS2 MAP3K14 BMPR1B ERBB4 PRKG1
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## HDAC1 ATF1 CTSD ADCY6 CD14 POLD2 SDC2 SNCA ATN1 MSX2 RASSF1 STAT3 STX1A PAX6
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## CREBBP SYN1 CSF3R A2M EIF4E PRKCA COL3A1 GRB2 VIM RPP14 GFAP EP300 FABP4 RNF7
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## IMMT DDR1 UBXN1 SH2B3 DOK1 CEBPA MAPK1 AQP1 CASP3 ESRRA PTPRN CARD11 PRR13
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## VAV3 NR1H2 SECISBP2 BARD1 CALD1 MED28 SETDB1 PLEC NPM1 C3 TPPP MRTFA COPS5
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## GNAS PHC1 RAPGEF4 RHOA TCOF1 SRC NR2F2 EEF1A1 FBXW11 PNP STC2 MT-ND4 SOX5
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## PRMT2 TGFBR1 TFDP1 CCL14 BBS4 TK1 NCK2 GIPC1 CHPF MYD88 UNC119 NCOA6 CCR4
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## 2
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## 3
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## 4
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## 5
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## 6
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## NAP1L5 LARP1 GUSBP14 PARD6B CD93 SH3GL3 AGTRAP SUM01 MED6 IRAK1 MAPK1 PPIA
                                      0
## 1
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## 2
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## 3
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## 6  0  0  1  1  0  1  0  0  0  1
## TRA2B RAE1 SNRNP200 CD4 ANKRA2 GABPB1 TFG ITGB2 EFEMP2 TRAF2 PLD2 PRNP MYD88
      0 0 0
                          0 1
                                     1
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                                                              0
## 2
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## 3
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## 4
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## 6
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## STAT3 SMURF1 MYLK YBX1 USP7 DOK4 VIM PRPS1 KRT8 SASH3 RPS6KA1 EDNRB TGFBR1
      0 0 1 0
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## 1
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## 3
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## 4
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## 5
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## 6
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## MAP3K7 JAK2 ATR RFC5 PDCD6IP ELANE GNG2 UBQLN1 ARRB2 SCTR HSPA1A PPFIBP2
## 1
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## 2
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## 3
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## 5
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## HAND2 JAM2 BMP7 NA MAD2L1 CUL1 MED8 FAF1 CALCOCO2 TFG ACVR1 GNB5 NR3C1 SPARC
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## 1
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## PLSCR1 CHRM2 IGF1R KAT2B SMC1A ITK TANK TOB1 NCK1 MMP2 STAT3 IPO11 MAPK1 LCK
## 1
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## 2
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## 3
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## 5
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## 6
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## BRF1 MAPK6 MCM10 C5AR1 NFKBIB GPC3 ATXN1 APC ITCH CHMP4B LSM2 TP53I3 FYN
## 1
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## 2
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## 4
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## GABPB1 GADD45G ATN1 PRKCZ CTNNB1 RETREG2 RANBP9 ANGPTL1 RBF0X2 SHC1 DNMT3L
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## 1
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## 2
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## 3
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## 6
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## CREBBP INSR SDCBP2 PRKCE HMOX2 TRAF3IP1 MPDZ NCOR2 ISL1 CREBBP SREK1 GDF9 FYN
                     0 1 0 0 0 0
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## 1
         0 0
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## 2
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## 3
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##	4	0	0		0	1	(	)		0	0		0	0		1		0	0	0
##	5	0	0		0	1	(	)		0	0		0	0		0		0	0	0
##	6	0	0		0	1	(	)		0	0		0	0		1		0	0	0
##		RGS2 D	YNLL2	GPRAS	SP2	MKNK1		Γ1 N	FKB1	CRM	P1 I	PTPN:	1 MY	F5 F	AS	MMP2		GRP	2	
##	1	0	0		0	(		0	0		1	(	)	0	1	0			0	
##	2	0	0		0	(		0	0		1		)	0	1	0			0	
##	3	0	0		0	(		0	0		1		)	0	1	0			0	
##	4	0	0		0	(		0	0		1		)	0	1	0			0	
##	5	0	0		0	(		0	0		0		)	0	1	0			0	
##	6	0	0	0 004	0	)		0	0	V NT 4 T	0		) )	0	1	0			o O	
##	1	EIF2S2	CASP				EDAMS	GRE		XN1L		R GNI O		MPR1		IAP2K			GDF9	
##	2	0			)	0	0		1	0		)	0		1 1		0	0	0	
##	3	0			)	0	0		1	0		)	0		1		0	0	0	
##	4	0			1	0	0		1	0		)	0		1		0	0	0	
##	5	0		-	1	0	0		1	0		)	0		1		0	0	0	
##	6	0			1	0	0		1	0		)	0		1		0	0	0	
##	Ū	-		-	PSM	-	rgax i	PTPN	_	-		AP2I	-	RCA1	_	S2 N		DC2	-	AD4
	1	0	0	0		0	0			0	0		0	0		1	0		0	1
##	2	0	0	0		0	1		0	0	0		0	0		1	0		0	0
##	3	0	0	0		0	0		0	0	0		0	0		1	0		0	0
##	4	0	0	0		0	1		0	0	0		0	0		1	0		0	1
##	5	0	0	0		0	0		0	0	0		0	0		1	0		0	1
##	6	0	0	0		0	0		0	0	0		0	0		1	0		0	1
##		EGFR E	PHA2	LSM1	SIGI	LEC7	STAT3	PGR	PLC	G2 L	AMT	DR5 1	MACR	OH2A	1 N	IMI C	ENPU	SM	URF2	
##	1	0	1	0		0	0	C	)	0		0			0	1	C	)	0	
##	2	0	1	0		0	0	C	)	0		0			0	0	C	)	0	
##	3	0	1	0		0	0	C		0		0			0	0	C		0	
##	4	0	1	0		0	0	C		0		0			0	0	C		0	
##	5	0	1	0		0	0	C		0		0			0	0	C		0	
##	6	0	1	0	. A.	0	0	0		0	D 4 1	0	71.14 D.		0 D T T	0	C		0 ашаа	
##	4	MAP2K7	CALM					PRKC		NNB1			SWAP'		RIF		K5RA		CTSG	
##	1 2	0			)	0	1		0	0		0		0		1		0 1	1 1	
##	3	0			)	0	0		0	0		0		0		0		0	1	
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	5	0			)	0	1		0	0		0		0		0		1	1	
##		0			)	0	1		0	0		0		0		0		1	1	
		BAG1 R											MBP		1 A		GPRA			
##		1	1	0	0	(		0	0		0	1	0		1	0		1		0
##	2	1	0	0	0	(	)	0	0		1	0	0		0	0		1		0
##	3	1	0	0	0	(	)	0	0		0	0	0		0	0		1		0
##	4	1	1	0	0	(	)	0	0		0	1	0		0	0		1		0
##	5	1	1	0	0	(	)	0	0		0	1	0		0	0		1		0
##		1	1	0	0	(		0	0		0	1	0		0	0		1		0
		PIAS1			3P1		STAT		PS3A	SLC		FBLI			PTF	PRF C		SRS		P53
##		1		0	0	1		1	0		0		1	0		0	1		0	0
##		1		0	0	1		0	1		0		0	0		0	0		0	0
##		0		0	0	0		0	0		0		0	0		0	0		0	0
##		1		0	0	1		0	0		0		1	0		0	0		0	0
##		1		0	0	1		1	0		0		1	0		0	0		0	0
##		0 DVM VCI		0 7D7 B	0	1	72D 04	0 3DC1	0 4 DE	<b>∧</b> 1⊏	0 CTTM(	ים פר	0	0 cvT	رة O	0 10761	0	TN14	0	0
##		PKM KCI					(3B C)										12 GH 0			
##	Т	T	U	U		U	T		U	U		U	U		U		U	U		1

	_						_									_	
##	2	1	0	1		0	0	(		0		0	0	0	0	0	0
##	3	0	0	1		0	1	(		0		0	0	0	0	0	0
##	4	1	0	1		0	1	(		0		0	0	0	0	0	0
##	5	1	0	1		0	1	(		0		0	0	1	0	0	0
##	6	1	0	1		0	1	(		0		0	0	1	0	0	0
##			XR2 RP		PNA2					TPKB		AP1GAI					B1
##	1	1	1	1	1		1 (	)	0	0			L	1	1	0	0
##	2	1	1	1	C	)	0 0	)	0	0			L	1	0	0	0
##	3	1	0	1	C	)	1 (	)	0	0		:	1	0	0	0	0
##	4	1	1	1	1		1 (	)	0	0		:	1	1	1	0	0
##	5	1	1	1	C	)	0 0	)	0	0		:	L	1	1	0	0
##	6	1	1	1	C	)	0 0	)	0	0			L	0	0	0	0
##		TNFSF	11 ASC	C2 RC	C1 X	RN1	PRKCE	HDAC	C4 SI	LC9A3	R2	CALR	BCAR1	HIPK	2 ESR	1 RNF4	ANXA7
##	1		0	0	0	0	0		1		0	0	0		0	1 1	0
##	2		0	0	0	0	0		1		0	0	0		0	0 0	0
##	3		0	0	0	0	0		1		0	0	0		0	0 0	0
##	4		0	0	0	0	0		1		0	0	0		0	0 0	0
##	5		0	0	0	0	0		1		0	0	0		0	0 1	0
##	6		0	0	0	0	0		1		0	0	0		0	0 0	0
##		TUBA4	A TFPI	2 CAL	M1 C	CNT1	STX4	MAP	(6 CC	)PB1	PRS	SS2 ZI	YVE9	RHOQ	TAF1	EEF1A1	SHPRH
##	1		1	0	0	0	1		0	1		1	1	0	0	1	1
##	2		0	0	0	0	1		0	1		0	0	0	0	1	1
##	3		0	0	0	0	1		0	1		0	0	0	0	1	0
##	4		0	0	0	0	1		0	1		0	1	0	0	1	1
##	5	(	0	0	0	0	1		0	1		0	1	0	0	1	1
##	6		0	0	0	0	1		0	1		0	1	0	0	1	1
##		PPP1C	A AR Z	AP70	AR S	PTAN	1 ATN1	GS7	ΓP1 F	PIK3R	1 F	RIPK2	MCM2	CSNK2	A1 PA	RD6A I	GSF1
##	1		0 1	0	0		1 0	)	0		1	1	0		0	0	0
##	2		0 1	0	0		1 0	)	0		1	1	0		0	0	0
##	3		0 0	0	1		1 0	)	0		1	0	0		0	0	0
##	4		0 1	0	0		1 1		0		1	1	0		0	0	0
##	5		0 1	0	0		1 1		0		1	1	0		0	0	1
##	6		0 0	0	1		1 1		0		1	1	0		0	0	0
##				KCTD1	3 CH	EK1 I	MAD1L1	POI	R1A	LYN	SLC		L PAX3	CHD3	MDM2	CDC42	CDX2
##	1	0	0		0	1	1		1	0			) 1	1	1	1	0
##	2	0	0		0	0	C		1	0			) 1	1		1	0
##	3	0	0		0	0	C		1	0			) 1	1		0	0
##		0	0		0	1	C	)	1	0		(	) 1	1	1	1	0
##		0	0		0	1	C		1	0		(					
##		0	0		0	1	C		1	0		(					
											K A					C6 REL	
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##		0					)	0	1		0	0	0		0		0
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##		1				0	0		1	0		0	1	1	0		0
##		0	0			0	0		1	0		0	1	1	0		0
##		1	0			0	0		L	0		0	1	1	0		0
##		1	0			0	0		1	1		1	1	1	0		0
##		1				0	0		1	0		0	1	1	1		0
πĦ	J	1	U	U		J	U	_	_	U		U	1	1	1	U	U

##		CHEK2	BCOR	EHMT2	NR3C2	ARHO	GAP21	VTN	RGS2	ARR	3 KCN	Q5 L	YN G	OPC	ABI1	QTRI	1 P	EX13
##	1	1	0	0	(	)	0	1	1	1	L	0	0	0	0		1	0
##	2	0	0	1	(	)	0	1	0	(	)	0	0	0	0		0	0
##	3	0	0	0	(	)	0	1	0	(	)	0	0	0	0		0	0
##	4	0	0	1	(	)	0	1	0	(	)	0	0	0	1		0	0
##	5	1	0	0	(	)	0	1	0	(	)	0	0	1	0		0	0
##	6	0	0	1	(	)	0	1	0	(	)	0	0	0	0		0	0
##					DK4 CO			RSF4	DNPE				CSNK		GPRAS		HEK	
##	1	0	0	1	0	1	0	0	(		0	0		0		0		0
##	2	0	0	0	1	1	0	0	(		0	0		0		0		0
##	3	0	0	0	1	0	0	0	(		0	0		0		0		0
##	4	0	0	1	1	1	0	0	(		0	0		0		0		0
##	5	0	0	0	1	1	0	1	(		0	0		0		0		0
##	6	0	0	0	1	1	0	0	(		0	0	D.4 . D	0		0	DD1/	0
##		SOX10	PHC1	PDGFR				KANSI				TGFB					PRK	
	1	0	0		0	0	0		0	0	1		0	1		0		0
##	2	0	0		0	0	0		0	0	1		0	(		0		0
##	3	0	0		0	0	0		0	0	0		0	1		0		0
##	4	0	0		0	0	0		0	0	1 1		0 1	1	=	0		0
##	5 6	0	0		0 0	0	0		0	0	1		1	(		0		0
##	O	CHMP40	•	12 HNR	-	-	DHX9	TEV	CHD3	-	I 2I DN	M1 III	ı BQLN			CE A	CVD	•
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## RGS7 PRSS23 GZMB SF1 AQP4 ITGB1 DAB1 ATP5IF1 ESR1 MYC BMP6 ODF1 IL18RAP OFD1
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##	6	0	1		0	1	0	0		0		1	0	1	0	:	1
##		SLC35E1	PTPN1	1 NTR	2 MAG	I3 RX	RA S	SALL1	STX1	1 I	PLSCR			VFRSF1	A CC	)G5 I	DLG1
##		C	)	0	1	0	1	1		0		0	0		0	0	0
##	2	C		0	0	0	1	1		0		0	0		0	0	1
##	3	C		0	0	0	1	1		0		0	0		0	0	0
	4	C		0	0	0	1	1		0		0	0		0	0	0
##	5	C		0 0	0	0	1	1 1		0		0 0	0		0 0	0	0
##	O	FGFR4 L		-	U RKCA F	-	_	_	AKAP1		CENPB	-	-		O BX1		0 A0408
##	1	1	0	0	0		)	1		0	0 0	10110		0	0	KIM	0
##	2	1	0	0	0		)	0		0	0			0	0		0
##	3	0	0	0	0		)	0		0	0			0	0		0
##	4	1	0	0	0	1	С	0		0	0	1	<u>L</u>	0	0		0
##	5	1	0	0	0	1	С	0		0	0	(	)	0	0		0
##	6	1	0	0	0	1	С	0		0	0	(	)	0	0		0
##		CAMK2A	NDN EE	F1G DU	JSP6 I	TGB4	PIP5	K1A	NUDT3	N	IF3L1	RAC	CK1 SS	STR3 H	SPBF	P1 PI	RKN
##	1	0	1	0	0	0		0	1		0		0	0		0	0
##	2	0	1	0	0	0		0	1		0		0	0		0	0
##	3	0	0	0	0	0		0	0		0		0	0		0	0
	4	0	1	0	0	0		0	0		0		0	0		0	0
##	5	0	1	0	0	1		0	0		0		0	0		0	0
##	О	0 RHEBI.1	0 TGFA Z	0 FPM2 ]	O RF7 H	0 SPA1A	חסם	0	0		0 COPS6	סטו	0 DXF2 ]	0 [TGB3 ]	PTK2	0 2B Pi	0 rn
	1	0	1 1	0	. n 17.n. 0	5FAIA 1	FRF	1 1		1	0.00	ппс	0	0	FINZ	2Б Г. О	0
##	2	0	1	0	0	1		1		1	0		0	1		0	0
##		0	1	0	0	1		1		0	0		0	0		0	0
##		0	1	0	0	1		1		1	0		0	0		0	0
##	5	0	1	0	0	1		1		1	0		0	1		0	0
##	6	0	1	0	0	1		1		1	0		0	0		0	0
##		PDGFRA	CFAP20	6 RNF2	DDX1	7 SIG	LEC1	.O HI	PK2 E	EA:	1 PDG	FRB	OLFM2	2 CD22	6 AC	TR2	SNTB2
##		0		0 (		1		0	0	(	0	0	(	)	0	0	0
##		0		0 (		0		0	0		0	0	(		0	0	0
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##		0		0 (		1		0	0		0	0	(		0	0	0
##		COPS6 N	IRIPI E	FEMP1 0	ACVR1		SLC	:U1A2 0		к г 1	MBD1 .	XPC 0	FXYD6		2 EE 0	GF1G O	DAT3
##		1	0	0	1			0		1	0	0			0	0	1
##		1	0	0	0			0		1	0	0			0	0	1
##		1	0	0	0			0		1	0	0	(		0	0	0
##		1	0	0	0			0		1	0	0	(		0	0	0

```
## 6 1 0 0 1 0 0 1 0 0 1
## BTRC INSR PDCD6IP CASP3 PRPF40A ITGA1 FXYD6 KRTAP4-12 SMURF1 EEF1B2 CCNE1
                 1
                      1
                                1
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## 2
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                   0
                                 1
                                       1
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            1
                         1
## 3
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## 4
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                   0
## 6
       0
            0
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                                                                   0
## SERPINH1 MED31 RFX6 CERT1 WWP1 CENPB NCOA3 SPRY2 LCK DUSP1 LRP1 SERPINE1 SIX1
## 1
           0
                0
                  0 0
                                0
                                     0
                                                     0
                                           1
                                                 0
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## 2
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                 0
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## 3
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## 4
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## 5
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## 6
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## HLA-DRB1 PLSCR1 FOS ATXN1 TNFRSF1A TLE1 IL2RB NGFR RAC1 APOH MSN PEA15 NSG2
## 1
           0
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                     0
                         0
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## 2
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## 3
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## 4
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## 5
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## BAG6 ATXN3 MAPRE3 GPRIN2 PDIA3 GNA13 STX1A SHC1 MAPK1 NACAD XRN1 EWSR1 TRAF3
          0
                   0
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                              0 0
                                           0 1 0
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## 1
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## 2
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## 3
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## 4
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## STAT6 ABI2 CALM3 BID ADAM17 F11R BMPR1B AKAP3 POU2F1 XRN1 RUNX1 SMAD3 NA DRD3
## 1
       0
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## 2
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## 3
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## 4
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                             1
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## 5
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## 6
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                                                               0
## CDH5 LCK SYK RBM48 CPE LDLR CASP8 SOX8 MAPK6 BCL3 TRPC4AP TIFA EGFR CD247
## 1
       Ω
           Λ
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                    1
                        0
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                                                                   Ω
## 2
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           0
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                    1
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## 3
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## 5
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## HDAC1 NUDT3 HLA-A CSNK2B RAC1 PAFAH1B3 RUNX2 LSM6 TAB2 FOXG1 SBF1 POLR2D
                   0
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## 1
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## 2
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## 3
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## 4
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## 5
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## 6
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                                                                 0
## RAB3A NCOA2 YWHAZ RPL8 ITPR3 GSK3B RAD23A EPS15 GRIN2D CASP2 B2M FZR1 ACTA1
                              0 0 0 0
                                                                  0
## 1
      0 1
                   0
                     1
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## 2
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## 3
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##	4	0		1	C	)	1	0	0		0		0		0	0	(	0	0		0
##	5	0		0	C	)	1	0	0		0		0	(	0	0	(	0	0		0
##	6	0		0	C	)	1	0	0		0		0		0	0	(	С	0		0
##		NXF1	RAB14	MTC	OR C	D72	PTK2	CSNK	2A2 M	EST	DNP	PEP H	ABP	4 PE.	A15	NAA	30 I	RAB1	3 D	USP2	23
##	1	0	C	)	1	0	0		0	0		0		0	0		0		0		0
##	2	0	C	)	0	0	0		0	0		0		0	0		0		0		0
##	3	0	C	)	0	0	0		0	0		0		0	0		0		0		0
##	4	0	C	)	0	0	0		0	0		0		0	0		0		0		0
##	5	0	C	)	0	0	0		0	0		0		0	0		0		0		0
##	6	0	C	)	0	0	0		0	0		0		0	0		0		0		0
##		ARHGA	P5 EF	300	STA	T3 S	SMAD1	NDUF.	A4L2	CASF	23 M	IAP3K	20	SDC3	CTB	P1 :	ΓFΑI	P2B	INS	RR F	AC1
##	1		0	0		0	0		0		0		1	1		0		1		0	1
##	2		0	0		0	0		0		0		0	1		0		1		0	1
##	3		0	0		0	0		0		0		0	0		0		1		0	1
##	4		0	0		0	0		0		0		0	1		0		1		0	1
##	5		0	0		0	0		0		0		1	1		0		1		0	0
##	6		0	0		0	0		0		0		0	1		0		1		0	0
##		•	SH3BF			TNNT			TRAF5	P4F				36RN	PRS		MU		UBA	52 E	
##		0		0	0		0	0	0		0	C		0		0		0		0	0
	2	0		0	0		0	0	0		0	C		0		0		0		0	0
	3	0		0	0		0	0	0		0	C		0		0		0		0	0
	4	0		0	0		0	0	0		0	C		0		0		0		0	0
##	5	0		0	0		0	0	0		0	C		0		0		0		0	0
##	ь	0	OTIL A	0 SMUF	0	VOI	0 MXT 12	0	0 MI E1	TD	0	TIZ 1		0 6V0C	TT 1/4	0	M IPI	0	CM	0	0
##	1	DGKD 0	STK4 0	SMOL	1F Z	VCL	MYLK O	SKP2 0	0	IRA	0	0	AIP	0000	TK1		M EN	WSR1 0	DIN	AP23	
	2	0	0		0	0	0	0	0		0	0		0	0		0	0			
	3	0	0		0	0	0	0	0		0	0		0	0		0	0		(	
	4	0	0		0	0	0	0	0		0	0		1	0		0	0			
##	5	0	0		0	0	0	0	0		0	0		1	0		0	0		(	
##	_	0	0		0	0	0	0	0		0	0		1	0		0	0		(	
##	Ŭ	SMAD2	-	26 (	CALM	-	•	AKT1S	-	רק נו	ΓPN2	_	-DM	_	-	TRA	-	MYLK	HN	F1A	
##	1	0	V	0		0	0			0	0			0	0		0	0		0	
##	2	0		0		0	0			0	0			0	0		0	0		0	
##	3	0		0		0	0		О С	0	0	)		0	0		0	0		0	
##	4	0		0		0	0	(	O C	0	0	)		0	0		0	0		0	
##	5	0		0		0	0	(	O (	0	0	)		0	0		0	0		0	
##	6	0		0		0	0	(	C C	0	0	)		0	0		0	0		0	
##		SRSF1	ING5	MAF	PK7	SMN	L NUD	Γ18 E	PHB2	ANGF	PT2	IL2R	ВТ	ERF2	IP E	P300	A C	ГР2В	1 R	AD18	3
##	1	0	C	)	0	(	)	0	0		0		0		0	(	С		0	C	)
##	2	0	C	)	0	(	)	0	0		0		0		0	(	С		0	C	)
##	3	0	C	)	0	(	)	0	0		0		0		0	(	С		0	C	)
##	4	0	C	)	0	(	)	0	0		0		0		0	(	С		0	C	)
##	-	0	C	)	0	(	)	0	0		0		0		0	(	0		0	C	)
##		0			0	(		0	0		0		0		0		0		0	C	)
##		NOMO1		TAI	LD01	YWI		BM39 1	MED19	PFI	ON1	RIPK	1 E	XOSC	10 L	IFR	CB	X1 A	PP	TBP	
##		0		)	C	)	0	0	0		0		0		0	0		0	0	0	
##	2	0	C	)	(	)	0	0	0		0		0		0	0		0	0	0	
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##		0			(		0	0	0		0		0		0	0		0	0	0	
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##		0			)		0	0	0	^	0	0 5-	0	a	0	0	- · · ·	0	0	0	
##		DLG3		CSF1																	
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## ##	3	0	0		0	0	0		0		0 0	0		0		0		0	0	0	
##	4	0	0		0	0	0		0		0	0		0		0		0	0	0	
##	5	0	0		0	0	0		1		0	1		0		0		0	0	0	
##	6	0	0		0	0	0		0		0	1		0		0		0	0	0	
##	•	-	PLCG1	MAC	-	-	-			2RB1	-		1AP4		GTF2E	-	V1 M	YOZ3			DK2
	1	1	0		0	0		0		0		0		0	(		0	(		0	0
##	2	1	0		0	0		0		0		0		0	C		0	(		0	0
##	3	0	0		0	0		0		0		0		0	C	)	0	(	)	0	0
##	4	1	0		0	0		0		0		0		0	(	)	0	(	)	0	0
##	5	0	0		0	0		0		0		0		0	(	)	0	(	)	0	0
##	6	1	0		0	0		0		0		0		0	C	)	0	(	)	0	0
##		CSNK2	A1 GR	IN1	AFDN	BEGA	IN	PLK4	PCI	DHA4	ER	BB3	NRI	P1	IFNGF	2 TGI	FBR1	SEI	E P	PP2F	R1A
##	1		0	0	0		0	0	)	0		0		0		0	C	)	0		0
##	2		0	0	0		0	0	)	0		0		0		0	C	)	0		0
##	3		0	0	0		0	0	)	0		0		0		0	C	)	0		0
##	4		0	0	0		0	0	)	0		0		0		0	C	)	0		0
##	5		0	0	0		0	0	)	0		0		0		0	C	)	0		0
##	6		0	0	0		0	0		0		0		0		0	C		0		0
##		RHOQ I	PRKAR	1A I	PAK1	LIMS1	PA		ANB	P2 M	XD1	DLC	34 F	CHS	D2 EX	OSC4	STX		(T1	HTR2	2C
##	1	0		1	0	C	)	0		0	0		0		1	0		0	1		0
##	2	0		1	0	C		0		0	0		0		0	0		0	0		0
##	3	0		1	0	C		0		0	0		0		0	0		0	0		0
##	4	0		1	0	C		0		0	0		0		0	0		0	0		0
##	5	0		1	0	C		0		0	0		0		0	0		0	1		0
##	6	0		1	0	0		0		0	0		0	D	0	0		0	0	. D.	0
##	_	MAPKBI				PIAS1		HGAP			TNN			PLA		NB2 U	JRÁT		RADE		RKCQ
	1		0	0	0	C			0	1		0	0		0	1		0		0	0
##	2		0	0	0	C			0	1 1		0	0		0	1		0		0	0
##	3		0	0	0	C			0	1		0	0		0	1 1		0		0	0
##	5		0	0	0	C			0	1		0	0		0	1		0		0	0
##	6		0	0	0	C			0	1		0	0		0	1		0		0	0
##	U	HNRNPA	-	-	ACVR2			6 NR	3C1	PHY	нтр	-	RK1	F11		_	NSR	TK1	EZR	. F2I	-
##	1	1111111111 1	0	0		0		0	0	1 1111	0		0	0		0	0	0	C		0
##	2		0	0		0		0	0		0		0	C		0	0	0	C		0
##	3		1	0		0		0	0		0		0	C		0	0	0	C		0
##	4		1	0		0		0	0		0		0	C	)	0	0	0	C	)	0
##	5		1	0		0		0	0		0		0	C	)	0	0	0	C	)	0
##	6		0	0		0		0	0		0		0	C	)	0	0	0	C	)	0
##		CAMSAF	P1 PR	KCZ	PSEN	2 ATF	6V1	E1 N	APA	MAC	F1 :	SUCI	LG2	TRF	C1 SE	RPINI	71 F	KP4	MAP	3K5	
##	1		0	0		0		0	0		0		0		0		0	0		1	
##	2		0	0		0		0	0		0		0		0		0	0		1	
##			0	0		0		0	0		0		0		0		0	0		1	
##			0	0		0		0	0		0		0		0		0	0		1	
##			0	0		0		0	0		0		0		0		0	0		1	
##			0	0		0		0	0		0		0		0		0	0		1	
		RASSF1	1 EPB						AR 1	NKX2				LV3			31 N	IRP1	MAP		
##			)	0	0		0	0	0		0	(		0	(		0	0		0	
##			)	0	0		0	0	0		0	(		0			0	0		0	
##		(	-	0	1		0	0	0		0	(		0	(		0	0		0	
##		(	-	0	0		0	0	0		0	(		0	(		0	0		0	
##		(	-	0	0		0	0	0		0	(		0	(		0	0		0	
##	О	(	)	0	0		0	0	0		0	(	,	0	C	,	0	0		0	

##		TAF15	SMAD3	ADRB2	HDAC	3 VI	M F	HHIP	TRPV6	INS	MAP	K9 S	SRC (	GABRE	R1 TY	/K2 [	XXA	HR.	AS	
##	1	0	0	0		0	0	0	0	0		0	1		0	0	0		0	
##	2	0	0	0		0	0	0	1			0	1		0	0	0		0	
##	3	0	0	0		0	0	0	0	0		0	0		0	0	0		0	
##	4	0	0	0		0	0	0	0	0		0	0		0	0	0		0	
##	5	0	0	0		0	0	0	0	0		0	1		0	0	0		0	
##	6	O PAAF1	0 MRTFB	0 RB1 T	K1 ER	0 G28	0 рмт	0 PR1B	0 FHL2	0 S100A	7 T	0 L18	1 RXRI	3 YWF	0 147 T	0 PTK2E	O NR:	ıπο	O MCM	ro
##	1	0	0	0	O VI EV	G20 1	DIII	0	0	SIUUH	0	01.1.		) )	0	71KZE		0		0
##	2	0	0	0	0	1		0	0		0	0		)	0			0		0
##	3	0	0	0	0	0		0	0		0	0		)	0	C		0		0
##	4	0	0	0	0	0		0	0		0	0		)	0	C		0		0
##	5	0	0	0	0	0		0	0		0	0	(	)	0	C	)	0		0
##	6	0	0	0	0	0		0	0		0	0	(	)	0	C	)	0		0
##		KRT7 k	KPNB1	ZNF205	EP30	O CA	NX	NA C	RMP1	ITGAL	. XR	CC6	CNNI	M3 S1	CTAT3	ACVE	R2B 1	IAP	(14	
##	1	0	0	0		0	0	0	0	C	)	0		0	0		0		0	
##	2	0	0	0		0	0	0	0	C	)	0		0	0		0		0	
##	3	0	0	0		0	0	0	0	C		0		0	0		0		0	
##	4	0	0	0		0	0	0	0	C		0		0	0		0		0	
##	5	0	0	0		0	0	0	0	C		0		0	0		0		0	
##	6	O CAMCAT	0	0 VI DDV		0 D DT	0 M:Tr	0 T NV 1	0 TOV4	C		0	MADI	0 22 EC	0	CDH2	0	י מי	0 - CIIM	r
##	1	CAMSAF	P3 RAS. O			0 0	EN.	LNX1		EGFR		TA1 O	MAPI		FR2 0	CDH2		ر کر 1	GHM O	_
##	2		0	0		0	0	C				0		0	0			1	0	
##	3		0	0		0	0	C		C		0		0	0			1	0	
##	4		0	0		0	0	C		C		0		0	0			1	0	
##	5		0	0		0	0	C		C		0		0	0	Ċ		1	0	
##	6		0	0	0	0	0	C	0	C	)	0		0	0	C	)	1	0	)
##		ARHGEF	7 GNA	11 PRO	S1 GA	DD45	A S	SRC I	GFBR1	MAGE	EB18	CAI	LM3 I	PIN1	ERG	SMAD	)5 F2	ZD8		
##	1		1	0	1		0	0	0		0	)	0	0	1		0	0		
##	2		1	0	0		0	0	1		0	)	0	0	1		0	0		
##	3		0	0	0		0	0	0		0		0	0	0		0	0		
##	4		1	0	0		0	0	0		0		0	0	0		0	0		
##	5		1	0	1		0	0	0		0		0	0	0		0	0		
## ##	6	MAGEA1	O L1 BAG:	O 2 CALR	0 PRKA	CA N	O ICM7	0 7 DAN	0 IBP10	MPP3	2DU	HC3	O SNAI	0 204 F	O EAF1	l IL3	0 86RN	0 EPS	115	
##	1	MAGLAI		2 CALI	FIMA	0	( (		0	0	וועם	1	SIVAI	0	) ( AI.		1	LIF	0	
##				0 0		0	(		0	0		1		0			1		0	
##				0 0		0		)	0	0		0		0		)	0		0	
##	4			0 0		0	(	)	0	0		1		0	(		0		0	
##	5		0	0 0		0	(	)	0	0		1		0	(	)	0		0	
##	6		0	0 0		0	(	)	0	0		0		0	(	)	0		0	
##		PPARG		KCNJ9	NF2 A	R GZ						KAR		ML PA	APPA	NUDT	21 /	ADRE	31	
##		0	0	0		0	0	C		0 0			0	0	0		0		1	
##		0	0	0		0	0	C		0 0			1	0	0		0		1	
##		0	0	0		0	0	C		0 0			0	0	0		0		0	
##		0	0	0		0	0	C		0 0			0	0	0		0		0	
##		0	0	0		0	0	C		0 0			0	0	0		0		0	
## ##		0 IPO5 H	0 IMBNDE	CDEO 0		O Crki	0 D/	0 1 RDC 1		0 0	,		0	0	0		0		0	
##		0	1NKNPF 0	GDF9 0	NCF 2	CKKL		ABPCI												
##		0	0	0	0	C		C												
##		0	0	0	0	C		C												
##		0	0	0	0	C		C												

```
## 5 0 0 0 0 0 0 0 ## 6 0 0 0 0 0 0
```

En la matriz PPI, clasificamos los 100 genes que mas se repiten, sumando la cantidad de veces que se repite cada Gen tanto en la columna Input-node Gene Symbolcomo en la columna Output-node Gene Symbol, se clasifican de manera descendente (de mayor a menor) y se toma el top 100 de muestras, esto se realiza con el codigo, estos genes seran los predictores de los modelos a implementar:

```
Agrupacion <- PPI %>% group_by(`Input-node Gene Symbol`) %>%
    summarise(NN = n()) %>%
    rename(`Gen`=`Input-node Gene Symbol`)

Agrupacion2 <- PPI %>% group_by(`Output-node Gene Symbol`) %>%
    summarise(NN = n()) %>%
    rename(`Gen`=`Output-node Gene Symbol`)

tabla_combinada <- bind_rows(Agrupacion, Agrupacion2) %>%
    group_by(`Gen`) %>%
    summarise(NN = sum(NN)) %>%
    summarise(NN = sum(NN)) %>%
    arrange(desc(NN)) %>%
    top_n(101, NN)
```

Posteriormente eliminamos de la Matriz que incluye pacientes con tumor y sin tumor, aquellos genes que no se encuentran incluidos en el top 100 de genes de la Matriz PPI, resultando la Matriz\_final con la que implementaremos nuestros modelos:

## head(Matriz Final) ## sample\_type TP53 CREBBP EP300 YWHAG SMAD3 GRB2 SRC AR ESR1 RB1 CSNK2A1 ## 1 Primary Tumor ## 2 Primary Tumor ## 3 Primary Tumor ## 4 Primary Tumor ## 5 Primary Tumor ## 6 Primary Tumor ## SMAD2 CDKN1A MAPK1 FYN HDAC1 PRKCA TK1 EGFR SMAD4 JUN CCDC85B MAPK6 GSK3B ## 1 ## 2 ## 3 ## 4 ## 5 ## PIK3R1 SMAD1 SHC1 TRAF2 YWHAZ CASP3 UBE2I SP1 VIM ATXN1 SMN1 UBQLN4 MAPK3 ## 1 ## ## 3 ## 4 ## 5 ## 6 YWHAB TBP BRCA1 RELA CTNNB1 ## PRKACA TGFBR1 CSNK2B CALM1 SETDB1 LYN RXRA LCK ## 1 ## 2 ## 3 ## 4 ## 5

0 1

## 6

##		EEF1A:	1 AKT	1 SMA	AD9	ANXA7	STAT3	PTPI	V11 N	ICOA1	PLC	G1 <i>I</i>	ACTB	MDFI	EWSR1	PTK2	RA	C1
##	1	(	)	0	1	1	1		1	0		1	1	0	1	0		1
##	2	(	)	0	1	1	1		0	0		0	0	0	1	0		1
##	3	(	)	0	1	1	1		0	0		0	0	0	1	0		1
##	4	(	)	0	1	1	1		1	0		0	1	0	1	0		1
##	5	:	1	0	1	1	1		0	0		0	0	0	1	0		1
##	6	(	)	0	1	1	1		0	0		0	0	0	1	0		1
##		NFKB1	NR3C	1 UNC	C119	ABL1	DLG4	ATN1	NCOF	R2 CD	K2 C	HD3	PRKC	D JAI	K2 MAPI	K14 T	LE1	
##	1	1		1	1	0	1	1		1	0	0		1	1	1	1	
##	2	1		0	0	0	1	0		0	0	0		1	1	0	1	
##	3	0		0	0	0	0	0		0	0	0		0	0	0	1	
##	4	1		1	1	0	1	0		1	0	0		1	1	1	1	
##	5	1		1	1	1	1	0		1	0	0		1	1	1	1	
##	6	0		1	1	0	1	0		0	0	0		1	0	1	1	
##		XRCC6	CBL	INSR	MYC	PTN 2	ZBTB16	HCK	KATE	5 VCL	CAV	1 R.A	AF1 S	TAT1	COPS6	KAT2	ВР	TPN6
## ##	1	XRCC6 0	CBL 1	INSR O	MYC 1	PTN Z	ZBTB16 1	HCK 0	KAT5			1 R <i>A</i> O	AF1 S 0	STAT1 O	COPS6 0	KAT2	ВР 1	TPN6 1
	_									0	(					KAT2		
##	2	0	1	0	1	0	1	0	C	0 0	(	0	0	0	0	KAT2	1	1
## ##	2	0	1	0	1 1	0 0	1	0	C	0 0	(	0	0	0	0	KAT2	1	1
## ## ##	2 3 4	0 0 0	1 0 0	0 1 0	1 1 0	0 0 0	1 0 0	0 1 0	C	0 0 0 0 0 0 0	(	0	0 0 0	0 0 0	0 0 0	KAT2	1 1 1	1
## ## ## ##	2 3 4 5	0 0 0 0	1 0 0 1	0 1 0 0	1 1 0 0	0 0 0	1 0 0 0	0 1 0 1	0	0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0	0 0 0	0 0 0	0 0 0	KAT2	1 1 1	1
## ## ## ##	2 3 4 5	0 0 0 0 0	1 0 0 1 1	0 1 0 0 0	1 1 0 0 0	0 0 0 0 0	1 0 0 0	0 1 0 1 1 0		0 0 0 0 0 0 0 0 0 0 0 0 0		000000000000000000000000000000000000000	0 0 0 0	0 0 0 0	0 0 0 0	KAT2	1 1 1 1	1 1 1 1
## ## ## ## ##	2 3 4 5 6	0 0 0 0 0	1 0 0 1 1	0 1 0 0 0	1 1 0 0 0	0 0 0 0 0	1 0 0 0 0 0 0	0 1 0 1 1 0		0 0 0 0 0 0 0 0 0 0 0 0 0	TRAF	000000000000000000000000000000000000000	0 0 0 0	0 0 0 0	0 0 0 0	KAT2	1 1 1 1	1 1 1 1
## ## ## ## ##	2 3 4 5 6	0 0 0 0 0 0 0 SKIL S	1 0 0 1 1 0 SRF M	0 1 0 0 0 0 0 APK8	1 0 0 0 0 0 PXN	0 0 0 0 0 0 0 ACTA1	1 0 0 0 0 0 0 1 NCOR:	0 1 0 1 1 0	0 0 0 0 0 0 0 PK1 F	0 0 0 0 0 0 0 0 0 0 0 0	TRAF	0 0 0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	KAT2	1 1 1 1	1 1 1 1
## ## ## ## ## ##	2 3 4 5 6	0 0 0 0 0 0 SKIL 3	1 0 0 1 1 0 SRF M	0 1 0 0 0 0 APK8 1	1 0 0 0 0 PXN 1	0 0 0 0 0 0 ACTA1	1 0 0 0 0 0 0 1 NCOR	0 1 0 1 1 0 1 PDI	0 0 0 0 0 0 0 PK1 F	0) 0 0) 0 0) 0 0) 0 0) 0 PIN1 0	TRAF	0 0 0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	KAT2	1 1 1 1	1 1 1 1
## ## ## ## ## ##	2 3 4 5 6 1 2 3	0 0 0 0 0 0 SKIL S	1 0 0 1 1 0 SRF M 1	0 1 0 0 0 0 0 APK8 1 1	1 1 0 0 0 0 PXN 1 1	0 0 0 0 0 0 ACTA1	1 0 0 0 0 0 0 1 NCOR.	0 1 0 1 1 0 1 PDI	C C C C C C C C C C T T T T	0) 0 0) 0 0) 0 0) 0 0) 0 PIN1 0	TRAF	0 0 0 0 0 0 0 6 1	0 0 0 0	0 0 0 0	0 0 0 0	KAT2	1 1 1 1	1 1 1 1
## ## ## ## ## ##	2 3 4 5 6 1 2 3 4 5	0 0 0 0 0 0 SKIL 3	1 0 0 1 1 0 SRF M 1 1	0 1 0 0 0 0 0 APK8 1 1	1 1 0 0 0 0 PXN 1 1 0	0 0 0 0 0 0 ACTA1	1 0 0 0 0 0 0 1 NCOR.	0 1 0 1 1 0 1 PDI 1	C C C C C C C C C C C C C C C C C C C	0 0 0 0 0 0 0 0 0 0 0 0 PIN1 0 0	TRAF	0 0 0 0 0 0 0 6 1	0 0 0 0	0 0 0 0	0 0 0 0	KAT2	1 1 1 1	1 1 1 1