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Research Article

Identification of significant pathways in gastric cancer based on protein-protein interaction networks and cluster analysis

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Abstract

Gastric cancer is one of the most common and lethal cancers worldwide. However, despite its clinical importance, the regulatory mechanisms involved in the aggressiveness of this cancer are still poorly understood. A better understanding of the biology, genetics and molecular mechanisms of gastric cancer would be useful in developing novel targeted approaches for treating this disease. In this study we used protein-protein interaction networks and cluster analysis to comprehensively investigate the cellular pathways involved in gastric cancer. A primary immunodeficiency pathway, focal adhesion, ECM-receptor interactions and the metabolism of xenobiotics by cytochrome P450 were identified as four important pathways associated with the progression of gastric cancer. The genes in these pathways, *e.g.*, ZAP70, IGLL1, CD79A, COL6A3, COL3A1, COL1A1, CYP2C18 and CYP2C9, may be considered as potential therapeutic targets for gastric cancer.

Key words: graph clustering, pathway crosstalk, protein-protein interaction network.

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Introduction

Gastric cancer is one of the most common malignancies worldwide (Lin *et al.*, 2007b). Surgical resection is the only effective treatment for this cancer, although current surgical therapeutic strategies are far from optimal and most patients are diagnosed with late-stage disease when surgical intervention is of limited use (D'Ugo *et al.*, 2009). Chemotherapy has been applied as a neoadjuvant treatment to improve the curative resection rate or to achieve long-term survival in patients with unresectable gastric cancer. The prognosis, however, is still unsatisfactory, with an overall five-year survival rate of 24% (Kanai *et al.*, 2003). Hence, there is an urgent need for new therapeutic strategies.

Recently, several molecular alterations involving various pathways have been implicated in the development and late-stage progression/metastasis of gastric cancer. For example, there is emerging evidence that the Wnt signaling pathway may contribute to gastric carcinogenesis by stimulating the migration and invasion of gastric cancer cells (Kurayoshi *et al.*, 2006). Persons with germ-line mutations in the APC tumor suppressor gene have a 10-fold increased risk of developing gastric cancer when compared with normal persons (Offerhaus *et al.*, 1992). β-catenin is frequently mutated in gastric cancer (Clements *et al.*, 2002). In addition, frizzled receptor E3 (FzE3) is over-expressed in 75% of gastric carcinoma tissues and secreted frizzled related protein (hsFRP) is down-regulated in 16%, suggesting that alterations in FzE3 and hsFRP expression are frequent in this pathology (To *et al.*, 2001). Activation of the hedgehog pathway is another important mechanism associated with aggressive gastric cancer. The sonic hedgehog (Shh) transcript is restricted to cancer tissue whereas Gli1 and human patched gene 1 (PTCH1) are expressed in cancer cells and the surrounding stroma. The treatment of gastric cancer cells with 3-keto-N-aminoethylaminocaproyldihydrocinnamoyl-cyclopamine, a hedgehog signaling inhibitor, decreases the expression of Gli1 and PTCH1 and results in cell growth inhibition and apoptosis (Ma *et al.*, 2005). The high recombinant Shh-induced migration and invasiveness of gastric cancer cells is mediated by tissue growth factor-beta (TGF-β) acting through the ALK5-Smad3 pathway (Yoo *et al.*, 2008). The expression of lysyl oxidase-like 2 (LOXL2), which can promote tumor cell invasion via the Src kinase/focal adhesion kinase (Src/FAK) pathway, is markedly increased in gastric cancer (Peng *et al.*, 2009). The loss of embryonic liver fodrin (ELF) can disrupt TGF-β-mediated signaling by interfering with the localization of Smad3 and Smad4 and leads to the development of gastric cancer (Kim *et al.*, 2006).

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An increased concentration of BMP-2 strongly enhances the motility and invasiveness in gastric cancer cells. The stimulation of BMP-2 in gastric cancer cells induces a full epithelial-mesenchymal transition (EMT) characterized by Snail induction, E-cadherin reorganization and the down-regulation and up-regulation of mesenchymal and invasiveness markers through the activation of phosphatidylinositol 3 (PI-3) kinase/Akt (Kang *et al.*, 2010). Cysteine-rich 61 (Cyr61) may contribute to the progression of gastric cancer by promoting tumor cell motility/invasion through the up-regulation of cyclooxygenase-2 (COX-2) in an integrin avh3/NF-kB-dependent manner. Interleukin-6 induces gastric cancer cell line AGS cell invasion through activation of the c-Src/RhoA/ROCK signaling pathway (Lin *et al.*, 2007a).

The use of high-throughput approaches to dissect the molecular mechanisms and pathways that regulate the progress of gastric cancer is still comparatively rare. In this study, we used microarray data, protein-protein interaction (PPI) networks and cluster graph analysis to identify significant pathways involved in the development of gastric cancer. The characterization of genes and pathways involved in gastric cancer should be useful in identifying potential targets for the development of novel strategies for treating gastric carcinoma.

Data and Methods

Data sources

The KEGG (Kyoto Encyclopedia of Genes and Genomes) (Kanehisa, 2002) datasets were downloaded on February 19, 2011, at which time they contained 211 pathways and 5,385 genes. The PPI data were collected from the HPRD (Human Protein Reference Database) (Keshava Prasad *et al.*, 2009), MINT (Molecular INTeraction Database) (Chatr-aryamontri *et al.*, 2007) and BIOGRID (Biological General Repository for Interaction Datasets) (Stark *et al.*, 2011). A total of 21,978 unique PPI pairs were obtained, of which 21,353 were from HPRD, 8,830 were from MINT and 19,243 were from BIOGRID. An ensemble PPI network was constructed by integrating three of the above PPI databases for humans, with at least two PPI databases being used to form an intersection (the PPI data are provided as Table S1 in Supplementary Material).

The gene expression profile data were accessed at the National Center for Biotechnology Information (NCBI) Gene Expression Omnibus (GEO) data repository using the accession number GSE2685. Samples of gastric cancer tissue and corresponding adjacent noncancerous tissue were obtained with the informed consent of patients who underwent gastrectomy at Jichi Medical College Hospital (Tochigi, Japan) (Hippo *et al.*, 2002). Twenty-two gastric cancer tissue samples and eight noncancerous gastric tissue samples were analyzed with oligonucleotide microarrays (GeneChip Hu-GeneFL array; Affymetrix, Santa Clara, CA).

Analysis of significant pathways based on cluster graph analysis

The Limma eBayes analysis (Smyth, 2004) was used to assess the differential expression status of each gene. Background intensities were adjusted and the original expression datasets from all conditions were processed into expression estimates using the robust multiarray average (RMA) method (D'Souza *et al.*, 2008) with the default settings implemented in R (version 2.12.1) (Gentleman *et al.*, 2004); this was followed by construction of the linear model. The empirical Bayes approach was used to further justify these estimators; this process is equivalent to shrinking the estimated sample variances towards a pooled estimate and yields a far more stable inference when the number of arrays is small (Smyth, 2004). At least a two-fold change in expression and a p value of < 0.05 were considered as the threshold for defining differentially expressed genes (DEGs). Spearman's rank correlation (r) was used to assess the association between different DEGs. The level of significance was set at $r > 0.75$ and the false discovery rate (FDR) at < 0.05 (Strimmer, 2008). All statistical tests were done using the R program.

To identify co-expressed groups we used DPClus (Altaf-Ul-Amin *et al.*, 2006). DPClus is a cluster graph algorithm that can extract densely connected nodes as a cluster and is based on density tracking and peripheral tracking of clusters. In this study, we used the overlapping-mode of the DPClus settings. For this analysis, we used the parameters "cluster property" (cp), a density value of 0.5 and a minimum cluster size of 5 (Fukushima *et al.*, 2011). DAVID software (Huang da *et al.*, 2008) was used for pathway enrichment analysis with $p < 0.05$ selected as the threshold for gene clusters based on their hypergeometric distribution.

Analysis of significant pathways and pathway crosstalk based on PPI networks

Pathway crosstalk was defined as those pathways that had overlapping genes and edges. "Overlapping genes" meant that both of the pathways included these genes whereas "overlapping edges" meant that both pathways included the PPI interaction edges. Liu *et al.* (2010) have provided a detailed analysis of crosstalk relationships. The significance of a co-expressed gene pair in gastric cancer was assessed using Pearson's correlation coefficient and the corresponding p values, with the latter being mapped to the nodes and edges in the PPI network. The final identification of significant pathways was based on the extent of overlap of the pathways identified by the two methods (cluster graph analysis and PPI networks).

Results

Identification of significant pathways based on screening for differentially expressed genes and cluster graph analysis

A publicly available microarray dataset (GSE2685) was downloaded from GEO and screened for DEGs. In the microarray analysis, 723 genes with a fold change > 2 and $p < 0.05$ were identified as DEGs using the limma eBayes method. Based on the cutoffs established for r (> 0.75) and FDR (< 0.05) a correlation network was constructed that included 1032 relationships among 364 DEGs. At $r > 0.75$, DPClus identified 22 clusters that ranged in size from 5 to 24 genes, with each cluster being connected to neighboring clusters (Figure 1). The significance of the clusters was assessed by examining the over-represented pathways in these clusters (also known as pathway enrichment analysis). Table 1 shows the results of this analysis based the cluster graphs in Figure 1. Only clusters 1, 2, 3, 4, 8 and 19 contained enriched pathways.

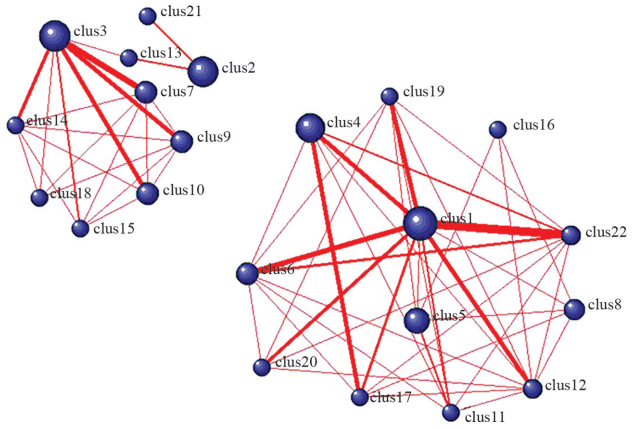

Figure 1 - Clustering of correlated modules in gastric cancer (threshold $r \geq 0.75$). The circles indicate clusters and the red lines (edges) indicate crosstalk (shared genes) between clusters.

Primary immunodeficiency (hsa05340) enriched in cluster 1 was connected with the metabolism of xenobiotics by cytochrome P450 (hsa00980), linoleic acid metabolism (hsa00591) and retinol metabolism (hsa00830), which were enriched in cluster 4 (Figure 1). Primary immunodeficiency (hsa05340) was also connected with the B cell receptor signaling pathway (hsa04662) that was enriched in cluster 19. Cluster 2, in which ECM-receptor interaction (hsa04512) and focal adhesion (hsa04510) were enriched, was indirectly connected with cluster 3 that included cell cycle (hsa04110), oocyte meiosis (hsa04114) and DNA replication (hsa03030).

Identification of significant pathways and pathway crosstalk based on PPI networks

Twenty significant pathways with $p < 0.05$ were detected using the KEGG pathways and PPI datasets (Table 2). Further analysis of these pathways revealed only 11 cases of crosstalk that involved nine significant pathways (Figure 2). Primary immunodeficiency (hsa05340) showed crosstalk with the ribosome (hsa03010) and chemokine signaling pathway (hsa04062). More importantly, cluster graph analysis and PPI networks identified primary immunodeficiency (hsa05340), focal adhesion (hsa04510), metabolism of xenobiotics by cytochrome P450 (hsa00980) and ECM-receptor interaction (hsa04512) as overlapping significant pathways with

Table 1 - Clusters showing pathway enrichment.

Category	Term	Description	Count	p-value	FDR
Cluster 1	hsa05340	Primary immunodeficiency	3	0.0029	0.0675
Cluster 2	hsa04512	ECM-receptor interaction	4	0.0003	0.0034
Cluster 2	hsa04510	Focal adhesion	4	0.0043	0.0212
Cluster 3	hsa04110	Cell cycle	5	0.0002	0.0003
Cluster 3	hsa04114	Oocyte meiosis	3	0.0119	0.0805
Cluster 3	hsa03030	DNA replication	2	0.0553	0.2331
Cluster 4	hsa00591	Linoleic acid metabolism	2	0.0432	0.6968
Cluster 4	hsa00830	Retinol metabolism	2	0.0819	0.6846
Cluster 4	hsa00590	Arachidonic acid metabolism	2	0.0848	0.5497
Cluster 4	hsa00980	Metabolism of xenobiotics by cytochrome P450	2	0.0906	0.4734
Cluster 4	hsa00982	Drug metabolism	2	0.0935	0.4116
Cluster 8	hsa00190	Oxidative phosphorylation	2	0.0984	0.6801
Cluster 19	hsa04662	B cell receptor signaling pathway	2	0.0293	0.1878

Term represents the pathway identification (ID), *Description* is the pathway symbol and *Count* is the number of enriched pathways. The p value is the probability of obtaining a test statistic. The smaller the p value, the greater the number of enriched pathways. The *False discovery rate* (FDR) is a statistical method used to correct for multiple comparisons in multiple hypotheses testing; the smaller the FDR, the greater the correctness. ECM – extracellular matrix.

Table 2 - Pathways showing significant crosstalk.

Pathway ID	Description	Size	Node	Edge	p-value
hsa00071	Fatty acid metabolism	42	2	2	0.0038
hsa00280	Valine, leucine and isoleucine degradation	44	2	2	0.0064
hsa00520	Amino sugar and nucleotide sugar metabolism	45	2	2	0.0107
hsa00534	Glycosaminoglycan biosynthesis – heparan sulfate	26	2	3	0.0301
hsa00910	Nitrogen metabolism	23	2	4	0.0113
hsa00980	Metabolism of xenobiotics by cytochrome P450	70	4	8	0.0133
hsa03010	Ribosome	88	19	39	0.0438
hsa03060	Protein export	24	2	2	0.0113
hsa03420	Nucleotide excision repair	44	25	58	0
hsa04012	ErbB signaling pathway	87	3	3	0.0120
hsa04062	Chemokine signaling pathway	189	61	176	0
hsa04310	Wnt signaling pathway	151	5	6	0.0453
hsa04510	Focal adhesion	201	3	2	0.0038
hsa04740	Olfactory transduction	389	2	2	0.0384
hsa04930	Type II diabetes mellitus	47	5	6	0.0181
hsa04964	Proximal tubule bicarbonate reclamation	23	3	5	0.0145
hsa04512	ECM-receptor interaction	132	7	23	0.0307
hsa05144	Malaria	51	5	27	0.0480
hsa05322	Systemic lupus erythematosus	142	9	16	0.0180
hsa05340	Primary immunodeficiency	35	3	3	0.0332

Description refers to the pathway name. *Size* is the number of genes contained in the KEGG gene sets. *Edge* and *Node* represent the number of edges and nodes of the pathways in the protein-protein interaction network that contain gene expression information. The p value indicates the dysregulation score for each pathway. ECM – extracellular matrix.

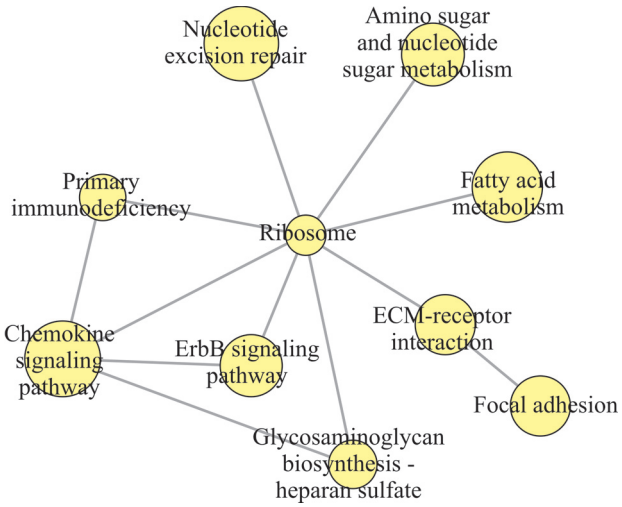

Figure 2 - Analysis of pathway crosstalk based on protein-protein interaction networks. The yellow circles indicate the pathways and the gray lines (edges) indicate the links between any two pathways.

considerable crosstalk, *e.g.*, between focal adhesion (hsa04510) and ECM-receptor interaction (hsa04512) based on the PPI network. Cluster graph analysis showed that both of these two pathways were enriched in cluster 2.

Discussion

Graph clustering or PPI-based pathway analysis (Hwang *et al.*, 2008) has been successfully used to identify the underlying mechanisms associated with diseases. In this study, we used the same strategy to identify DEGs associated with gastric cancer and predict their underlying molecular mechanisms. Our cluster analysis showed that primary immunodeficiency (hsa05340) enriched in cluster 1 interacted not only with the metabolism of xenobiotics by cytochrome P450 (hsa00980), linoleic acid metabolism (hsa00591) and retinol metabolism (hsa00830) that were enriched in cluster 4, but also with the B cell receptor signaling pathway (hsa04662) enriched in cluster 19. These results indicated that the primary immunodeficiency pathway has several important roles in gastric cancer. Although additional pathways were observed in PPI-based pathway analysis, the primary immunodeficiency pathway still retained important roles in gastric cancer through crosstalk with the ribosome (hsa03010) and chemokine signaling pathway (hsa04062). In addition, focal adhesion (hsa04510), metabolism of xenobiotics by cytochrome P450 (hsa00980) and ECM-receptor interaction (hsa04512) were all enriched in the two methods used to assess pathway enrichment. Based on these findings, we suggest that the genes of the primary immunodeficiency

pathway, focal adhesion, ECM-receptor interaction and the metabolism of xenobiotics by cytochrome P450 (hsa00980) are potentially important therapeutic targets for gastric cancer. These pathways are discussed below in greater detail.

Primary immunodeficiencies are a heterogeneous group of disorders that affect cellular and humoral immunity or non-specific host defense mechanisms mediated by complement proteins and by cells such as phagocytes and natural killer cells. These immune system disorders cause increased susceptibility to malignancy. For example, patients with common variable immunodeficiency, the second most prevalent primary immunodeficiency in adults, have a 10-fold increased risk of gastric cancer (Dhalla *et al.*, 2011). Patients in advanced stages of gastric cancer frequently suffer from cell-mediated immunodeficiency, such as the inhibition of interleukin-2 production, the main cytokine that modulates the cell-mediated immune response, and a decrease in the total and T lymphocyte counts (Romano *et al.*, 2003). In addition, the absolute number of T-regulatory lymphocytes (Tregs; CD4+CD25+Foxp3+) is significantly lower in gastric cancer patients than in normal individuals (Szczepanik *et al.*, 2011).

Disorders in the regulation of humoral immunity also have a significant effect on the development of gastric cancer. For example, a significant increase in IgG Fc fucosylation has been observed in stages II and III of gastric cancer (Kodar *et al.*, 2012). The widespread expression of CD40, a member of the tumor necrosis factor receptor superfamily, reflects the central role of CD40 in regulating humoral immunity and host defense. The stimulation of CD40 in gastric carcinoma makes cells less vulnerable to apoptosis induced by Fas or chemotherapy and increases cell motility (Yamaguchi *et al.*, 2003).

ZAP70 (zeta-chain (TCR) associated protein kinase 70 kDa), IGLL1 (immunoglobulin lambda-like polypeptide 1) and CD79A (CD79a molecule, immunoglobulin-associated alpha) were enriched in the primary immunodeficiency pathway. ZAP70 may be involved in T-cell-mediated immunodeficiency. ZAP-70 ectopic expression leads to enhanced B cell receptor signaling after IgM stimulation and increased expression of CCR7 (chemokine [C-C motif] receptor 7), predominantly via ERK1/2, thereby enhancing the response to and migration towards CCL21 (chemokine [C-C motif] ligand 21). In addition, cellular subsets with high ZAP-70 expression in chronic lymphocytic leukemia show increased expression of adhesion molecules and chemokine receptors (Calpe *et al.*, 2011). IGLL1 and CD79A are associated with B cell-mediated immunodeficiency. Mutations in IGLL1 and CD79a can result in B cell deficiency and few or no γ-globulins or antibodies are produced (Storlazzi *et al.*, 2002; Wang *et al.*, 2002). These alterations may promote the metastasis of gastric cancer since an anti-Wnt5a antibody suppresses the Wnt5a-dependent internalization of receptors. This in turn prevents the metastasis of gastric cancer cells by inhibiting the activation of Rac1 (ras-related C3 botulinum toxin substrate 1 [rho family, small GTP binding protein Rac1]) and the expression of laminin γ2 (Hanaki *et al.*, 2012). Based on these findings, we conclude that the primary immunodeficiency pathway may affect the progress of gastric cancer by inhibiting T lymphocyte proliferation and antibody production by B lymphocytes, or by enhancing the expression of adhesion molecules and chemokine receptors.

The interaction between tumor cells and extracellular matrix (ECM) components such as laminin, fibronectin and collagen, has a crucial role in tumor invasion and metastasis. This interaction is facilitated by adhesion receptors such as integrins. Consequently, ECM-receptor interactions and the focal adhesion pathway may be involved in cancer metastasis. Collagen is the major constituent of the tumor ECM and several types of collagens have been implicated in the focal adhesion and ECM-receptor interaction pathways in gastric carcinoma (Yin *et al.*, 2009). Watanabe *et al.* (1995) reported greater deposition of type III collagen at the periphery of poorly differentiated gastric cancer tissue compared with more central locations.

Microarray studies have shown the enhanced expression of several collagen genes (COL1A1, 1A2, 3A1, 4A1, 4A2, 4A6, 5A2, 6A3, 7A1, 9A3, 11A1 and 18A1) in the endothelium of gastric cancer tissue compared with normal endothelium (Hippo *et al.*, 2002; Oue *et al.*, 2004). The most up-regulated genes in gastric cancer, such as COL1A1, 1A2, 3A1, 4A1 and 4A2, are associated with cell adhesion or migration and the ECM. COL4A6, 6A3, 17A1 and 18A1 are also associated with cell adhesion, COL1A1 with cell growth and/or maintenance, and COL1A2 and 6A3 with the `ECM-receptor interaction' pathway (Yasui *et al.*, 2004). In agreement with previous studies, COL6A3, 3A1 and 1A1 were found to be involved in focal adhesion and ECM-receptor interaction pathways. These findings suggest that targeting these genes with RNA interference could decrease the collagen content of the ECM in gastric carcinoma and reduce cell proliferation and migration. This diversity of collagens suggests that each type is associated with some aspect of gastric cancer. The identification of collagens as potential therapeutic targets will require a more complete understanding of their expression and interactions in gastric cancer.

Cytochromes P450 (CYP) are a multi-gene family of constitutive and inducible heme-containing enzymes with a crucial role in the metabolism of xenobiotics, including many potential carcinogens and various anti-cancer drugs. CYP P450s have a central role in chemical carcinogenesis and are involved in tumor initiation and promotion because they can activate or deactivate most carcinogens. Furthermore, CYP P450s can influence the response of established tumors to anti-cancer drugs by metabolizing these drugs in tumor cells (Ding and Kaminsky, 2003). The expression of major isoforms of P450, such as CYPlA and CYP3A, is en-

hanced in gastric cancer, with CYP1A being enhanced in 51% of cases and CYP3A in 28% (Murray *et al.*, 1998). CYP2C9, CYP3A7 and CYP3A5 that participate in drug metabolism are down-regulated in gastric cancer. In *Helicobacter pylori*-positive Japanese, poor metabolizers via CYP2C19 have an increased risk of developing gastric cancer, especially the diffuse type (Sugimoto *et al.*, 2005). In Chinese with gastric cancer the frequency of poor metabolizers via CYP2C19 is 31.8% (Shi and Chen, 2004).

As shown here, CYP2C18 and CYP2C9 were associated with the development of gastric cancer through the metabolism of xenobiotics by cytochrome P450, arachidonic acid metabolism, retinol metabolism and the linoleic acid metabolism pathway. CYP2C9 is one of the predominant epoxygenase isoforms involved in the metabolism of arachidonic acid into 12-epoxyeicosatrienoic acid (EEF). CYP2C9 epoxygenases are upregulated in human tumors and promote tumor progression and metastasis (Xu *et al.*, 2011). Retinol may influence gastric carcinogenesis through its essential role in controlling cell proliferation and differentiation. High intakes of retinol from foods or a combination of foods and supplements are associated with a lower risk of gastric cancer (Larsson *et al.*, 2007). CYP2C18 and CYP2C9 are related to retinol metabolism in human through their ability to transform retinol into 4-OH-retinoic acid and 18-OH-retinoic acid (Marill *et al.*, 2000). These all-trans-retinoic acids are associated with G0/G1 phase arrest and decreased VEGF expression in human gastric cancer cell lines (Zhang *et al.*, 2007). However, dietary linoleic acid stimulates the invasion and peritoneal metastasis of gastric carcinoma cells through COX-catalyzed metabolism and the activation of ERK (Matsuoka *et al.*, 2010). CYP2C9 is involved in linoleic acid epoxygenation and the major product of this reaction is leukotoxin that increases oxidative stress and subsequent pro-inflammatory events (Viswanathan *et al.*, 2003), leading to tumor cell progression. We therefore suggest that P450 family genes are involved in gastric cancer by metabolizing exogenous anti-cancer drugs, stimulating arachidonic acid and linoleic acid metabolism and inhibiting retinol metabolism.

In conclusion, the results described here show that changes in the primary immunodeficiency pathway, focal adhesion, ECM-receptor interactions and the metabolism of xenobiotics by cytochrome P450 may be associated with gastric cancer. A number of candidate genes (ZAP70, IGLL1, CD79A, COL6A3, COL3A1, COL1A1, CYP2C18 and CYP2C9) that may be involved in gastric cancer were also identified. Overall, these findings shed new light on the biology of gastric cancer and indicate new avenues for future research.

Acknowledgments

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Internet Resources

Gene Expression Omnibus (GEO) data repository at NCBI, http://www.ncbi.nlm.nih.gov/geo/GSE2685 (November 8, 2011).

R program: http://www.r-project.org/ (November 11, 2011).

DPClus, http://kanaya.naist.jp/DPClus/.

Supplementary Material

The following online material is available for this article:

Table S1 - PPI data.

This material is available as part of the online article from http://www.scielo.br/gmb.

Associate Editor: Carlos F.M. Menck

Table S1

Protein1	Protein2
ARF1	GGA3
MYC	SMAD2
SALL1	TERF1
KHDRBS1	RAPSN
CD151	ITGB1
PTH1R	SLC9A3R2
EPOR	PTPN11
CR1	CR2
JUN	RB1
COL1A1	NID1
BAK1	VDAC1
NFKB1	RXRA
LILRB4	PTPN6
CFL1	HSPH1
CALCR	CALM1
PRLR	VAV1
EP300	IRF1
BRCA2	STAT5A
FN1	NOV
CCNH	CDK7
TESK1	YWHAB
EP300	TP53
EZH2	SUZ12
GNG4	RAF1
RELB	SMARCA4
CTNNB1	SMAD2
RYR2	SMAD5
HSPH1	PGK1
SPG7	TRIM28
FYN	MCAM
NEFL	TSC1
LAPTM5	NEDD4
UBE2B	UNC119
EXT2	TRAP1
MATN1	MATN3
KCNJ12	SNTB2
TAF1C	TP53
CDC25C	PLK3
FANCC	STAT1
GRIN2A	IL16
ESR1	ZBTB16
LMO2	MAPRE2
APCS	CRP
HNRNPK	WWOX
STAT1	VDR

STOM	STOM
YAP1	YWHAQ
AR	SP1
PURA	SP1
PFN1	UNC119
MAX	MNT
OCLN	TJP2
CLDN5	TJP1
CDK4	SETDB1
IRF2	NFKB1
CDC25A	YWHAZ
GRB2	MAP4K5
CRK	MAP4K1
GJA1	S100A1
CGA	PTPN12
MYOD1	RB1
ATM	H2AFX
IER3	PPP2R5C
ACVR2A	ENG
RPA1	RPA1
CDC6	PPP2R3A
HDAC2	MAD1L1
RCOR1	REST
NR5A1	NRIP1
PSMD4	PSMD6
KIT	PLCG1
RPS6KB1	TERT
HCK	RASA1
CENPC1	UBTF
PDGFRB	RAF1
DMD	KCNJ12
PNN	PRPF4B
CSNK2A1	UBTF
DHX9	JUN
LMO3	MDFI
MYOG	TCF3
POLR2E	POLR2E
HNF4A	SP1
COPS5	TP53
HDAC2	SNW1
IL2RG	SHB
CD19	VAV1
E2F1	RB1
KLKB1	KNG1
AKAP5	IQGAP1
GNB2L1	PABPC1
MAP2K2	MAP2K2

EP300	SMAD7
IRX4	RARA
DGKZ	PLCG1
ATXN1	BTG3
ATF1	BRCA1
ARL4D	DNAJA1
IRF4	STAT6
FYB	WAS
MCM6	ORC2L
PRKDC	RPA2
ATXN3	EWSR1
KPNA2	SGK1
SNTA1	XRCC6
ITPR1	TRPC3
DVL1	SMAD7
AGER	S100P
BCL3	JUN
CASP6	TRAF1
MDFI	SLC35A2
LRP2	SCGB1A1
GCSH	NMI
KHDRBS1	SRC
TOP2B	TOPBP1
RDH5	RLBP1
NKX2	PAX8
PRKCE	VDAC1
BIRC2	MAGEA11
DAG1	DAG1
EEA1	RAB5A
PDGFRB	RASA1
MAPK1	TPR
BAD	MCL1
KTN1	RHOA
CIITA	NCOA1
ACVR2A	BMP6
DNAJB1	HSF1
CRMP1	PPP1R8
CD36	ITGB3
USF1	USF1
ATF4	GTF2F2
APP	NCSTN
UBA52	UBA52
NEB	TMOD1
THRB	TRIP4
CALM1	TCF4
COL4A1	NID1
FBLN2	PRELP

BAT2	PRMT2
GRB2	PLCG1
EWSR1	USP7
KLK2	SERPINA5
ERH	SH3GL2
GCM1	HDAC1
GNB2L1	TP73
ESRRA	LYST
KRT18	TRADD
NCOA1	STAT6
COIL	TAF9
ARL1	GOLGA1
ITGA4	LGALS8
PSMB5	PSMB7
BCL6	IRF4
PAPPA	PLG
CDC6	MYC
PDLIM7	SPP1
KPNB1	SMAD2
CYC1	CYC1
ETS1	POU1F1
GMFB	MAPK14
NR0B1	SREBF1
KLF4	SP1
BRAF	RAP1GAP
SMN1	SNRPD1
ATXN2L	MPL
ABL1	ADAM15
KDR	PLCG1
A2M	B2M
LCK	PTPN6
COMT	TRIP13
GRB2	ITGA2B
DNAJB1	HSPA1A
CD81	CD9
BRCA1	FANCA
CHMP1A	USP8
CDK5	PAK1
TRIP13	TRIP13
EP300	ETS2
SHB	VAV1
FBLN2	FN1
HDAC1	RELA
BAD	BCL2
GJA1	GJA5
CHD4	HDAC1
CDH18	CDH6

RAD52	RAD52
IRF7	MYD88
IDE	IGF1
CD22	PTPRC
CSTF2	DDX1
PLCG1	VAV1
KRT20	VIM
TEAD1	VGLL4
CREBBP	CTBP1
CALR	LRP1
MYH10	PBX1
BRCA1	CSNK2A1
ATF6	NFYC
KPNB1	LYST
TGFB1	VTN
S100A1	S100B
RBP4	TTR
GSTZ1	GSTZ1
CHAF1A	CHAF1B
MAPK1	PTPN5
FXR2	RBPMS
BTK	PRKCB
IGFALS	IGFBP5
BMP6	BMPR1A
CD4	LCK
ATXN1	SREBF1
TRAF6	UBE2N
ACP1	ZAP70
HMGB1	PLAT
HRAS	PIK3CD
EGFR	ERBB3
CACNA1S	SRI
FAS	HIPK3
E4F1	RB1
KHDRBS1	LCK
CDX2	CREBBP
ARHGDIG	RHOH
AIP	PPARA
EP300	TWIST1
CCDC85B	PBXIP1
ATR	TP53
FLT1	SHC1
FTL	PTN
RAB27A	ZBTB16
ERBB3	SHC1
ADAM15	GRB2
ERBB2	SHC1

BMX	SRC
CDC25B	CSNK2A1
DDR1	TM4SF1
SPRR2C	USP13
CEBPA	NCOA6
NCOA1	TRIP4
BAD	PIM2
RUNX3	TLE1
KRAS	RALGDS
COPS5	COPS8
PLG	SPARC
ASCL1	EP300
TNFAIP3	YWHAH
PAPOLA	SMAD2
CXCL5	MMP9
ABL1	TP73
ITGB1	NME1
ELN	FCN1
KPNA3	NFKB1
FXR2	PSME3
NFKB1	PARP1
NEUROG1	SMAD1
FN1	ITGB7
SAT1	UNC119
NEDD4	SCNN1A
ACTN1	TTN
CSNK1E	DVL1
CD44	IGFBP3
TNFAIP3	TRAF1
SKP1	SKP1
REL	TBP
CIITA	XPO1
IRS1	SHC1
C1QBP	GAB1
CD46	DLG4
IL2RB	SHB
MAP3K11	MAP4K1
CASR	CASR
BRCA1	RFC1
ORC1L	SKP2
MAGEA11	ZBTB16
SP1	TAL1
CREB1	KAT5
RPA2	RPLP1
ATXN1	ATXN1
CES1	CES1
FGFR1	GRB14

ARF6	PLD1
CSK	SRC
HSPG2	PDGFB
GNAS	TTC1
ACP5	MAPK9
CDC25B	SFN
ARID4A	HDAC1
CCL5	DPP4
RBBP8	RBBP8
PPFIA1	PPP2R5D
S100A8	TP53
SEPHS1	SEPHS1
CAV1	SCP2
ABL1	SLC9A2
MGMT	PRKCA
CSNK2A2	FGF2
MYB	SND1
CREBBP	CUX1
RRM2	TP53
APOA1	APOF
AR	RNF4
OSTF1	SMN1
HMGB1	TBP
CD19	CD81
HTT	TAF4
PSMC1	PSMD7
SH3BP2	YWHAQ
MDM2	TP73
ATM	RHEB
AR	ETV5
CRK	GRB2
GNAQ	GRM7
GNAI2	TTC1
UGP2	UGP2
IRF9	STAT1
ACTA1	TAGLN
AKT1	FOXO1
CBL	INPPL1
CSDA	GSK3B
CANX	SLC4A1
PDE6G	SRC
CDKN1A	MAPK8
SCN5A	SNTB1
TGFB1	TGFBR3
ITGB1	PXN
CALM1	CRHR1
DCTN1	RAB6A

DUSP5	MAPK3
CUX1	SATB1
FYN	SLAMF1
SRC	STAT3
FYN	PECAM1
SNRPD2	SNRPF
FLNC	MAP2K4
MAP2K4	MAP3K4
DRAP1	TK1
PNN	SRRM2
CXCL11	DPP4
ACTN1	ZYX
PDHA1	PDHB
CSF1	CSF1R
MRPL28	TUBB3
MAPK8	PRKDC
KPNB1	TERF1
TBCB	USP7
MYOD1	SP1
IRF1	STAT1
ATN1	VIM
DLG3	ERBB4
GNAI3	RGS16
FCGR2A	SYK
OTC	TOMM20
SMAD2	SMAD4
CAT	PTPN11
HCK	IL6ST
NGF	NGFR
MDM2	RB1
SMARCA4	TP53
TSC1	YWHAZ
CD81	ZBTB16
RBPMS	RBPMS
AR	AR
POLR2C	POLR2G
BRCA1	MYC
KAT5	STAT3
GRIN2C	IL16
E4F1	HDAC1
BSG	PDLIM7
MSX2	XRCC6
JAK3	STAM
ESR1	FLII
EXT1	EXT1
CHML	RAB5A
ATXN1	DAZAP2

SMAD4	TOB1
ACTB	ACTG1
MMP2	TIMP4
ANXA1	KRT8
EP300	GATA6
GSK3B	TP53
SMAD4	SNRNP70
ATN1	ATN1
TCF3	TCF3
BRCA1	TOP2A
LMNA	LMNB1
NR3C1	RELA
EP300	TCF3
HGF	SDC2
CTBP1	CTBP1
AMPH	CDK5R1
HSP90AB1	PPID
CREBBP	TCF3
MAP3K8	REL
NFKB1	NR3C1
BRCA1	CREB1
CRKL	RAPGEF1
CSNK1A1	HMGB2
PPP1CC	SMARCB1
NFKB2	TSC22D3
EGR1	NAB2
CTSB	MARCKS
EWSR1	ZNF165
ESR1	XBP1
SMAD5	U2AF2
HDAC2	RBBP4
TP53BP2	YAP1
FXR2	RBBP8
HDAC1	HDAC1
HOXA9	RBPMS
EGFR	TGFA
CTLA4	FYN
PFN2	VASP
TERF2	XRCC6
BRF1	CSNK2A1
NR6A1	NR6A1
ARNTL	CLOCK
CEBPD	CREBBP
SLC6A1	STX1A
CFTR	EZR
ERH	TLE1
PTPN6	SYK

CD151	ITGA3
CRMP1	DPYSL2
ANXA5	FDFT1
FADD	PEA15
MAP3K14	RPS11
CDC25A	SMAD3
IL5	IL5RA
DVL1	SMAD2
CCDC85B	FXR2
CA2	NONO
AR	NR0B2
LRP1	SHC1
AKAP13	PRKAR2A
CHRNA1	CHRNG
FEZ1	P4HB
MSN	SELPLG
SIAH1	SYP
CRK	PXN
ABL1	ZAP70
FEZ2	PRKCZ
COPB2	RGS2
APP	KLC1
LCK	PRKCQ
OGG1	PRKCA
RND3	SFN
ATXN2	CHGB
MAPK1	STAT5A
CSNK2A1	HIF1A
IRAK1	ITGAM
GAB1	MAP3K3
CTBP1	RBBP8
NR3C1	SMARCC1
ACR	SERPINA5
CCT7	TCP1
MUC1	PRKCD
ILK	PXN
VBP1	VHL
APBA1	HTR2C
DLG4	GRIN2C
ACTG1	TMSB4X
NCOR2	THRB
NCOA1	THRA
AHR	HSP90AA1
CANX	CFTR
RALGDS	RAP1A
EWSR1	GNPDA1
CRADD	EEF1A1

BMPR1A	BMPR2
RBL2	SNW1
ITGB3	PDGFRB
TP53	WWOX
AKAP9	PRKAR2A
FUBP1	GTF2H1
PLOD2	PLOD2
CDH3	CTNNA1
DAZ1	DAZAP2
EIF3B	EIF4G1
LYN	TEC
BAT3	PRNP
MSN	VCAM1
HAX1	IL1A
HDAC2	MXD1
FEZ1	FEZ1
HSP90AB1	MAP3K14
FGF1	HSPA9
NF2	SDCBP
CBLB	NEDD4
MDM2	MED1
GRB2	RAPGEF1
AKAP1	PRKAR1A
HNRNPU	POU3F4
PDAP1	PDGFB
ACTA1	DMD
EWSR1	PDHX
RING1	RNF2
HSPA9	MVD
NR1I3	RXRA
CAPNS1	TERF1
CLU	TGFBR1
PLCG1	RHOA
ATXN1	FHL2
RPA1	RPA4
ETS2	NR3C1
ARR3	RHO
GC	GC
FGA	FGG
GJA1	TJP1
FHIT	FHIT
CA4	SLC4A1
HSF4	HSF4
OCRL	RAB6A
DAPK1	DAPK1
PTPN11	STAT5B
EEF1G	HARS

IER3	MAPK1
RFX1	SMAD4
AHR	AIP
JUN	RELA
SMARCB1	TP53
NFYB	TP73
ETS1	SRC
STX1A	VAMP2
LCN2	LCN2
HMGB2	SET
CDKN1A	CSNK2B
ABLIM1	VIM
TAF4	TAF5
MAP2K2	MAPK1
SULT1E1	TP53
BCL2L1	RTN1
TAF15	TAF7
BARD1	KAT5
CLTC	MAP3K10
ESR1	MED24
CCDC106	CRMP1
MMP2	PZP
SDCBP	SOX4
PKD2	TRPC1
EPHB2	RASA1
PTN	TOMM20
RCC1	XPO1
BAT3	SMN1
ESR1	ESR2
GNB2L1	RB1
HSF1	HSF1
HSP90AA1	HSP90AA1
EPAS1	VHL
PIAS1	SUMO1
ESR1	SMAD2
IDE	IGF2
RFC2	RFC5
CDH1	CDH1
IGF1	IGFBP5
CAV1	HRAS
ADORA2A	ADORA2A
SKI	SNW1
GRB2	INPP5D
BAG1	RB1
FGF1	FGFR1
CDSN	CDSN
YWHAB	YWHAE

MAP2K1	RAF1
PPP2CA	PPP2R1B
DLG4	KCNJ4
COMT	LITAF
SRC	STAT1
PTH1R	PTHLH
EP300	STAT6
SRC	SRF
RBL2	TAF1
PPP3CA	RCAN2
CD6	SDCBP
MAP2K5	MAPK7
LRRC41	RBPMS
RIN1	YWHAZ
EWSR1	MAPK1IP1L
CASP10	FADD
IL1A	NDN
IGFBP3	PLG
CCL5	VCAN
ITK	LCP2
PAK2	YES1
SLC6A3	SNCA
PML	RARA
GNB2L1	ITGB2
CCL5	SDC4
PCNA	RFC5
ALB	AMBP
GRB2	PIK3R2
AKAP6	PRKAR2A
CCL2	VCAN
DNTT	PCNA
SEC23B	SEC24C
BCL2	PPP2CA
DPF2	RELB
CBLB	CRY1
COPS5	SMAD4
SMAD6	SMAD7
FYN	NTRK2
CCNA1	CDKN1A
IL5RA	SDCBP
FASLG	FYN
HSP90AA1	NOS3
BCAT2	BCAT2
CCDC85B	ZBTB16
DLG4	LRP1
SERPINB9	TP53
APLP1	STX5

PFN1	TLE1
NEDD9	SMAD3
NFKBIE	PPP6C
DUSP1	MAPK8
KLK2	SERPINA3
MAP3K5	PPP5C
RPLP1	RPLP1
PLAT	SERPINI1
ARL4D	TLE1
PAK1	RAC1
LMO4	PITPNB
NFKBIB	RELA
EEF1A1	EIF3F
ELK1	SRF
CD3E	SYK
FLNA	ITGB1
ATP5C1	MPP1
TP53	ZNF24
MLL	RBBP5
MAP2K3	MAPK3
EGR1	NAB1
MAP2K4	MAP3K8
CASP8	TRAF1
ESR1	PTPN1
CNTF	IL6ST
IRS1	PTPN1
F2	SERPINE1
RXRA	SMAD2
PIK3R1	SRC
MAP3K14	RIPK1
RB1	SNW1
CD8A	CD8B
CHGB	PTEN
CAPNS1	GNB2
POLR2F	POLR2G
BAK1	HSPD1
CRKL	WAS
CAV2	NCK1
AR	PIAS1
BRAF	BRAF
LCP2	PLCG1
LMO1	TAL1
SF1	WWP2
C7	PLG
CSF1R	FYN
EIF4E	PML
EGR1	PITX1

KAT2B	RARA
VIPR1	WASL
MYOG	POLR2C
C19orf57	C19orf57
CHGB	TAZ
BRCA1	UBE2L3
RPA2	XPA
HDAC1	TGIF1
DLG3	GRIN2C
FGFR1	KPNB1
CBLB	GRB2
ERH	SETDB1
PKD2	PKD2
PLSCR1	VASP
CCDC85B	ZNF638
SHB	ZAP70
CLINT1	CLTC
PLK4	SFN
FGR	WAS
GNA13	PRKCE
FHL2	FHL3
FKBP1A	ITPR1
NUP98	NXF1
PSMC1	PSMD2
FLNC	INPPL1
CRYAB	HSPB1
CDC6	ORC3L
CDK7	MCM7
RFC3	RFC4
HTT	SUMO1
GFAP	VIM
NGFR	TRAF4
CBX5	TRIM28
MSN	MSN
RARA	RXRA
FYN	PTPN5
PRMT1	YLPM1
PSMD2	UBE3C
CSNK1D	DVL1
EGFR	GAB1
CEBPZ	TP73
HDAC1	RBL2
LGALS1	SPN
FXR2	SNAP23
HDAC2	SP3
RPS19	RPS19
PARP1	RPS3A

CASP2	CASP2
TEC	WAS
LPA	LRP2
FOS	NCOA1
CNTN1	PTPRB
PTN	TXNDC9
ITGB1	YWHAB
BRCA1	MED1
CUL3	SUMO2
IFNB1	IFNB1
SP1	SREBF2
ATN1	LRP2
CDK6	CDKN2A
NDN	TP53
SMAD3	TMED1
ETS1	RBBP6
CREBBP	IRF3
PAPPA	PRG2
EP300	SS18
GHR	GRB2
UCP3	YWHAB
SET	TAF1A
HFE	TFRC
CD28	CD80
HLA	MAGEA1
ACVR1B	ACVR2B
FBLN1	FBLN1
CDH2	PTPN1
TRIM26	TRIM26
ID2	TCF3
RABEP1	RABEP1
IGFBP3	POLA2
F10	HIST1H1C
HNRNPK	KHDRBS1
FGFR3	GTF3C1
CSNK2A1	SFN
CRKL	PIK3R1
MAPK8IP2	MAPK8IP2
CD2	LCK
NFKB2	REL
PRKCZ	RAF1
PAFAH1B3	XRCC6
PRNP	STIP1
BMI1	PTN
CCNA2	TP53
CSF3R	JAK1
S100A1	S100A4

STAT1	TYK2
GTF2F2	JUN
GSN	VCL
MAML1	NOTCH4
RRAD	TPM2
IL1R1	PIK3R1
ITPR1	PRKG1
HSPA1A	NR3C1
CBL	PIK3R2
CENPC1	DAXX
FN1	ITGA5
GAPDH	LAMA4
HDAC1	RAD9A
CD86	CTLA4
SUPT4H1	SUPT5H
WIPF2	WWOX
CBLB	PIK3R1
EIF4G1	PABPC1
FN1	REG3A
MAP2K5	MAP3K3
CCL11	DPP4
FHL2	TRAF6
RRM1	RRM1
PAH	PAH
ABL1	XRCC6
EEF1A1	TP53BP2
DYNLL1	PAK1
FLT4	KDR
BTG2	PRMT1
CDK6	CDKN2D
PLK1	PSMA5
C3	CFHR4
AP2B1	MLH1
AR	NONO
MITF	SPI1
CBL	CSF1R
C1R	SERPING1
AMPH	VTN
PHYHIP	TTR
RBL1	SNW1
PPARD	SRC
DNTT	DNTTIP2
EMD	LMNA
LRP1	THBS1
GATA2	JUN
NFKB2	NFKBIA
PAPPA	SMAD2

PSME2	PSME2
GTF2E1	GTF2E2
F3	PLG
FAS	LCK
DAB2	SMAD2
TNFRSF25	TRADD
CBL	SRC
DLG4	PRKCA
RPL28	SMAD4
GTF2B	GTF2E2
FBLN2	NID1
CDH3	CDH3
LTBR	TRAF4
ADD1	SPTA1
GLI3	SKI
BCL2L1	CASP9
MAP3K12	TSC22D1
MDM2	TAF1
CASP4	IL18
EWSR1	HMGA1
RXRA	THRB
MAD1L1	MAX
PTPRJ	SDCBP
HDAC2	PTMA
CAPN1	NFKBIA
CNTF	IL6R
GRIK2	SDCBP
KRT18	PRKCE
CDKN2B	MAGEA11
PTH	PTH2R
ATM	TP53
IK	PFN2
TAF11	TAF12
COMMD1	TCEB1
CSNK2A2	CSNK2B
DARS	EEF1A1
CCNA2	CDKN1A
DRD2	KCNJ6
BRF1	TBP
CPSF6	WWP1
ATP1A1	EZH2
HTT	SP1
CRYBA4	CRYBB2
EIF4B	EIF4B
SPTA1	VASP
SUMO1	TOP2B
ARC	KRT15

CD28	LRRC23
CSNK2A1	KLF1
PSME3	PSME3
EPHB2	ITSN1
TFPI	THBS1
RAD52	UBE2I
MECP2	SMARCA2
TAF1	TAF9
PRM1	SRPK1
CHGB	POLD1
RUNX2	XRCC5
CLK2	CLK3
NCL	S100A11
IL1A	S100A13
CSTA	PTN
PSMD11	TP53
SKP1	SKP2
CDC37	CDK4
HNRNPD	PABPC1
SNAP23	VAMP7
NCF2	NCF4
ATF1	CSNK2A1
BARD1	MSH2
TAC1	TACR3
CDK2	RBL1
SRC	SYK
ATM	BRCA1
ENO2	ST3GAL2
MYO7A	PRKAR1A
C16orf45	ENO2
NME1	RORA
ACCN2	PRKACA
PSMD2	ZBTB16
TOP1	TP53
DNM1	SH3GL1
PECAM1	XRCC6
DLG1	GRIN2B
GNB2	RAF1
LIFR	OSM
JUP	PECAM1
F10	F8
CASP9	NAIP
MCM5	SSRP1
GNB2L1	RASA1
PGF	PGF
INPP5D	LYN
RUNX3	SMAD3

ATP2B4	DLG1
CD27	TRAF3
PIK3R1	SSTR2
TRADD	TRAF1
ANXA2	APOH
SF3A1	SF3A3
ARHGAP1	PIK3R1
SMAD3	SREBF2
GRB10	KIT
TLK1	TLK2
PRKCA	RGS2
CANX	LCT
UCP3	YWHAZ
HK2	PRKCE
HNRNPK	RBMX
ATP6AP1	HBA1
ACP5	ZBTB16
STX1A	TXLNA
PDX1	PDX1
STK38	YWHAZ
ERBB4	YAP1
NONO	NONO
EYA1	SIX1
PPP1R8	PRKACA
SMAD1	XPC
CAP1	CAP1
GSTP1	PNO1
KRAS	RASSF2
CTBP1	PNN
PIK3R2	YWHAB
ADA	ADORA1
HIF1A	HSP90AA1
CEBPA	RUNX1
BMPR2	GDF5
PABPC4	YWHAZ
TNFRSF1A	TRAP1
OGT	TRAK1
SKIL	SKIL
DDB2	XPC
PTPN12	WAS
RPA3	RPA3
RIPK1	TNFRSF1A
SNRNP70	SNRPC
MYCBP	PTN
YWHAZ	YWHAZ
CREBBP	MAF
ADAM17	MAD2L1

CXCL12	DPP4
LTA	UMOD
FGF1	FGFR4
PSMD11	SMAD3
BAT3	EDN1
PLK3	TRIP13
ITGA8	ITGB1
PFN2	RPS10
MAPK14	ZFP36L1
FGF12	MAPK8IP2
RAF1	SRC
DAZAP2	LMO2
DST	ITGB4
PTEN	SLC9A3R2
FCGR2A	LYN
CTNNA1	CTNNB1
AKT1	SMAD7
DLG1	KCNJ4
SPTA1	SPTB
CD36	LYN
IKZF1	RBBP8
PTPN12	PXN
NUP214	NXF1
GRB2	SELL
CALR	PLAT
CIB1	PSEN2
TOP2A	YWHAE
KHDRBS1	SMARCA2
DDB1	DDB2
CDC25C	MAPK14
DLST	FLII
RELB	USP11
ABL1	PTPN6
HLA	KIR2DL3
MSX2	MSX2
GNAQ	PIK3CA
DNTTIP2	ESR2
CDC6	CDK2
MEF2A	SUMO1
PPP1R8	SETDB1
DLG2	KCNJ4
CRHR1	GNAQ
GRB10	RAF1
MRE11A	XRCC6
AP3D1	AP3S2
ARHGEF2	YWHAZ
NDRG1	S100B

KPNB1	RANBP2
DAXX	PAX5
BAG1	RARA
CCDC85B	PSMA1
TAF13	TAF15
KRT15	SMARCD1
APOB	CALR
CSK	SHC1
SKIL	SPARCL1
CDK7	MNAT1
CREBBP	TCF12
CD58	DNAJA1
RPLP0	SMAD3
NFKBIA	PTPN1
ADRB2	EIF2B1
KRT15	KRT81
NCOA1	NR1H4
BMPR1B	BMPR2
RAD51	RAD51
MPP3	SCN2A
TNNC1	TNNT1
TP53	TSG101
CD3E	NCK1
COPS6	PDZK1IP1
E2F1	SP2
BMPR2	CRYAB
CASP6	CASP8
FXR2	KRT20
VASP	VCL
APPBP2	NFYA
BCL2L2	BIK
PDK1	PKN2
BCL2	MAPK1
CRYBB2	CRYBB2
GLI1	ZIC1
PIP4K2A	RAC1
CBLB	EGFR
COPS2	COPS8
IL1A	IL1A
LIMK1	LIMK1
GHR	PTPRB
PDGFRB	PTPN1
ALDH2	HSPE1
EEF1A1	RNF10
ABI2	KRT15
LGALS2	LTA
RGS6	STMN2

JAK1	TYK2
CAV2	GOLGB1
CCDC85B	ZFP36
ADA	ADORA2A
LCP2	ZAP70
ACAN	FBLN2
E2F1	NFKB1
NTRK3	PLCG1
AP2B1	TGFBR2
CCND1	CDK4
CSNK2A1	HSP90B1
CD9	ITGB1
HSPA1A	YWHAZ
PIAS1	STAT1
GSTM1	MAP3K5
CDKN1A	TK1
ALDOA	ATP6V1E1
TGFB1	THBS1
ATP5C1	EGFR
CREBBP	MAML1
SNRPE	SNRPG
LDLR	PF4
ATP5C1	ITIH2
FYN	MAG
BRCA1	CCNB1
DOK1	LYN
CSTF2	KAT5
EPHB3	RASA1
APP	CTSD
ARHGAP1	ARHGAP1
EIF4A3	YWHAQ
AR	XRCC5
FHIT	UBE2I
IRF2	RELA
PABPC1	PXN
PARP1	RELA
UBE2I	UCHL1
ITGB1	PRKCA
PSMD11	SMAD2
TNFRSF4	TRAF5
HRAS	PIK3CG
GRB2	HNRNPC
AHR	ARNT
HDAC1	TAL1
LTBR	TRAF5
RBPJ	SNW1
ATR	RHEB

GNAI3	GPSM2
LASP1	ZYX
E2F4	TFDP2
CHD8	CTNNB1
COPS6	SAT1
BAT3	CDK4
APEX1	TP53
CD63	CD9
THRB	TP53
CDKN1A	ESR1
CR2	IFNA1
DHX9	KHDRBS1
MEOX2	PAX3
CITED2	EP300
PTPN11	SLAMF1
NFKB1	TSC22D3
TGFB2	TGFBR2
NTRK2	SHC3
AP3S1	IRS1
TOPBP1	ZBTB17
ATN1	BAT3
FGF2	VTN
CAPZA1	S100B
ITPR3	TRPC1
SPARC	VEGFA
CALCOCO2	SHC1
AP2M1	LY9
APP	HSD17B10
DAXX	SLC2A4
CFL1	MYCBP
APC	SFN
EPHB2	RYK
C1QBP	PRKD1
MPRIP	RHOA
LAPTM5	WWP1
ESR1	SRC
AKT1	HSP90AA1
RPGR	SMC1A
TRIM22	USP7
NFIB	NFIX
NR0B2	RARA
SUMO1	TOP1
BIRC2	GSPT1
CCNA1	MYBL2
AKT1	TOPBP1
MTIF2	NFKBIB
RPA2	RPA3

AR	HDAC1
HSP90AA1	PTGES3
HOXA9	PBX1
MDM2	MDM2
TJP2	YWHAZ
PTS	PTS
ESR1	ISL1
IGFALS	IGFBP3
FGFBP1	FGFBP1
CGA	PTN
CCNG1	TP53
PPP2R1A	PPP2R2A
MCF2	MCF2
BMP2	COL2A1
AFAP1	PRKCG
STX4	TXLNA
CDK9	SUPT5H
POLR2C	POLR2K
CREBBP	TDG
CDH6	CDH6
CUL4B	DDB1
ARPC2	ARPC4
PDHA2	PDHB
FOS	XBP1
NCL	TP53
ENO2	MAP4
BCL3	FOS
MT2A	PRKD1
F10	TFPI
JUN	SP1
GHR	PTPN9
HSP90AA1	SRC
EWSR1	SNRPC
SMAD4	TGFBR1
EEF1G	SKIL
CASP2	CRADD
MUTYH	PCNA
CSNK1E	OCLN
CTNNB1	USP9X
EWSR1	SLC1A1
ATP1A3	ATXN1
CFDP1	EWSR1
ABL1	WASF1
ITK	KHDRBS1
MYL2	PAK2
HIC1	HIC1
SMN1	SNRPE

HMGA2	NFKB1
FEZ1	PTH
TNNT2	TPM1
SPTAN1	SPTB
GTF2I	MYC
MED1	VDR
FAS	UBE2I
KRT5	PKP2
GRB10	SRC
CDC25B	YWHAB
MLL	MLL
RHOA	TRPC1
ID1	MYF6
RAB9A	RABEPK
CRKL	GAB1
DAB2	TGFBR1
PCBP1	PDLIM7
ESR2	SP1
CD2	LGALS1
HSD17B1	HSD17B1
MITF	UBE2I
POLR2C	POLR2L
CDC27	PIN1
SUMO2	TDG
RAF1	YWHAH
COPA	SLC25A11
INPP5D	KIT
HIF1A	JUN
SKIL	SMAD4
KAT5	SAT1
KRT18	PKD1
ILK	ITGB3
TAF1B	TBP
NR0B2	NR1H3
AKAP13	YWHAZ
CANX	ITGB1
ALDH2	CRMP1
CD247	UNC119
CD79B	SYK
AR	DAP3
GNRH1	MEP1A
PARP1	XRCC6
APBA2	RELA
TAF15	TAF5
MCM2	MPP3
COL1A1	PRELP
DVL1	SMAD4

CCNH	ESR1
PCDH1	SMAD3
ARR3	ARR3
PCNA	XRCC6
FTH1	FXR2
TAF1	TAF5
DNTTIP2	RXRA
HMOX1	HMOX1
TAF12	TBP
NR3C1	SMAD3
RAF1	TSC22D3
FLT4	SHC1
NEDD8	UCHL1
FLI1	GATA1
CHGB	S100A8
LIPE	STAR
MAP2K1	MAP2K1
XRCC6	YWHAZ
CASP8	NR1H4
KAT5	PLA2G4A
AKT1	TERT
ATXN1	NR4A1
F13A1	F13B
CDH1	IQGAP1
CYP11A1	SMAD3
CCNE1	RBL2
CRKL	STAT5A
CFL1	LIMK1
NCOR2	PPARG
VHL	ZNF197
DOK1	HCK
CCNA2	RBL1
F10	PLG
HNF4A	NCOA6
RAD23A	SQSTM1
ANXA11	PLSCR1
PLA2G1B	PLA2G2A
POLA1	POLA2
GGA3	RABEP1
LIG1	MRE11A
CENPF	TOP3B
PSMD11	SETDB1
ERBB2	HSP90B1
GRB2	PTPN12
UNC119	ZNF24
EIF3C	EIF3E
MSX2	XRCC5

HTT	MAP3K10
EBI3	MDFI
CAV1	CAV2
BRCA1	CTBP1
HIST2H2BE	NAP1L4
CALR	NR3C1
NEDD9	NEDD9
BMP2	ENG
MAP3K3	MAP3K5
PTPN1	SRC
LDHB	LDHB
C5	C5AR1
CSTA	CTSL1
CBL	LYN
CAV1	GJA1
ARNTL	NPAS2
DGCR14	LYST
EXT1	TRAP1
MYLK	SRC
COPS6	STX5
AXIN1	EEF1A1
MCM7	RBL2
ADD1	CALM1
PARP1	XRCC1
CLU	LRP2
EIF3A	YWHAZ
ADRBK1	GNAQ
RB1	TRIP11
KAT5	PTPRS
EP300	ZBTB17
GNAI2	PLSCR1
TCF3	UBE2I
KIT	MATK
BIRC2	CASP9
IGF1	IGFBP4
BMI1	RING1
E2F5	TFDP1
NPPC	NPR2
EP300	MAML1
GBP2	SEPHS1
NFKB1	NFKB1
ERBB2	IL6ST
CYTH2	SFN
FGFR3	HNRNPL
CBLB	NCK1
CBL	SLA
ATXN1	U2AF2

COPS6	MNAT1
AKAP12	PRKCA
MEF2A	MYOG
CTBP1	KAT2B
ATP6V0C	MARK3
GTF2E1	GTF2F2
IL6	SH3GL2
PIN1	PLK1
IGF2	VTN
ACVR2A	INHBA
HBA1	HBB
HLA	KIR2DL4
EEF1G	EEF1G
FGB	LPA
HNRNPU	NR3C1
ITGA4	PXN
COL4A2	SKIL
LYN	PAK2
CXCL9	CXCR3
CDC25C	PIN1
TRAF4	USP7
TGFBR1	TRAF6
TIMM17A	TIMM44
SCAMP1	UBE3A
HSF1	TBP
CBX1	RPL12
POLR2A	POLR2F
SCNN1B	STX1A
LYST	MED12
DLG1	EZR
CASP10	TRAF1
PPP2R1B	PPP2R5C
NME1	RORB
CD81	RBBP6
EEF1A1	NEU1
PTPN11	PXN
CDK6	CDKN1A
ICAM1	ITGB2
F3	F7
DYNLL1	RGS2
NPY	PMCH
TRAF3	TRAF3
AR	NR0B1
FLNA	PSEN1
ACTN2	GRIN2B
TNFRSF1B	TRAIP
AR	GSK3B

CSK	RASA1
SETDB1	TXNDC9
CD5	CD6
CD40	TRAF3
MAPT	YWHAZ
EFNB2	EPHA3
HDAC1	PITX2
AKT1	GSK3B
CYTH1	TRIM23
JUN	STAT1
FCGR2A	PIK3R1
PTPN6	SIRPA
STX1A	VAMP7
BLOC1S1	PTN
IRAK1	MYD88
CSNK2A1	JUN
BMPR1A	GDF5
RUNX2	YAP1
EGFR	EGFR
SCAMP1	TP53
EGFR	PLSCR1
BCR	TP53
AKT1	BRAF
TAF7	TAF9
CTBP1	TGIF1
EIF4G3	PABPC1
CSNK1A1	HMGB1
HSPA4	MAP3K3
DLG4	LRP2
RELA	TAF4B
IRF1	IRF8
PSMD4	RAD23B
CNTN1	CNTN2
CHGB	UBTF
EP300	NPAS2
IGF2	IGFBP5
FGFR2	ITGA5
EIF2AK2	TARBP2
TNFRSF17	TRAF3
PIAS1	SMAD7
NCOA1	PGR
PDIA3	TAP1
SMAD1	SMAD1
APP	BGN
MLLT3	PTN
ARHGEF2	RHOA
CFLAR	MAP2K4

MAP4K2	RAB8A
ANK3	SMAD3
TNF	TNF
HNRNPH1	NCBP1
CAV1	NOS3
NOS1	SNTA1
WASL	WIPF1
ATN1	EWSR1
CD3E	PIK3R1
TAF4	TAF7
FN1	MIA
CFLAR	RIPK1
TEAD1	VGLL1
MMP2	TGFB1
SIAH1	SIAH1
MAPK1	SNCA
PGR	UBE3A
BCAP31	BCL2
EIF3A	EIF4B
PSMC3	TRAF6
ADAM15	NCK1
JUN	PIN1
CRKL	PDGFRA
TTR	TTR
CD7	LGALS1
AR	CCND1
AR	PTEN
EEF1A1	PLAUR
ATN1	RBPMS
NR4A1	VHL
MDM2	RPL23
ESR1	PTGES3
CCNH	PSMA1
CD36	FYN
KPNA4	RECQL
EZH2	ZMYND11
PIK3R2	TGFBR1
ITPR1	RHOA
PML	SP1
BAT3	FKBP2
SMN1	SNRPD3
ECH1	EEF1G
C5	C7
CTSS	SERPINB3
FKBP3	HDAC1
CSNK1A1	ERF
BAT1	TUBB3

SMAD3	SMAD3
A2M	APOE
HSPE1	UNC119
KAT2A	XRCC6
COPS2	NR0B1
HNF1A	HNF1B
LIMK1	LIMK2
CITED2	LHX2
FBLN2	FBLN2
ABCD1	ABCD3
APC	MAPRE1
SNRPD3	SNRPG
PPIA	PRLR
ATP5C1	POLA2
BAD	RPS6KA1
CSF3R	SYK
EIF2AK2	STAT3
S100A1	S100A1
PDLIM7	TPM2
CSNK2A2	NCL
KAT2B	TWIST1
PTPRN	SNTB2
FUS	YBX1
MYC	PFDN5
CCNH	TP53
TBL3	USP11
TAF1	TAF7
NUP214	XPO1
ADA	DRD1
ATM	MDC1
MYLK	PRKG2
SMAD7	TGFBR1
GTF2I	USF1
CXCR3	PF4
CUL1	NEDD8
APC	DLGAP1
CEACAM1	SHC1
TP53	TP53
EED	EED
ARHGAP5	RND3
CSNK2A1	MGMT
DUSP1	MAPK3
ECH1	TIMP1
SFPQ	WWOX
GRB2	KRT8
PSMC5	TNNT1
PTPN6	VAV1

CSRP3	MYOD1
ESR1	KAT5
APOE	MAPT
CSNK2A1	DVL3
PRKCSH	RGS2
YWHAH	ZFP36
DLG1	KCNA3
BRCA1	RBBP8
C19orf57	EWSR1
IL16	KCNJ15
CCND1	THRA
IRS1	PTPN11
DLST	UMPS
FGF7	FGFR2
IK	NUP62
PRLR	PTPN11
ITGB1	ITGB1BP1
RARB	SMAD2
FOXO1	SMAD4
CSNK2A2	FOS
FYN	PXN
EWSR1	MVK
SH3GL3	TERF1
RYR1	TRDN
GNB2L1	NSMAF
HCFC1	OGT
RPLP1	SAT1
FLNA	VHL
ADAM17	PTPN3
KHDRBS1	KHDRBS1
APBA2	LRP2
RAC1	WAS
HDAC1	PCNA
LRP1	MMP14
TCF3	TWIST1
CREB3	EMD
DLG4	DYNLL1
APP	SHC1
CREB1	RAB1A
MAP3K3	ZBTB16
APP	SNCA
ATF2	NCOA6
SMAD5	WWP1
JAK1	PTPN6
APP	APPBP2
CAV1	INSR
CDC25B	YWHAE

AR	GTF2F2
RGS1	TSC22D1
NCOA6	NR3C1
DOCK2	VAV1
ELN	FBLN1
HSPG2	PRELP
MASP1	SERPING1
EIF4G1	HSPB1
SETDB1	USP11
GTF2B	JUN
ELF4	SKP2
COL4A3	MFAP2
LEPR	SNX1
SMAD3	XRCC6
STAT1	TNFRSF1A
ACTG1	PFN2
CSNK2A1	RELA
CBX1	CBX1
RAB5A	STX4
IL8	SDC1
CD8A	HLA
ERBB2	SRC
DNTT	XRCC6
PRKAR1A	PRKX
IL13RA1	TYK2
APBA1	CACNA1B
BMX	PTPN21
PLSCR1	SLC35A2
EP300	NFYB
CRKL	INPP5D
KHDRBS1	PTK6
DRD3	FLNA
MAGEA11	MLF1
IFNAR1	TYK2
CTNNB1	PSEN1
RBBP8	RBL1
CDC27	MAD2L1
RASA1	YES1
BCL6	JUNB
PIK3R2	TGFBR2
EFNA1	PPBP
CD63	ITGB1
ANK2	SIGMAR1
EPB42	SPTAN1
CDC42EP1	FHL3
ITGA2B	ITGB3
DLST	PFN2

HIPK3	SUMO1
PTK2B	PTPN11
BAK1	BCL2L1
LPL	LRP1
CIRBP	PRMT1
ANP32A	HSPB3
FOS	MITF
LCK	MS4A1
KAT5	RGL2
CRMP1	RGL2
DCTN2	RPGR
ICAM2	MSN
BMP7	BMPR1B
MAGEA4	UQCRB
APC	TFAP2A
ALK	PLCG1
CD44	EGFR
CCDC106	KAT5
TRIM23	TRIM23
BMP4	BMPR1A
RIPK1	SQSTM1
TNFRSF8	TRAF1
CLU	XRCC6
WRN	XRCC5
AR	EGFR
MAD2L1BP	SETDB1
TOP2A	TOP2B
MYC	TBP
IL2RA	IL2RA
EEF1A1	RPA2
RAB1A	SYT5
EZR	FAS
CFTR	CFTR
PKP2	SFN
ERCC3	MNAT1
SNAP25	STX4
ERH	TP53
BAT3	IGFBP5
ORC1L	TERF2
USF2	USF2
SCN5A	SNTB2
DTNA	KCNJ12
NRIP1	RXRA
SAT1	TP53
GAPDH	PRKCI
APP	CALR
CDKN2A	EGR1

AKT1	FANCA
FLNB	ITGB1
ATP2A1	PLN
TAF10	TAF13
CSF3R	GRB2
PHB	SMARCA2
SUMO2	TP53BP2
PLAGL1	TP53
ELN	LGALS3
SNRPB	TOP3B
HHEX	PML
FHL1	FHL2
ADORA1	GRM1
HSPA9	TP53
GRB7	SFN
EEF1A1	PFN2
RAC1	SET
ATF1	CREBBP
PRKCD	TIAM1
ESR1	NR2C2
CDH5	FGA
ATF3	TP53
GRB14	PRKCZ
GOLGA2	RAB1A
SMAD4	TM9SF2
HNRNPK	VAV1
DDR1	PTPN11
AGTR1	BDKRB2
ATXN1	MBP
H2AFX	MDC1
SKIL	SMAD2
APOH	LRP8
FBLN2	HSPG2
EYA2	RBPMS
ERBB3	RGS4
CDK9	MYBL2
JUN	RUNX2
MSH6	PCNA
CASP8	VIM
KRT8	MAPK1
KHDRBS1	PLCG1
AKT1	BRCA1
NCOA1	NFKB1
BCHE	BCHE
MAP3K10	MAPK8IP2
LTB	TNFRSF1A
IL10	IL10RA

HNF4A	TP53
ACVR1B	SMAD7
NOTCH3	SNW1
BCR	GRB2
AXIN1	SMAD7
SRC	SYN1
ADD1	RFX1
GRB2	MAP2
HSP90AA1	PPARA
HLA	TAP2
ACTA1	GC
NOLC1	YWHAZ
UCP2	YWHAQ
SMAD1	UBA52
HTT	SH3GL3
FTL	KNG1
HSPA5	TG
RHEB	TSC2
GRAP	KIT
GP1BB	YWHAZ
GNAI1	GPR143
ARF1	CHRM3
TFDP1	TP53
IRF3	PRDX1
IRF4	SPI1
HNRNPC	KRAS
AKT1	KRT10
DHPS	RPL9
CD46	MSN
CDC7	MCM4
CKS2	UNC119
ACTB	VSNL1
CTBP1	HIC1
MDM2	PML
CSF2RB	LYN
NFKBIB	PDCD2
APEX1	SET
EP300	NR4A1
TNFRSF14	TRAF1
MDFI	SIX1
ABI2	TRIM32
MAD2L1BP	TRIP13
LRP2	PLAU
ESR1	ESR1
TDG	VDR
PLXNB1	SEMA4D
NEDD4	NEDD4

COPS5	GFER
GLG1	SELE
HSPH1	UBA1
BGN	ELN
CCNA1	MCM6
CDH1	JUP
PTN	PTN
CDK2	RB1
GRB10	MAP2K1
IMMT	RER1
HIPK3	NR2F2
ACTA1	PRKCE
TSC2	YWHAH
S100A10	TRPV6
PTMA	SET
GNAQ	TBXA2R
CCT5	TCP1
PRKCD	SHC1
GTF2E1	SND1
BCL2	RAF1
ATRX	EZH2
NCK1	PKN2
BGN	TGFB1
MVP	PARP4
FGFR3	KRT8
NCOA1	PPARA
EP300	MAF
PRKCE	RAF1
CD3D	CD8A
ARF3	ARFIP1
ATXN1	R3HDM1
CSK	PECAM1
RIPK1	TRIM38
HSP90AA1	PPP5C
STK38	YWHAB
BRCA1	JUN
CCNA2	ITGB3BP
LRP1	LRP1
COL18A1	KDR
ACTN1	PYGB
FUS	SF1
EPB41	SPTB
NFKB2	NR3C1
SRC	SRC
KLK3	SERPINA5
AKAP10	PRKAR1A
RHO	SAG

MYC	TIAM1
CDC20	CDC20
EP300	PTMA
GBP2	SERPINB9
GDI2	RAB8A
CDH2	CTNNA1
ATF2	MAPK8
ETS1	MAF
PPARG	RXRA
GJA1	PRKCE
BAT3	DPT
EPRS	RARS
ADA	NR3C1
HSP90AA1	STAT3
TAX1BP1	TNFAIP3
MEN1	SMAD3
HSP90AA1	TP53
FKBP1A	GLMN
ESR2	NRIP1
EFNB3	EPHA4
GTF2I	STAT3
OCRL	RAB8A
CAV1	PTPN11
ARL3	TLE1
TAP1	TAP2
TP53	XRCC6
EP300	MEF2C
CTNNB1	NR5A1
KRT18	TNFRSF1B
NEFL	SPTAN1
ICAM3	ITGAD
AR	TSG101
MRE11A	RAD50
HLA	KLRD1
C8A	C8G
AKAP6	RYR2
CCDC85B	TEAD4
CRMP1	UBE2B
RXRA	VDR
PSMB4	SMAD1
LPL	VLDLR
PHB	RB1
HSF1	PRKDC
FEZ1	FEZ2
HLA	HLA
MUC1	SRC
CSNK1A1	OCLN

BIN1	MYC
GFAP	PDLIM7
CSNK2B	CSNK2B
MCM7	UBE3A
CD63	HLA
CDK4	CDKN2B
EEF1A1	MAD2L1BP
CREBBP	EGR1
DAG1	DMD
ESR1	TDG
FSCN1	NGFR
BMPR2	BMPR2
DUSP6	MAPK1
DUSP6	MDFI
EIF2AK2	PTGES3
GEM	PDLIM7
CCL5	CCR3
ATR	BRCA1
BRCA1	RAD51
PEBP1	RAF1
APOA1	LCAT
POLD2	POLD3
SIAH1	SLC9A3R2
CSTA	CSTA
NCOA6	NCOR2
CDC20	MAD2L1
LCK	RAF1
CASP9	DCC
LYN	PLCG2
APC	CTNNB1
LMO2	MAPRE3
NCOR2	RXRA
TAF4	TAF6
TAF1	TAF10
ID2	RBL2
EGFR	NCK1
SKI	SMAD2
PRPS1	PRPS1
EPOR	VAV1
BCL2L1	RAD9A
CRHBP	UCN
FXR2	PAICS
PIK3R1	TYRO3
ACVR1	ENG
ACVR1B	SMAD2
EED	HDAC1
SMAD4	TFE3

CRMP1	SERPINB9
ADAM15	TRIP13
CTNNB1	DVL1
2-Sep	6-Sep
SREBF1	UBE2I
KTN1	RHOG
AQP1	CCDC85B
GNAO1	RGS4
ACTB	SMAD3
CCND3	NCOA2
MYB	NCL
PDGFRB	PLCG1
HLA	LILRB1
CLU	LEP
FKBP4	IRF4
ANXA5	SUPT4H1
MAPK1	PTPRR
IL17A	IL17A
BMPR1B	GDF5
APCS	FN1
GPNMB	SMAD4
SMAD7	TGFBR2
MED1	MED12
CD5	RASA1
DLG2	GRIN2A
EEF1B2	TIMP1
APC	TUBA4A
PTPN6	TYK2
ERBB3	PTK6
NR5A1	PITX1
BRCA1	SMARCA4
REL	RELA
EP300	TCF12
EP300	TDG
CASP8	MAP3K14
TNNC1	TNNI2
KRT9	YWHAQ
ERBB4	STAT5B
BTK	PRKD1
RAD52	SUMO1
SNAP25	VAMP7
SRP19	TNPO1
ELK1	UBE2I
FN1	LPA
MAGI1	NET1
PRKCZ	SQSTM1
AR	MED1

EPAS1	SMAD3
TNNI3	TNNT2
ARHGDIA	JUP
CX3CL1	CX3CL1
CCDC85B	ZNF250
ITSN2	PTN
PAM	TSC2
CD36	YES1
CDC34	CUL1
CREBBP	MYC
COPS6	SERPINB9
NFKBIA	SKP1
BCL2	PMAIP1
EZH2	POLA2
CCNA2	CDK2
FUS	RELA
E2F4	RBL1
EXOSC2	KHSRP
ATXN1	KCNAB2
CCNA2	CDC6
DNMT1	PCNA
ANXA3	TP53
IL9R	JAK1
RAF1	SFN
RET	SRC
COPS8	GPS1
FLT4	VEGFC
KCNJ12	SNTB1
CD22	PLCG1
SMN1	SNRPB
BATF	JUNB
IL6ST	VAV1
ATF2	CEBPA
CASP3	CASP3
CASP10	CASP4
DCTN2	GADD45A
CUX1	RB1
ABL1	HCK
CCDC85B	SIX1
MDFI	PIN1
CDC25B	YWHAH
HLA	LILRB1
CAV1	S1PR1
ADRBK1	RHO
HSP90AA1	PIM1
TAF6	TAF9
SHC1	SRC

CYCS	UQCRC1
BAT3	RAB8A
NRIP1	RARA
TAF12	TAF9
BMP2	MGP
CUL1	NFKBIA
TNNT1	TNNT1
NUP214	ZFP36
CAV1	GRK5
GOLGA1	RAB6A
CRYAB	CRYAB
NCOA2	NKX2
CXCR4	PTPN6
RALGDS	RIT1
CD40	MS4A1
FBL	MAP3K14
FBL	PRMT1
ESR1	PHB2
PDIA3	STAT3
NCOA4	PPARG
POLR2E	POLR2L
EP300	PAX6
MAP3K11	RHOG
PRKDC	XRCC6
ADD1	ID2
MEF2A	THRA
GARS	IARS
CDC7	CDKN2A
ACTA1	ACTA1
APOH	LRP2
CALCOCO2	CALCOCO2
ITGA2	MMP1
NCOR2	SRF
EIF2AK2	NPM1
E4F1	EHMT2
GRB2	IQGAP1
PAK1	PLCG1
EGR1	RELA
GNAZ	RGS19
FLT1	PGF
RAC1	STAT3
MNAT1	POU5F1
TYK2	TYK2
ETV6	FLI1
ILF3	MAGEA11
ANKS1A	SFN
AR	TP53

CTNNB1	PITX2
FYN	PIK3R2
ATN1	PLSCR1
PI4KB	YWHAQ
EEF1D	KTN1
EPOR	PTPN6
TPH1	YWHAZ
CREBBP	KAT2B
PML	TDG
DIS3	ZBTB17
NEDD9	ZYX
MAPT	STXBP1
HSPA5	TSHR
DVL1	DVL1
DLG3	GUCY1A2
GADD45A	RXRA
CDC25C	PLK1
MVP	PTEN
AR	CALR
ARHGEF16	SFN
TEK	TIE1
KPNA1	RUNX1T1
FGA	THBS1
H2AFX	WRN
BAD	BCL2A1
ANK1	SLC4A1
DAB2	LRP2
CD40	TRAF6
STX16	VAMP3
MARK3	SFN
FEZ1	IMMT
ATXN2	SH3GL2
PIK3CA	PIK3R3
HSP90AA1	MYC
CASP8	FAS
ATXN1	TRIM32
COPS6	COPS8
KRT8	PKP1
MYC	SP1
AR	CTDSP2
NCOA1	PRMT1
F13B	FGG
CRK	DOCK1
FTL	TAF10
CREBBP	PTMA
CNTFR	IL6ST
BRCA1	EP300

COPS6	SNRPG
CALM1	SNCA
SERPINB9	XRCC6
ELMO1	HCK
CTNNB1	GSK3B
INSR	MAPK3
DLST	NAP1L1
BAT2	FGA
C8A	CD59
FYN	PRKCQ
CFTR	STX1A
PICALM	PLCG1
PML	RPL11
AKAP1	PRKAR1B
PGF	VEGFA
GATA4	NR5A1
RAF1	RHEB
CASP3	SRP72
CD247	STAT5B
ID3	TCF4
CRYAA	HSPB1
HNRNPC	PHKB
SMAD7	TTF1
ATN1	WWP1
CDH11	CTNNB1
CASP3	MCL1
NEDD9	PXN
NFYA	NFYC
CASP3	HSPE1
KHDRBS1	RASA1
CDK8	MED21
AP2M1	FXR2
HSP90AA1	IKBKE
RPS6KA1	TSC2
TTK	TUBB
CASP1	EGFR
COPS5	UCHL1
FLNA	GP1BA
POLR2A	SUPT5H
ESR1	HSPA4
KIF23	YWHAB
GTF2F1	TAF1
KIF11	KIF11
DRD4	NCK1
KRT18	YWHAZ
ARHGEF7	RAC1
CR2	FCER2

SUMO1	TNFRSF1A
EXT1	EXT2
BCL2	BLK
PSMD11	PTN
ACP1	EPHA2
CHM	RAB6A
SKIL	TDG
MDK	PTPRZ1
PDLIM7	RET
FLII	TRAIP
NXF1	SFRS7
TUBB	YWHAZ
C1QBP	MMP14
CSNK2A1	MAZ
NFYC	SMAD3
SMAD2	ST13
CUL4A	DDB1
SKIL	SNX17
GNAS	GNAS
CSF3R	HCK
BRCA1	JUNB
DHX9	NXF1
PKP4	PSEN1
MDM4	RB1
CYP2C9	POR
ARNT	PML
BHMT	BHMT
CDK2	CKS1B
ATF2	FOS
NFKB2	NFKBIB
AFAP1	PRKCB
NR3C1	NR3C2
RBBP6	YBX1
ID3	MYF5
ITK	WAS
SRC	TRAF6
BRCA1	CREBBP
COPS2	COPS5
CTNNB1	PTPN1
MYBL1	NCL
CD53	CD9
ETS2	ZMYND11
MAPKAPK2	PHC2
HOXA9	SMAD4
ADRM1	PSMD2
ARL4D	EPRS
GRIA3	SDCBP

EGF	ERBB3
CCL7	CCL7
RB1	THOC1
MCM6	MCM6
SMARCA4	SMARCC1
PPP2R1A	PPP2R5A
EWSR1	RPS15A
ATXN1	KIAA0174
KARS	PAFAH1B1
LMO1	LYL1
DDX5	NCOA2
CSNK2A1	TSPY1
MAPK3	RPS6KA1
KAT2B	NCOA1
LYN	TYK2
ARHGEF7	PAK1
GALE	GALE
EEF1G	RPS28
EPS8	SHB
NPAS2	RARA
GSTM3	GSTM3
NEDD4	SCNN1B
STX4	VAMP3
CBS	FXR2
CDC6	MCM3
LCK	THY1
IL11	MAGEA11
MNAT1	TP53
RYR1	S100A1
IFIT3	IFIT3
EP300	SOX9
TTR	VIM
SHB	SRC
FASLG	GRAP
RBPMS	SF1
KHDRBS1	SMAD2
FAP	PLAUR
RAD9A	TOPBP1
HBB	HP
KRT15	KRT6B
ID3	TCF12
TAF5	TBP
MYOD1	SRF
BLM	SUMO2
DSC1	DSG2
CCND1	CDK6
NOVA1	PCBP1

NTF3	NTRK3
JUN	POU1F1
CREBBP	DAXX
KRT15	KRT20
CFLAR	RAF1
ELN	NID2
COMMD1	NFKBIA
LGALS3	LGALS3BP
PITX1	RBPMS
CD3E	NCL
MCM2	MCM2
CBX1	PIM1
PEX13	PEX13
CDH5	CTNNA1
ATXN1	NARS
E2F4	RBL2
NCK1	WAS
IER3	PPP2R5B
FBLN1	NID1
ACOT7	ATXN1
C19orf57	TRIM23
CREBBP	FOXO4
KRT10	SMAD3
CSNK2A1	HCLS1
PLG	SERPINE1
A2M	MMP2
RELN	VLDLR
NPAS2	RXRA
EIF3B	EIF3I
FURIN	SERPINB8
DDX5	FBL
CRH	CRHR2
DAZAP2	DAZAP2
ITSN1	UNC119
CREBBP	RPS6KA3
CCNA1	RB1
NEDD4	UBE2D3
JAK1	PTK2B
AMFR	UBE2D2
MAPK8	PAX2
SLC26A3	SLC9A3R2
UBE2N	UBE2V2
AKT1	HSP90AB1
EPS8	ITGB5
PTPN6	ZAP70
CDC25A	CDK2
HNF4A	SREBF2

CLK2	PTPN1
BGN	TNF
ABL1	RIN1
PBXIP1	TSNAX
PAFAH1B1	PAFAH1B3
LCK	ZAP70
IFNAR1	STAT2
DCC	MAZ
ARFIP2	ITGB3BP
MDK	NCL
SYN1	SYN2
FAS	SUMO1
PCNA	WRN
DAB2	SMAD3
PML	TP53
EP300	MGMT
TBP	TBP
CDH2	GNA13
ABLIM1	KCNJ12
RHOA	TRIO
AP3D1	VAMP7
KLC1	YWHAB
RNF10	SETDB1
CSNK2A1	TOP1
HRAS	MAP2K1
CAPN2	PTPN1
EGFR	PRKAR1A
CD22	INPP5D
INS	NOV
NME1	SET
PEG3	USP7
FYN	HTR6
BAT2	GANAB
SMAD2	ST5
PSMA1	PSMA3
TP53	YWHAZ
CALR	F5
MAP2K6	MAP3K5
GATA1	LMO2
CLIP1	IQGAP1
PRKACA	RELA
EFNB1	SRC
TRIM28	VIM
FAS	RIPK1
BAG1	VDR
GHR	PTPN2
IL10RA	JAK1

SETDB1	ZNF24
BLK	PLCG2
ARHGEF2	RAC1
ESR1	FOXO4
EZH2	PSMB6
ACTA1	CFL1
KIAA0182	XRCC6
TNFRSF9	TRAF1
NCOA6	SMAD2
BCL2L1	VDAC1
LYN	PTPN6
PSEN1	PSEN1
HTT	TRIP10
F11	GP1BA
TP53BP2	UNC119
NCK1	WIPF1
ARHGEF1	CD44
ID1	MYF5
JUN	NRIP1
MYD88	TLR4
IL2RB	STAT3
CSNK1A1	YWHAZ
NDN	NUBP1
TAF12	TAF6
F8	LMAN1
ID1	TCF3
ATXN3	RAD23A
EWSR1	MYO1F
HOXA9	PBX3
IL2RB	STAT5A
EIF2S2	UNC119
BRD8	RXRA
CKMT2	UNC119
FBLN1	FGB
FASLG	GRB2
B3GNTL1	MPP3
TEC	VAV1
CCNH	MCM7
ANP32A	E4F1
MCM2	MCM4
FGF2	SDC2
CDK7	ERCC3
GTF2E1	TAF6
MCM4	SSRP1
ERBB4	MUC1
DNMT1	HDAC2
FLNC	SGCD

F2	F5
BCL2	RAD9A
FUS	ILF3
CDH1	CTNNB1
GHR	PTPN3
EPS15	LAPTM5
GATA3	LMO2
AR	COX5B
ADRA2B	EIF2B1
ATXN1	ATXN2L
KPNA2	PLAG1
MAX	MSH2
GRB2	PTK2B
GAPDH	PRDX1
ATP2B2	DLG2
BAT3	TOMM20
PSMA1	VIM
DUSP1	MAPK1
PIK3R2	SYK
BRCA1	RBBP7
GDI2	RAB4A
JUN	TSC22D3
DGKQ	RHOA
CSNK2B	FGF2
DUSP4	MAPK14
RARA	SP1
DOK1	FGR
TRIM21	USP4
CREBBP	ETS1
VASP	ZYX
GRB2	PTPN1
DOCK1	ELMO1
JAK3	PTK2B
CD59	SMAD4
CD33	PTPN11
JUN	NACA
SNRPD3	SNRPE
ACTA1	FSCN1
TP53	TP53BP2
TERT	XRCC5
ERBB3	NRG1
EEA1	IGF1R
DLG2	KCNJ12
ATF4	GPS2
DLG4	MAP1A
GRIA1	PRKACA
CREBBP	NCOA6

FXR2	PCBD1
BCL2L1	CFLAR
CBL	SH3GL2
PSMD11	TLE1
HLA	PDIA3
PFN2	PTPRS
GTF2B	NR5A1
DLG1	GUCY1A2
COL2A1	MAG
CRYGC	CRYGC
UBE2I	WT1
FYN	SHC1
PLK1	PSMB5
CCL7	MMP2
AMPH	CLTC
SMAD2	SMAD3
FKBP1A	TGFBR1
SNAP25	SYT1
HNRNPF	NCBP2
SF3B3	WWOX
HCK	WIPF1
CD3E	TOP2B
NPR1	NPR1
CBL	KIT
ID1	MYOD1
FN1	PKD1
DLG1	DLGAP1
FHL2	PFKM
ATXN1	COIL
INSR	MAD2L1
IGF1R	PTPN11
ACP5	TNFSF10
ESR2	NCOA1
NR0B1	NR5A1
PTN	TP53BP2
CTH	CTH
CALM1	RELA
HNRNPL	HNRNPL
CASP10	CASP7
ANXA2	CEACAM1
RFC1	RFC2
ERCC3	GTF2H4
GNB2L1	PRKCA
AP1B1	ARF1
CUL2	NEDD8
SLA	ZAP70
NR3C1	YWHAH

TPM2	TPM2
KAT5	MDM2
ATM	ATM
TMPO	USP7
AXIN1	CRMP1
NFE2L2	PPARG
S100B	S100B
MSX2	RUNX2
APC	JUP
POLB	TLE1
TAF11	TAF9
GATA4	TBX5
BCL2L1	BNIP1
CXCL1	CXCL1
CDC25A	YWHAE
ACTN1	FXN
FGF2	RPS19
IL6ST	OSMR
CCNA1	CDK2
EGFR	ERBB2
ACPP	ACPP
MUTYH	RPA1
MDM2	UBE2A
CACNA1A	CACNB4
KRT15	PCM1
PPFIA1	PTPRD
SP1	TP53
ACTB	RAC2
KNG1	PLG
AKT1	MAP2K4
CAV1	PTPN6
AKT1	RPS6KB1
ATXN2	SH3GL3
CLNS1A	SNRPB
DLD	OGDH
FYN	SH3BP2
AMBP	FN1
C9	CD59
SALL1	UBE2I
AR	JUN
CRMP1	PSMD11
KAT5	TP53
CFTR	PRKCE
POLR2E	POLR2H
CD4	PTPRC
SYN2	SYN2
MMP3	TIMP1

EEF1A1	PSMD11
MMP2	TIMP3
FGF9	FGF9
CASP8	HIP1
ATN1	GRN
PSMC2	PSMD2
UPP1	VIM
ETS1	ETS2
FOXF2	GTF2B
DAB2	GRB2
FADD	FASLG
CD2	CD5
MCM2	ORC2L
CBX1	CBX5
DCTN1	KIF11
CASR	FLNA
NCBP1	NCBP2
PLSCR1	SMCP
APBB1	APLP2
LCP2	LYN
DSG2	JUP
SDC1	SDCBP
TRIM28	TRIM28
UBE2L3	UBE3A
NR1H4	RXRA
SLC6A9	STX1A
EGR1	TP53
NCOA1	PPARG
UPK1A	UPK2
IFI35	NMI
MARK3	TTR
IL1R2	IL1RN
CDK6	MCM2
ARF1	ARF1
E2F1	MDM4
CCNE1	CDK2
ERBB3	GRB2
FLNC	SGCG
HRAS	RALGDS
GGH	GGH
CBL	PDGFRA
NMI	STAT3
FYB	VASP
NUMB	PRKCZ
RB1	RBBP8
DES	NEB
EEF1B2	HARS

MAPK14	SMAD7
IL16	IL16
FOXO1	SMAD3
PSMB7	PSMB7
ALCAM	CD6
HDAC1	RBL1
LIMK1	NRG1
ABL1	NEDD9
ACVR2A	INHBB
HTR1A	HTR1D
RAF1	VAV1
HSF1	SMARCA4
SRRM2	YWHAB
GTF2B	NCOA1
BAT2	QARS
MAF	USF2
RAD51	TP53
KIT	STAT1
BCL2	BNIP1
TNFRSF14	VIM
PSEN2	SRI
EPRS	HSP90AA1
HSF1	STAT1
HNRNPD	SFN
HRAS	RGL2
CEACAM1	PTPN11
PRKDC	TP53
CD1D	PTPRC
CYP11A1	SMAD2
FN1	TGFBI
DEK	TFAP2A
RBL1	SP1
CSNK2A2	KLF1
LYN	SHC1
CBLB	KIT
PRMT1	S100A8
MAX	MAX
ADAM17	DLG1
PTH1R	YWHAH
INPPL1	SHC1
CACNB4	PTN
KAT5	LMNA
HSPB1	MAPKAPK2
MMP9	THBS1
GZMA	SET
COX17	TP53
AP2M1	TBC1D5

ATF6	GTF2I
BAT3	RCN2
NCOA2	PPARG
CD48	LCK
LAPTM5	TNFAIP3
NME1	NME4
KCNH2	RHOH
LUM	MMP14
AKT2	GSK3B
BCL2	RRAS
ISL1	LMO2
FHL2	TTN
NFKB1	STAT6
CBL	HCK
ADCYAP1R1	CALM1
DSC2	DSG1
ATN1	MDFI
TRIP10	WAS
F11	SERPINA5
KAT2B	NCOA4
RPA2	UNG
ITGB1	TGOLN2
POLR2C	TAF15
LPL	RPL18A
ARR3	RNASE6
E2F4	SMAD3
GRM3	PPM1A
HNRNPC	HNRNPC
CSNK2A1	FGF2
DNM1	NCK1
ERCC4	SPTAN1
DSC1	PKP2
DLG4	GRIN2A
BMI1	KAT5
PRDM2	RB1
CASP8	MAPK1
ANXA2	PCNA
MDFI	NR1H2
E2F1	SP3
BRCA1	CCNA2
CIRBP	RBMX
CSTA	CTSB
CCL3	CCR5
RAD51	RAD52
CBLB	SYK
GAPDH	PGK1
CTBP1	HDAC1

HDAC1	IKZF1
NR5A1	SOX9
FN1	ITGB6
PEX12	PEX19
AKT1	EZH2
E2F3	RB1
POLR2E	POLR2G
PTN	PTPRZ1
ANKRD1	TTN
STX4	VAMP7
CSDA	MAPK1
GYPC	PDIA3
PTPN1	STAT5A
AR	IL6ST
A2M	KLK3
SPIB	TBP
GATA4	NKX2
NR2F6	THRB
MARK3	PKP2
KEAP1	MYO7A
CDK4	NCOA2
IGBP1	PPP4C
MC5R	POMC
LYN	TRIP10
CBX5	LBR
POLR2H	POLR2K
KRT1	MBL2
HRAS	TIAM1
CD93	KNG1
EGFR	PTPN11
CA2	HSPD1
PPP2R1A	SMAD3
UBE2I	UNC119
ITSN1	WASL
IK	KAT5
EIF4G3	MKNK1
B2M	BAT3
LSM1	NARS
CSK	EGFR
PRKCI	SQSTM1
PECAM1	YES1
NFATC4	YWHAZ
GATA2	ZBTB16
HSPA1A	YWHAB
CALCOCO2	ZNF638
PTPN3	SFN
NDN	NDN

TAX1BP3	TCEA2
SMARCB1	XPO1
AR	RB1
EP300	SP3
RTN1	UGCG
AXIN1	SH3GL1
APBA2	LRP1
AGTR1	GRK5
EGF	VTN
ATN1	ZMYND8
BCL2L1	BNIP3
ATP2A2	S100A1
CSTA	CTSH
ARPC1B	PAK1
ALK	SHC3
ACTA1	TMSB4X
EIF2S2	ZBTB16
ACP5	EGR2
AMPH	DNM1
CCDC106	TP53
NCL	TOP1
GATA3	LMO1
FKBP1B	RYR2
CTTN	DNM2
PTN	RIT1
FOXF2	TBP
EGFR	MAP3K14
CSNK2B	TOP2B
CARS	EEF1G
TAC1	TACR2
F10	PRKAB1
ANG	PTEN
PTPRS	UNC119
CDKN1A	MAP3K5
GRB2	WAS
REG3A	SDC2
AR	SRY
APEX1	HSPA1A
HDAC1	HIF1A
SF3A1	WWOX
CSF2RB	PTPN11
ARF3	KIF23
EGF	PIK3R2
BAT2	HNRNPM
EZR	NF2
PTPN21	SRC
HCK	PECAM1

COX17	UNC119
DLG4	FZD2
F10	SERPINB8
EZH2	SMS
S100A12	S100A12
FASTK	RBPMS
JUN	RUNX1
FBP1	FBP1
ATN1	LYST
CD226	ITGB2
FANCC	SPTAN1
EZR	MSN
PDGFRB	S1PR1
DNM2	SRC
ID3	MYF6
DNMT1	HDAC1
BNIP3	TMEM11
JUNB	MAPK8
CREBBP	NFE2
PCBP1	PCBP2
BLK	CD79A
ARAF	CSNK2B
BCL2	MAPK8
CBL	MST1R
IRAK1	TRAF6
EIF5A	XPO1
EZR	PIK3R1
SUMO1	TP53
EPS8	SHC1
CBLB	ZAP70
CRKL	TYK2
CD46	SRC
ID2	TCF12
E2F1	NCOA6
CSF2RB	SHC1
ERCC1	ERCC4
ESR1	RNF4
PSMD11	ZBTB16
FYN	SNCA
BCAT1	SMAD5
NKX3	SRF
CDK4	RB1
COPS6	EMD
EEF1A1	SSR1
FXYD3	NR4A1
GATA2	PML
TNFAIP3	TRAF6

POLR2C	SMARCC2
CDK4	MCM2
BCL3	HDAC1
CSTF2	FEZ1
FGFR3	RPL8
PAFAH1B2	RPLP0
MDM2	USP7
HOXB6	KRT15
HDAC1	RFC1
ANXA2	PLAT
BRD2	E2F1
PSMA2	PSMA4
FSHR	GRK4
EEF1A1	LAMA4
MAPK1	YBX1
KRT15	PRPH
AES	GTF2E1
ADAM17	TIMP3
POLA1	TP53
CASP10	CASP3
PRKDC	XRCC5
NEDD4	SGK1
IL5RA	UNC119
HIVEP1	SMAD3
MSN	TSC1
GTF2B	PSMC2
PSMD6	TRAF6
GRB2	PIK3R1
RB1	RBBP4
NUCB1	PTGS1
EHMT2	LMO2
EP300	RELA
KIAA0182	RBPMS
RDBP	VAMP3
SGK1	SLC9A3R2
CD79A	CD79B
CREBBP	NFATC4
HDAC1	RUNX1T1
SLC2A1	STOM
BCL2	FKBP8
FHL2	ITGB2
MAP3K14	TRAF6
BRCA1	CSNK2B
TRO	USP7
GM2A	HEXA
REL	SP1
ARHGDIB	RHOH

NFKB1	NFKBIA
FOSL1	JUNB
VAV1	XRCC6
CD72	PTPN6
CDH5	CTNNB1
NR2F2	NR2F6
ATXN1	DMPK
CSE1L	PPP5C
CALR	SLC6A4
ASPA	ASPA
NEDD9	PTK2B
DOK1	SHC1
NFKBIB	POLR2H
AR	CASP8
CRK	ERBB4
OGG1	XRCC1
EPOR	LYN
DGKZ	SNTB1
AKT1	TSC1
MEOX2	RND2
E2F3	MYBL2
JUN	JUN
GCK	GCKR
ATN1	CACNB1
PKM2	RAF1
UCP2	YWHAZ
GC	LRP2
ODC1	ODC1
EP300	RUNX2
BRAF	PRKCE
CCL23	CCR1
PXN	RASA1
EYA2	SIX1
ITSN1	SNAP25
TOP1	UBE2I
GAPDH	PAFAH1B3
CDC25C	NEDD4
ESR2	SRC
COIL	NOLC1
CDKN1A	PIM1
JAG1	NOTCH3
AR	NCOA2
CREBBP	STAT1
VDR	ZBTB16
BAK1	BCL2
PTPN6	ROS1
MAPK1	RPS6KA1

GTF2H1	GTF2H2
ITGAD	VCAM1
RAB4A	RABEP1
DSG1	JUP
DOK1	PLCG1
LRPAP1	SORL1
ATP6V0D1	ATXN1
GNA13	PPP5C
NEDD9	RAPGEF1
NPM1	TP53
COL17A1	DST
EEF1G	MVD
NTF4	NTRK2
BCAP31	VAMP3
ARHGEF7	GIT2
CD247	JAK3
HERC1	PKM2
AR	NCOR2
MAP3K14	MAP3K8
CDK5	TP53
AP3B1	AP3S2
FBLN1	FN1
NFKB2	RPL6
NCOA2	RXRA
ERBB2	MATK
LCP2	VAV1
MLH1	PMS1
CEBPA	SPI1
NCL	NR3C1
GAD1	PRKCE
ORC1L	ORC2L
GHR	TYK2
C1QBP	PRKCD
DMD	SNTB2
PSMC5	PSMC6
ACTN2	PDLIM1
SNRPE	SNRPF
NCOA1	NR4A1
GATA2	POU1F1
COL2A1	ITGA2B
ATXN1	CST3
CALM1	TCF3
ORC2L	RPA1
GTF2F2	HTATSF1
PAPPA	SKIL
RGL2	UNC119
NR3C1	TRIM28

GNB2	GNGT1
ABL2	RIN1
DUSP1	MAPK14
RIPK1	RIPK1
PNO1	RXRG
COPB2	PRKCE
RAC1	RPS6KB1
CDC27	SMAD2
KLF9	PGR
CDC34	CDC34
E2F4	RB1
AGER	S100B
FMR1	NCL
MARK3	PRKCQ
LCK	SQSTM1
GAPDH	KAT5
F2	SERPINB6
APCS	APCS
CDKN1A	STAT3
TNFRSF1A	TRADD
ATN1	BAT2
EEF1G	PSMD11
CASP8	CFLAR
PSMC5	RORA
CLNS1A	ITGA2B
LAMA4	UNC119
FES	STAT3
DOCK2	RAC1
DLG4	FYN
LRP8	RELN
BMI1	BMI1
RELB	SMARCC1
SERTAD2	TRIM28
DAXX	ETS1
BAT3	REG1B
RUNX2	SMAD2
BCL3	COPS5
PAFAH1B1	PAFAH1B1
EEF1A1	RFC5
PLCB3	SLC9A3R2
RGS3	YWHAB
CSH1	PTPN12
RPA1	TP53
COPS6	PSMD11
NMT1	TP53
NFKB2	RELB
LMO2	NHLH1

HSPA5	KRT8
RB1	SP1
PRKCD	STAT1
PSMD11	PTPRK
PCGF2	RNF2
CHGB	OGG1
IRF2	IRF8
CALD1	SHC1
AKT1	SMAD2
IL1RL1	TMED1
BMPR1B	TRAF6
TANK	TRAF3
BAK1	BAK1
DLG4	DLGAP1
SUMO1	TOP2A
CEBPA	CTNNB1
PDHB	PDHX
RBM4	SMAD5
PIN1	TP53
MARS	PPM1F
CASP10	FASLG
BAT3	PTH
ABL1	MUC1
ACTA1	GSN
EEF1A1	RAB27A
NCOA6	NR1H2
CCNE1	COIL
CCNE1	CDKN1A
CSF1R	LYN
S100A10	S100A10
EP300	JUN
TAF11	TAF13
ANXA5	COL2A1
MAGEA12	STAT5A
NFATC1	PIM1
UCP2	YWHAB
CDC25A	PIM1
PMAIP1	ZBTB16
A2M	LCAT
KRT8	PLAT
PPP2CA	RELA
NCOA6	SMAD3
HMGB1	HOXD9
DDX1	HNRNPK
RNF5	UBE2D3
ARF6	EXOC5
ADORA2A	DRD2

H2AFX	TP53BP1
POLR2K	POLR2K
PFN2	RAP1GAP
CDK2	LYN
COIL	TFCP2
LIMK1	PAK1
EWSR1	RBPMS
CHD8	RBBP5
PHB	RBL1
MAP3K3	YWHAQ
RBL1	SMAD3
AKAP9	CSNK1D
CX3CL1	CX3CR1
VEGFC	VEGFC
ATF1	SPI1
ITGB1	LGALS8
AP2M1	RALBP1
AKAP5	PPP3CA
MAPK1	MBP
RELA	RELB
ANGPT1	TEK
NEDD8	TP53
DNM1	DNM1
CSNK2A1	OGT
MAGI1	SFN
DAG1	SRC
GRB2	PDGFRB
FLNB	GP1BA
EEF1G	FOXG1
F2	SERPING1
CUX1	KAT2B
NR3C1	TP53
HTT	UBE2K
PSMD11	SMAD4
IER3	MAPK3
TOPBP1	TOPBP1
SKI	SKIL
GTF2F2	POLR2E
TJP2	YWHAB
PRKAR1A	PRKAR1B
BAK1	VDAC2
NUP153	TPR
CITED1	CREBBP
EP300	ESR1
ARHGAP11A	SFN
ARHGEF2	PAK1
IMMT	PPOX

CASP3	CASP8
ARHGEF12	RHOA
SP1	SP3
BLK	UBE3A
CFDP1	SMAD3
CALM1	CAMK2G
AES	RPL18A
CXCL11	CXCR3
CTNNB1	DSC3
ARAF	ASS1
ABI2	ABL1
HNRNPK	PCBP1
EPB41	TJP2
CDH1	GNA13
IRS1	SFN
DAZAP2	RPS27A
LCP2	SHB
CBLB	SHC1
U2AF2	WT1
ACTC1	AFAP1
NCOA1	NR3C1
HNRNPK	SRC
ABL1	DOK1
IL6	ZBTB16
POLR2C	POLR2F
EEF1G	SAT1
PKN1	PLD1
BTK	CAV1
ERBB2	ERBB2
ABL1	RAD51
BRCA2	RAD51
CD19	CR2
CAV1	EDNRB
BAG1	BCL2
CREBBP	TRIP4
BRCA1	NMI
CREBBP	JUN
ICAM5	PSEN1
MDM2	MDM4
CPSF6	WWOX
GGA3	IGF2R
EGFR	GRB14
LCP2	PIK3R1
KPNA3	KPNB1
APCS	FCGR1A
CDC34	CDK9
PRKDC	RPA1

CHN1	RPS3A
IRS1	JAK3
LRP2	RBP1
CD19	CD79B
MAPK1	NEK2
GLUL	GLUL
TSC2	YWHAB
CREBBP	NR3C1
EIF3A	EIF3B
MCM7	RB1
MSX1	TBP
POLA1	RB1
AR	RAD9A
CRKL	GRB2
HDAC1	NCOR2
CTNNB1	ESR1
EPOR	SHC1
CALM1	VIPR1
PIM1	SND1
TRIM23	TRIM29
PIN1	POLR2A
HDAC2	MTA1
ARR3	CSNK2A1
FYN	PLCG2
SPI1	TBP
CDC25C	YWHAB
ELN	FBLN2
FOS	JUND
BCL2	TP53BP2
CSF2RB	GNB2L1
CCDC85B	KRT20
STX4	VAMP2
HLA	MBP
BDNF	NTRK2
PRKCZ	SRC
NTRK2	SHC1
STAT1	STAT1
SPIB	SPIB
HNF4A	MED1
PDGFRB	SNX1
MYOD1	TCF4
LCK	RASA1
CD74	HLA
BNIP2	FGFR1
MDM2	TP53
PDIA3	SLC2A1
AVPR1A	PRKCA

PDIA3	SLC12A3
HSP90AA1	PPID
ARHGDIB	VAV1
SEMG1	SEMG2
MCM6	MLLT3
DLAT	PDK3
LMO2	STAT1
DLG2	GUCY1A2
BAT3	PTPN12
IGF1	IGFBP3
ARHGEF12	ARHGEF12
GBP2	HSPE1
FYN	MAP2
HMGN1	HMGN1
MAPRE2	MAPRE2
RAC1	TIAM1
ATN1	SIAH1
FYN	PTPN11
GTF3C1	IGFBP3
CD2	CD58
EP300	KAT2B
ATM	SMC1A
FADD	HIPK3
AMBP	AMBP
PTN	WFDC2
MCM2	PHC2
S100A1	S100P
COX17	EEF1A1
TNNC1	TNNI1
MCM5	NFKBIA
ADRBK1	PRKCB
HDAC2	PML
SMAD3	VIM
DCTN1	GRB2
CDKN1C	PCNA
S100A9	S100A9
CREBBP	NPAS2
NUCB1	PTGS2
DLG2	LRP2
CDKN2A	SLC4A1
CASP3	CASP6
TNFSF9	TRAF1
LCK	PECAM1
MAP3K8	RELA
SNAP23	STX3
JUN	NFE2L1
KITLG	KITLG

GRB2	JAK1
LRP8	SNX17
MAP3K14	TRAF3
ABL1	JAK1
CD81	ITGA4
CHGB	RXRG
FGFR3	HBZ
ATF2	SMAD3
EIF4A1	EIF4G2
EIF2AK2	ILF3
DAP3	NR3C1
NCOA1	PSMB9
CTTN	WASL
DENND4A	YWHAB
CRK	MAP4K5
HMGB1	HNRNPK
KAT5	LRP1
CCNG1	PPP2R4
STX4	STXBP3
SKP2	TAL1
POLR2G	POLR2G
CDK8	MED12
ANK3	SMAD2
ATXN1	CDK6
IL6ST	LIF
TFAP2A	YBX1
KDR	NCK1
APLP1	MPHOSPH6
TFDP2	YWHAE
EEF1D	EEF1D
E2F1	SKP2
MAPK1	PTPN7
CPB2	F2
PLCG1	SYK
AP3B1	ARF6
ITGAV	L1CAM
BAT2	IMMT
AKT1	MAP3K8
BDKRB2	NOS1
ACY1	ACY1
DAPK1	FADD
HSPG2	PDGFA
LRP1	PDGFB
CDH1	CTNND1
CLTC	OCRL
CCNG1	MDM2
SEMA4D	SEMA4D

PABPC1	PCBP2
CRMP1	FTH1
AHR	RELA
BMP7	ENG
CDC6	CDKN1A
ACTG1	PTPRO
RAC1	VAV1
DLG4	HTR2A
HDAC1	NFKB1
CDH2	CTNNB1
KIF5B	YWHAQ
MYOD1	SMAD4
PPP2CA	RPS6KB1
CIB1	PSEN1
NFKBIA	PIK3R1
CDH5	PTPN11
HLA	MAGEA4
CUL1	E2F1
CBL	PTPN6
AHR	SMARCA4
CD36	ITGB1
EGFR	ESR1
CBFB	CHGB
LAPTM5	USP13
IKBKE	KTN1
KRT10	PRKCZ
PIGA	PIGH
HNF4A	NCOA1
EP300	MYC
PRLR	TEC
PPARA	RXRA
FUS	SFPQ
NFKB2	NKRF
PTN	RPLP1
RAD51	UBE2I
TSC2	YWHAE
PIAS1	PTPN1
DOK1	KIT
ETV6	KAT5
HNRNPK	HNRNPK
CDK9	RB1
PIK3R1	TGFBR1
FGF1	FGFR2
PSME3	TP53
ARNTL	HSP90AA1
NID2	SKIL
FANCA	FANCC

UBE2I	UBE2I
DDX11	PFN2
DAXX	MAP3K5
MDFI	TRPV6
ARHGDIA	ARHGDIA
PTK2B	RASA1
GNAI2	GPSM2
CRKL	DOK1
ATN1	MBP
C19orf57	VCL
EP300	NEUROD1
GRB2	LCP2
ANXA5	EIF4G1
SLC9A3R2	SRY
DLG4	LRP8
EP300	PROX1
TPD52	TPD52
CTCF	YBX1
PDLIM1	VIM
GUCY1B3	HSP90AA1
CREBBP	GATA1
PPP2CA	PPP2R5B
ATXN1	FYN
TAF4	TAF9
EP300	RUNX3
PAK1	PAK1
ATN1	FBLN1
EGF	EGFR
ICAM2	RDX
CDC20	HDAC2
JUN	SMAD2
TRHR	TRHR
BCL2	TOMM20
NR3C1	POU2F2
BLM	TP53BP1
MAP3K14	RPL6
MAPK8IP2	MAPK9
ACVRL1	TGFB1
NCOA1	VDR
NCL	NPM1
BCL3	NCOA1
FCN2	MASP1
EP300	IRF2
CCDC85B	NDUFA5
MYC	SMARCB1
NPPA	NPR3
ADRB3	SRC

CCNA1	E2F1
DNTTIP2	ESR1
HLA	LILRB1
ATF6	ATF6B
FHL2	ITGA7
LPL	PTPN4
ARNTL	HIF1A
HDAC2	TP53
CCNA2	E2F1
AMPH	BIN1
SLA	SYK
ENO2	HK1
GNAI2	RGS4
CREBBP	MGMT
ANG	ATP6AP1
CTSK	FGFR3
PRKAA1	PRKAG1
PSEN1	RAB11A
MCM2	MCM7
JUND	MEN1
AR	CDK9
CSNK2A1	PTEN
PCBD1	PCBD1
EP300	SREBF2
IQGAP2	RHOG
TAF10	TBP
PLCG1	WAS
RELA	TAF1
EGFR	SHC3
GRB2	WASL
CETP	EWSR1
ABL1	PIK3R1
EIF2S2	EIF5
CREBBP	KLF4
MAPK8	PIK3R1
GNAZ	RAP1GAP
TAF1A	TAF1C
CSF2	SDC2
MAX	MYC
RUNX1	TLE1
CENPB	PARP1
AKAP12	PRKAR2A
ASS1	ASS1
SQSTM1	TRAF6
NKX2	RARA
MCM3	MCM6
GRB2	NPM1

DLG1	KCNJ12
EIF4A2	EIF4G2
HMGA1	PPARG
PTEN	UBE2L3
EP300	NCOA6
POP1	POP1
EGF	ERBB2
TAC1	TACR1
DLG3	LRP2
RAC1	RAC1
EP300	TCF4
BSG	SLC16A1
CFL1	LIMK2
CPE	RPA1
DLG1	GRIK2
ESR1	SAFB
ERBB4	GRB2
NOS2	RAC1
DAZ1	PUM2
LYN	PIK3CG
NDRG1	PHYHIP
PTPN1	TRPV6
CBL	YWHAZ
FASLG	LCK
CREBBP	SMAD3
FOXG1	SMAD1
CANX	CD1D
CRABP1	MPP3
TF	TFRC
DAZAP2	TLE1
CREB3	MALL
RASA1	SYN1
MAP2K4	MAP3K10
COPS6	SMN1
FYN	KDR
SFN	TNK1
SMAD1	TTF1
CLCN3	CLCN3
NAE1	NEDD8
RPS6KA2	RPS6KA2
CTNNB1	SMAD3
ETV1	KAT2B
CCNA1	RBL2
CD33	PTPN6
ESR1	NCOA6
DPYSL2	NUMB
BCL3	FYN

PTPN11	SELE
SPI1	SPIB
BCL2L1	MCL1
BRAF	YWHAZ
CPE	GTF3C1
COASY	KRT20
ERBB4	SHC1
SH3BP2	VAV1
ADRBK1	MDM2
ANXA2	PHB
LRP8	LRPAP1
AP2B1	CLINT1
MYC	NFYB
TRAF1	TRAIP
TNNC1	TNNI3
RNF5	UBE2D2
ERBB2	JUP
CSF3R	SHC1
NKRF	REL
CSNK2A1	HDAC1
CDH5	SHC1
JAK3	PRMT5
FGFR3	GRB2
GHR	JAK1
ATN1	KRT31
PGR	RELA
GTF2I	SMAD2
GTF2F2	MSX2
EED	ITGB7
CCDC85B	PKN1
COPS2	THRA
ESR2	RBM39
SNRPB	SNRPD3
BRCA1	CCND1
NCF4	XRCC6
PMM1	RAB6A
PPP3CA	RCAN1
CSNK2A1	PAFAH1B1
PARP1	PRKDC
NTF3	NTRK2
CCDC106	COPS6
EWSR1	PLSCR1
GNB2L1	IGF1R
BCL2	BIK
BIN1	SH3GL2
TGFB1	YWHAE
ESR1	FOXO1

MAPK1	TH
DLG3	DLG4
ABL1	GPX1
PLCG1	SRC
CCL20	VCAN
ADRBK1	GIT2
BIN1	BIN1
CBLB	PLCG2
CTSB	S100A10
BLMH	TRIO
CAV1	PDGFRA
HNF1A	KAT2B
GRK6	SNCA
HIPK3	ZYX
COX17	PPBP
SUMO1	TDG
PRDX1	PRDX1
HBA1	NAP1L1
ATF7	TAF4
ARL4D	EIF2B1
CCL17	VCAM1
PIN1	RBPMS
EPB41	KPNA2
IL5RA	JAK1
PPP2CA	TLX1
RAD21	SMC1A
PRKCD	PRKCD
PLK4	PLK4
KRT15	KRT18
ASAH1	TSC22D1
RAD52	WRN
CASP8	FADD
CSNK2A2	PTEN
INSR	SMAD2
MADD	TNFRSF1A
PRKCZ	YWHAB
SERPINB9	UNC119
PARP1	POLA1
COPS6	PBX2
FHL2	ZBTB16
BAT2	HNRNPA1
FKBP5	IKBKE
COIL	KPNA3
TAF1	UBTF
HSF2	UBE2I
EP300	PPARA
EPCAM	EPCAM

BRCA1	CDK4
PEX1	PEX6
BCL2L1	MAPK8
APP	CAV1
CCDC130	ZNF165
CSTB	CTSB
MVD	MVD
ATXN1	PEPD
HCFC1	ZBTB17
KLF5	SET
ATN1	GAPDH
CBL	FGR
CRMP1	RPA2
BAD	SNCA
ATN1	WWP2
GRB2	USP8
ERBB2	PAK1
ABL1	SRC
HLA	HLA
TBP	TP53
TLE1	TLE1
BRCA1	BRCA1
ERBB2	GRB2
CFH	CRP
CDH1	EZR
EEF1A1	HSPE1
FYN	TYK2
IL8	IL8
AKT1	TSC2
BRAF	YWHAB
ATXN1	VSNL1
RB1	SNAPC1
PSMD11	SMAD1
BLK	CBL
CYFIP2	FXR2
NR3C1	PTMS
GRIA1	GRIK2
CBR1	ERCC8
EP300	TP73
E2F5	RBL2
PSMF1	RBMX
CD44	VCAN
HDAC1	SP1
EZR	TSC1
AR	RAF1
FOS	HNF1A
GRN	HSPG2

TSC2	YWHAQ
KLK3	SERPINA1
MAPK1	MKNK1
TSC1	YWHAB
HOXA9	PLSCR1
NAP1L1	NAP1L1
AKAP5	PRKAR2A
PSMD1	TRAF6
COL4A1	COL4A2
ERCC3	TP53
CHRNA1	ITGA7
ADAR	XPO1
CA9	CTNNB1
RBL1	SMAD4
CCNE1	CDC25A
CCNB1	CDC25C
CDK2	PRKCH
ATM	WRN
RPS6KA1	YWHAB
NUP62	NUTF2
GRIA4	SDCBP
CDKN1A	PARP1
AP2M1	IKZF1
FASLG	FN1
PLCG2	PRKD1
ITGAV	ITGB3
LRP1	SERPINE1
TEAD4	VGLL1
ABL1	NCK1
FCGR2B	INPP5D
BTK	GTF2I
NEFL	PKN1
PAFAH1B1	TUBA1A
CTNND1	ZBTB33
TNFSF10	TNFSF10
NFKBIA	RPS6KA1
EEF2	TP53
RPA1	RPA2
IGF1R	PTPN1
STX1A	VIM
MYBL2	SKP2
AKT3	PRKCZ
IL6ST	LIFR
HOXB7	NFKBIA
NCOR2	NFKB1
ARL6IP1	FXR2
CD7	PIK3R1

ESR1	MVP
EXT2	EXT2
CAPN2	CAPNS1
IGF2	NOV
ACVR1	SMAD5
MAP3K12	RPL18A
ATXN1	RBPMS
ILVBL	XRCC6
CBX3	SP100
SP1	TAF4
RPA2	TLE1
SRC	TRAF3
ERBB4	SNTB2
NR5A1	SP1
MAP3K12	RGS1
AK1	FHL2
CDKN2A	E4F1
CDC25C	YWHAZ
GNAI1	RGS4
MAP3K3	MARK2
ATP2B4	DLG3
ATP5C1	PTN
PRKCA	TIAM1
CDC25B	YWHAZ
MYC	SMAD3
CCND1	CDKN1A
FOS	GTF2F2
TNFRSF1A	UBE2I
DDX17	NCOA2
B4GALNT1	B4GALNT1
S100A13	SYT1
SRP54	SRP54
GRM3	SDCBP
NFKB1	NFKBIB
RIPK1	TRAF3
CCNH	ERCC3
PTK2B	SLC2A1
BRCA1	POLR2A
IL1R1	IL1RN
MAPK7	RAF1
PSMB1	PSMB3
KLF6	PNO1
PTK2B	VAV1
IRS1	PIK3R3
EIF3E	IFIT1
AQP1	MDFI
PRDX6	PRDX6

CSNK1A1	RCC1
CCND1	EP300
LRP2	MAPK8IP2
C1D	TSNAX
EGFR	PIK3R1
GATA2	SPI1
DYNLL1	NFKBIA
KAT2B	NR4A1
NOS1	PTPN6
JUP	TCF7L2
EGFR	INPPL1
ARHGEF12	GNA13
CASP8	FASLG
CALR	VWF
MED24	SMAD1
MAPK1	SHC1
DNMT1	EED
DNAJC7	RAD9A
OPRD1	OPRM1
GRB2	GRB2
APLP1	TSC22D1
SFRS4	SFRS6
CRY1	PLSCR1
ITGB2	RDX
LYN	PTK2B
RAD52	RPA2
EED	PPP1R8
MAPK1	TOB1
NXF1	U2AF1
AKAP13	RXRB
FHL3	FHL3
PLAU	SERPINB2
MCF2	TNK2
DCC	SIAH1
POLR2B	POLR2H
NDUFV2	SP110
CDK5R1	CHN1
RAD23A	XPC
PTK2B	SYK
CSNK2B	PRKCZ
SYK	SYK
FSHR	GRK6
SMAD1	ZNF76
HSPA5	LDLR
HERPUD1	RPA2
EPHB1	GRB10
HOXD4	PBX1

CALM1	MYO7A
CCNA1	RBM4
ANK3	SCN2A
ISCU	SFN
MCL1	PMAIP1
MYBL2	PARP1
CDK9	POLR2A
PRKDC	WRN
SELPLG	SELPLG
GRB2	SRC
SELE	SELL
KDR	SHC1
GADD45A	PCNA
NR0B1	NRIP1
FTH1	FTH1
FEZ1	TXNDC9
FGFR1	NCAM1
CHML	RAB6A
MAPKAPK3	TCF3
FN1	VHL
PSMD12	TRAF6
BCL2L1	HRK
MDM2	SUMO1
HBA1	PTEN
ITSN1	SNAP23
PDGFB	THBS1
MYC	NMI
GAB1	PTPN11
CCL4	CCL4
BRF1	RB1
DNM1	SH3GL2
ESR1	GTF2H1
MAPK8	SPIB
ARL4D	SNRPN
IFRD1	RIT1
HSP90AB1	YWHAB
KDR	VEGFA
MSN	NCF4
VASP	VASP
EP300	NAP1L1
FOXO1	HNF4A
CYTH2	TRIM23
IRAK1	SQSTM1
GRB2	VAV1
MEF2C	SP1
CDK4	MYOD1
COPS6	EP300

MAPK3	RPS6KA2
PRDX4	PRDX4
CD8A	HLA
ABL1	EPHB2
GAPDH	SERPINB9
APEX1	PCNA
IGFBP5	THBS1
KIT	KITLG
HBEGF	ZBTB16
AHR	DAP3
CTNNB1	ERBB2
SYMPK	WWOX
GRB2	SHB
SCAMP1	SCAMP1
ARHGDIG	RHOA
GADD45A	MAP3K4
COIL	COIL
BLM	CASP3
GSTO1	SETDB1
IL4	IL4R
RARA	UBE3A
SATB1	UBE2I
STAM	USP8
BRCA1	TP53BP1
MBP	PRMT5
BAT3	NOMO1
POLR2A	WWOX
MAGEA1	TRIM31
TRAF6	TRAF6
HNRNPK	RBM42
NR3C1	PBX1
CALM1	GLP1R
AXIN1	DAB2
LRP1	MAPK8IP2
CHD4	SMARCA4
PRKCQ	VAV1
SMAD2	SMAD2
PPP2R1A	STRN3
KIAA0087	TP53
ENO2	TUBA4A
PRKG1	RGS2
NUP62	NXF1
KCNJ11	KCNJ8
MCM2	RPA3
CDH1	HDAC2
HMGB1	UNC119
C3	C5

EEF1A1	SULT1E1
SRF	TEAD1
CBX1	TRIM28
PIK3CD	PIK3R1
SFN	USP8
YWHAB	ZFP36
CHD8	TOP3B
NFKBIB	RXRA
CUL1	SMAD3
AR	UBE2I
TAF12	TAF7
XRCC5	XRCC6
KPNA2	RECQL
HK3	IGFBP4
LYN	MUC1
GOLGB1	SLC2A3
INSR	VAV1
ADRB2	GRB2
EGFR	RASA1
CBL	ITSN1
CSK	HNRNPK
MPHOSPH6	UNC119
CRK	EPS15
CPB2	PLG
CTLA4	LYN
EPOR	SYK
RB1	TMPO
LRP1	LRPAP1
GRB2	PDE6G
FLAD1	FLAD1
ARF5	ARFIP2
AANAT	YWHAZ
GPR183	MTA1
LCK	PIK3R1
FLT4	ITGB1
ATF4	POLR2C
DLG2	DLG4
PF4	THBD
IGF1R	PIK3R3
FGG	FGG
ATF7	PTP4A1
SMAD2	TGIF1
AR	FOXA1
EEF1G	KARS
DLG4	ERBB2
PYGM	S100A1
CKS2	CKS2

BRCA1	BRCA2
ADAM15	ARHGEF6
HNF4A	NR2C2
HERPUD1	STARD9
NCOA6	PRKDC
RELA	RXRA
MAPK10	UNC119
SNRPE	SNRPE
PSMD2	PTN
AIP	ARNT
BMP7	BMPR1A
BARD1	FEZ1
INSR	PRKCD
F2	FGA
CYP2E1	POR
ETF1	PPP2CA
CRMP1	NDUFV2
RPS27A	SMAD1
HMGA1	POU3F1
CTNNB1	FYN
FGFR1	FGFR1
FSCN1	PRKCA
SRI	SRI
JAK1	STAT5A
NFKB1	PPP4C
CRYAA	CRYBB2
FANCA	TOP3A
PSME1	PSME1
VIM	YWHAZ
CDC7	ORC1L
KIT	LCK
GNB2L1	PRKCB
MCM4	MCM7
NFIB	NFIC
CD22	SYK
FOS	JUN
FYN	TUBA3C
CSRP3	MYOG
AR	HSP90AA1
GRB2	MAP4K1
RIT1	RLF
KPNA1	LMO4
CREBBP	MLL
TK1	TLE1
ATP2B2	DLG1
HK3	ZBTB17
ETS2	JUN

PML	TGIF1
CRK	EPHA3
CSK	INSR
CD8A	HLA
PRMT5	SNRPD1
HIF1A	MTA1
CANX	F8
GRN	HOXA1
MCM7	ORC2L
PRLR	YWHAZ
LIF	LIFR
NCOR2	RBPJ
GRB2	IRS1
FTL	FTL
DAZL	DAZL
CITED1	ESR1
EZR	ICAM1
AP2M1	TGOLN2
GSK3B	NFKB1
EZH1	ZMYND11
PIN1	RBBP8
CCDC85B	TNNT1
CDK5R1	CTNNB1
RB1	SMARCA4
E2F1	GTF2H1
ACTN2	DLG4
KRAS	PIK3CG
GRB2	ITK
CREBBP	ETS2
RBBP4	RBBP7
RAD21	STAG1
CD4	IL16
MATR3	PCBP1
GNB2L1	IL2RB
HLA	POMC
CD44	TGFBR1
FGF2	FGFBP1
E2F1	PURA
CSF2RB	PTPN6
JUP	PTPRK
ACTA2	CCT5
ARHGEF1	ARHGEF1
SRC	TYRO3
AR	BAG1
FBL	SMN1
CSTF2	CSTF3
FANCA	SMARCA4

PKP1	VIM
ANXA3	UNC119
CBL	GRB2
CD81	IFITM1
TNFRSF14	TRAF5
ADCYAP1	SCTR
CSRP2	PIAS1
DDX17	HDAC1
ITSN2	TBL3
COIL	PSMA1
TRIM21	TRIM21
KHDRBS1	PRMT1
CAV1	TRPC1
NR4A1	PML
ERG	ETS2
CCNH	FUBP1
CIB1	EXOSC10
ITGAM	PLAUR
C3	CFP
RELA	TAF11
TKT	TKT
LTA	TNFRSF1A
PLCD1	TGM2
BRCA1	H2AFX
MYC	TP73
BAD	YWHAH
POLR2H	POLR2H
NME1	NME1
CDKN2A	UBE2A
POU5F1	SOX2
PKD1	PKD2
PZP	TGFB1
GATA3	TAL1
EEF1A1	TAF9
CDC25B	MAPK14
NAPA	STX4
IRS1	JAK1
NFKB1	NFKB2
SKI	SKI
JUN	NFYA
CASP10	CASP6
NMB	NMBR
HCFC1	SP1
BTK	VAV1
CDH5	P2RX4
ACTN2	COIL
ARL4A	KPNA2

MC4R	POMC
ZBTB16	ZBTB16
BCR	PTPN1
AKAP13	PPARA
NFKB1	TP53BP1
ACTA1	CCT5
DRAP1	FEZ1
NONO	PIN1
HMGB1	MECP2
F2	ITGA2B
MAPK1	TNIP1
SETDB1	TK1
WAS	WIPF1
NOS1	VAC14
AXIN1	DVL3
ELF1	HMGA1
CREBBP	MYOD1
IL3	IL3RA
PPFIA1	TNNT1
EP300	HNRNPU
SULT1E1	SULT2B1
SREBF2	SUMO1
ARL4D	UNC119
ERBB4	NRG1
BAT3	CSTF2
COPS6	ERH
KPNB1	NUP153
KIT	PTPRO
RXRA	THRA
LIG1	TUBB3
CDH1	VCL
IRS1	PIK3CA
ARVCF	CDH15
NRIP1	RXRB
ERBB2	PLCG1
AR	SRC
JUP	NFKBIE
EEF1A1	RPLP1
BRCA1	SMC1A
KCNJ12	SNTA1
GRB2	SH3BP2
BRCA2	PLK1
PPARA	RXRG
GABRA1	PRKCG
ABCD2	PEX19
ARHGEF6	PAK2
EP300	GATA4

GNB1	GNG4
EPHA2	SHC1
DOK1	INPP5D
CHGB	POLR2E
EGFR	STAT5B
WRN	XRCC6
LYN	PDE4A
BAT3	IMMT
PSMD11	SMAD5
PHYHIP	SMARCC2
PRKCI	YWHAZ
GNAI3	S1PR1
PDAP1	PDGFA
BRCA1	MDC1
LYN	PECAM1
HTATSF1	POLR2A
NCF2	PRDX6
LRP2	MAGI1
CUL2	ZER1
ANXA6	RASA1
ENG	TGFBR2
EIF2S2	EIF4G2
PHB2	PTMA
ESR1	SP1
LMNA	PRKCA
GTF2B	IKZF1
NCOA2	VDR
FN1	TGM2
KRT17	KRT6A
ADRM1	PSMD4
PCNA	RPA1
ESR1	MAPK1
IGF1R	RASA1
MATN1	MATN2
FYN	HSP90AA1
ATF1	CSNK2A2
DGKZ	SNTA1
ARHGDIG	RHOG
VIM	XRCC4
E2F4	TFDP1
ARAF	PIK3R1
CCNH	MTA1
AKAP1	MYCBP
DLG4	GUCY1A2
CD24	FGR
IGF2	IGFBP6
KLRC1	KLRD1

DAZAP2	DAZL
PLD1	RHOA
BRCA1	RELA
SELE	SERPING1
KCNJ1	SLC9A3R2
CA9	CTNNA1
AKAP5	GABRB3
ARNT	SIM2
CBFB	RUNX3
EIF2AK2	MAP3K5
EZR	SLC9A3R2
PLCG1	RET
RELA	SP1
IQGAP2	RELA
HNRNPK	UBE2I
CAPNS1	RAB1A
HRAS	TTC1
HDAC2	PPARD
JUP	MUC1
DRAP1	TAF9
DR1	DRAP1
CAV2	RASA1
CTNNB1	NFKB1
TAF12	TAF5
DCLRE1A	TP53BP1
EHMT2	KLF6
HDAC1	PHB
CRMP1	HMGB1
C1QBP	MAPK3
ESR1	NR2F6
BLK	CD79B
CSNK2A2	HSP90B1
HDAC1	TXNIP
JAK1	RAF1
CRYAB	PSMA3
CDC16	CDC27
IL12RB1	IL23A
EEF1A1	SERPINB9
PTPRC	SEMA4D
EXOSC10	SCRIB
DLG1	KCNJ2
CRK	WEE1
NCOA2	PPFIA1
BCL2L1	CASP8
KAT2B	SATB1
C4A	CST3
GRB14	INSR

TBP	TEAD1
GUCY2F	GUCY2F
RASA1	ZAP70
POLR2A	SND1
CALM1	RIT2
MDFI	MYOG
GSK3B	MYC
ABL1	CRKL
CREBBP	HDAC1
GAB1	GRB2
PTPRF	TRIO
CD44	ERBB4
EEF1A1	ZNF24
ADAM15	SH3GL2
ANK1	TTN
DRD2	FLNA
ATRX	RAD51
POLA2	SETDB1
CD74	HLA
DRD5	GNA13
EGFR	EPS15
BARD1	BCL3
AR	SMAD4
ACVR2B	INHBB
AR	MDM2
SCNN1A	WWP2
IGF2	IGFBP1
FBLN1	NOV
LAMC1	NID1
ARHGDIG	RHOB
FAS	FAS
THRB	THRB
CKS1B	DUSP1
NTRK2	PLCG1
PLSCR1	SLC25A6
CCDC130	ZBTB16
ERBB2	MUC1
ATN1	MAGI1
MYOG	SRF
DMD	DTNA
ARL4D	PRKCSH
MCM7	ORC1L
NCOA1	RARA
RELA	RFC1
COPS2	COPS6
ATN1	LTBP1
LTF	LYZ

KPNA2	RELB
ARID5A	ATXN1
AFAP1	PRKCD
PPP2R1A	SMAD2
FANCC	HSPA1A
PTPN12	SMAD5
PIK3R1	PTPN6
ESR2	MED1
MYBL2	MYBL2
SMAD3	ZBTB16
AES	ATN1
CSNK2B	LYN
IL12RB1	IL12RB2
CALCOCO2	FASTK
GTF2E1	TCEA1
ABL1	ABL2
CDKN1C	SKP2
CCDC85B	PSMC1
CSNK2A1	FOS
LIMK1	YWHAZ
COPS6	SERPINA5
TCEB1	VHL
GCSH	ZBTB16
CREBBP	HTT
SEC23A	SEC24C
LIPC	LRP1
PIK3R1	SHC1
ACHE	APP
RXRA	SRC
GFAP	PDLIM1
IGFBP5	VTN
MSX1	MSX2
NFKB1	TXN
TRIM29	TRIM29
EEA1	EEA1
RAD23B	XPC
CCT3	HNRNPA0
FGA	HRG
DHX9	HNRNPC
CSNK2A1	XRCC4
CPSF6	EWSR1
DOCK1	RHOG
AFAP1	PRKCA
TAF10	TAF6
CALCOCO2	SRI
CBX3	PIM1
ABLIM1	CALCOCO2

AR	GNB2L1
KAT5	ZNF24
BRCA2	SMAD3
GNA13	TBXA2R
CNR1	GNAI3
DPF1	RPN1
HMGB1	TP73
ID2	NEDD9
HNRNPK	HNRNPL
FABP5	S100A7
APEX1	XRCC1
CRKL	ETV6
ADORA1	P2RY1
MAPK1	RAF1
IPO5	NUP153
PAX6	TBP
DNM2	PDE6G
FYN	UNC119
CASP10	CASP10
RAB3A	RABIF
KAT2A	MYC
CRMP1	EIF2S2
TNFAIP3	TNIP1
BAD	YWHAE
CDC6	MCM2
PAPPA	SMAD3
CDC6	ORC2L
PSMC1	PSMD5
AR	GTF2F1
HSPA1A	SOX9
CDKN1A	PCNA
PAICS	PAICS
SNAP23	STX4
KLRC3	KLRD1
CDC20	CDC27
MLLT10	SS18
CACNA1C	CACNB3
CSNK2A1	XK
CREBBP	NUP98
CREM	TAF4
ANXA2	MAP3K4
ARHGEF7	SCRIB
GTF2B	POLR2A
CD226	FYN
AGAP2	PIK3R1
C8B	CLU
CCNA1	MCM4

NCOA1	NR2F6
FXR2	NONO
MED1	RXRA
BLM	RPA1
KIT	PTPN6
ESR1	SMARCA4
CREB3	HCFC1
EGFR	PTK2B
SLC12A2	SLC12A2
SREBF2	SREBF2
BARD1	SETDB1
CD19	CD9
CAV1	GJB2
KAT2B	TP53
CTNNB1	PTPRU
FOS	RELA
GNAQ	TTC1
MPP3	RAB31
PSME1	VCL
TRPC1	TRPC3
AKT1	PRKCQ
RALB	RALBP1
RXRA	TBP
BARD1	RBBP8
COIL	FXR2
MAPK14	MAPKAPK2
CEBPD	RELA
BLM	MLH1
NR3C1	NR3C1
APBB1	APLP1
SMAD4	UBE2I
EPO	EPOR
DAXX	PML
RB1	TRAP1
BRCA1	E2F4
KRT8	MAPK14
MAF	SOX9
HDAC1	NR2F2
NR3C1	SMARCA4
ILF3	PRMT1
CRKL	EPOR
SNAP23	STX1A
DRD4	KCNJ9
PLD1	PRKCA
MARK3	TCEA2
USP7	ZMYND8
GLRX	MAP3K5

NUP62	PBX2
DCTN1	DST
COIL	PRMT1
EP300	STAT3
CAV1	NGFR
GNAQ	PTGIR
CCND2	CDK5
CCND1	PCNA
HDAC2	SETDB1
NEK2	PPP1R2
JUN	SKI
NT5C2	NT5C2
CSTF2	IMMT
PCBP1	RALY
FANCA	SPTAN1
EWSR1	KCNMB1
DAXX	UBE2I
STX5	TP53
POLA1	XRCC5
EIF3A	EIF3I
APOA1	GPLD1
SMAD1	SOX5
ARF1	ARFIP2
EP300	TAL1
MAP2K1	MAP3K4
GLDC	GLDC
FSCN1	RAB1A
SAT1	TLE1
TGFB2	VTN
CCL14	DDX39
BLM	WRN
MAP3K5	YWHAZ
CBL	IGF1R
INPP5D	PECAM1
ATXN3	RAD23B
BAT1	EXOSC9
EEF1B2	EEF1G
GRIA4	PRKCG
DLX2	MSX2
EZR	PRKCA
P4HB	PTN
ARHGEF12	PLXNB1
F10	PLAT
ERBB2	PTK2B
GRK5	SNCB
IGF1	IGFBP2
EZR	L1CAM

NCOA2	THRB
CDC5L	PPP1R8
LCP2	SHC1
EIF1AX	EIF5
IMMT	TXNDC9
KPNA1	STAT3
BRCA1	STAT5A
RIN2	RIN2
CSNK1A1	KPNA2
ESR1	RELA
CTNNA1	JUP
MAD1L1	NONO
COPS6	HMOX2
PIAS1	SP3
DMC1	RAD51
ARF1	CYTH2
CSNK1D	DVL3
PRKG1	RAF1
FLNB	PSEN1
LMO2	LYL1
PML	TOPBP1
DSG1	PKP2
CREBBP	GTF2B
GABPA	SP3
CFD	SERPINF2
IGF1R	NEDD4
MAP3K11	MAPK8IP2
MED21	POLR2A
ALOX12	KRT5
CREB1	EP300
ATN1	EFEMP1
SMN1	SNRPD2
LYN	MME
CDKN1C	LIMK1
RNF2	TFCP2
CENPA	PARP1
CTNNB1	PIK3R1
CDKN1A	SET
ESR2	NCOA6
MMP1	TIMP1
CNTF	CNTFR
IGBP1	PPP2CA
CCL19	CCR7
HRC	TRDN
MAD1L1	TRIM29
DAZAP2	RBPMS
ILF3	PLSCR1

SLC6A4	STX1A
CREBBP	GLI3
SKIL	SNRNP70
GPS2	TP53
CCDC85B	KRT18
APLP1	NACA
CSNK2A1	FGF1
GDI2	RAB9A
ACVR2A	BMP7
FOS	RUNX2
MAPRE2	MAPRE3
CREBBP	CSNK2A2
MAP3K5	TXN
MED21	THRA
PDCD11	S100A8
PTPN2	STAT1
BYSL	COIL
HSPA5	PSME3
FYN	PTK2B
AKT1	SMAD4
HTR1D	S1PR1
GRB2	HTT
MED24	RXRA
AKT1	PAK1
CCDC85B	TNNI1
NR4A1	TP53
KLC1	SFN
CCT3	XRCC6
GNAI1	S1PR1
BYSL	TRO
AKAP5	PRKAR2B
FLNA	FLNB
ATOX1	ATP7A
PSMC5	SP1
ARHGEF7	CBLB
RET	SHC1
CXCR4	JAK3
EWSR1	SF1
GABPA	HCFC1
JUN	TOP2A
ATM	PEX5
PFN2	TERF1
MCM5	MDFI
PSMC6	PSMD9
E2F1	TFDP2
BAT3	TAC1
MCM4	MCM4

ANXA5	EED
IGF1R	JAK1
DTNA	SNTA1
APOB	CANX
SMAD1	SNRNP70
CTNNB1	TCF7L2
GNAQ	RGS2
PSMC3	VHL
NCK1	NEDD9
HMGB1	RELA
U2AF1	U2AF2
HPCA	NAIP
IGF1R	IGF1R
HIPK3	LIMK2
EP300	TRIP4
MAP3K5	RAF1
BAT2	CPSF1
CBX3	MKI67
CD44	NF2
CCND3	CDKN1A
LIG4	XRCC4
ESR1	TRIP4
MPZ	PMP22
PPP2R1B	PPP2R2A
CDH5	PKP4
RYR1	RYR2
AR	SMAD1
HIST1H2AC	TFAP2B
ORC2L	ORC3L
GRB2	KRT7
BPTF	MAZ
BCR	HCK
RPL9	RPS3
PEA15	PLD1
BAT3	CTSB
FLT1	KDR
CRK	VAV1
ABL1	ATM
SF3B3	TAF9
BCL2	TMBIM6
HSPB1	TP53
KIF5B	SNAP25
COPS6	GPS1
SKIL	ZBTB6
GSK3B	MAPT
GRB2	RET
FMR1	FXR1

MAPK1IP1L	MAPK1IP1L
TAF1A	TP53
CDKN1C	MYOD1
MITF	SUMO1
DLG4	GRIK1
GNB2L1	TYK2
FHL2	SFPQ
GLUL	SKIL
PRKAA2	PRKAG1
ATN1	PFKL
TNNT1	TPM1
AKT2	TCL1A
PTK2B	PTPN6
ACTB	ACTB
CCL2	CCL2
SMN1	SMN1
PRKCD	PTK2B
CRK	RET
DAXX	HDAC1
SCNN1A	STX1A
EZH2	RPN2
PSMB1	PSMB5
NR3C1	POU1F1
CRK	RAPGEF1
CCL5	CCR1
FKBP3	YY1
HNRNPD	SAFB
DYNLT3	DYNLT3
PAFAH1B2	ZFP36L1
TERF2	WRN
ELK1	MAPK8
NEDD4	UBE2L3
MAP2K1	MAPK3
ILF3	MDFI
MMP14	TIMP2
KTN1	RAC1
ARNT	EPAS1
B4GALT1	LALBA
BMI1	IMMT
CAPNS1	CDK4
GTF2A2	TAF4
NR3C1	PSMC3IP
MLF1	YWHAZ
CRMP1	FXR1
HIF1A	VHL
GNAI2	RGS16
MAPK3	RAF1

USP7	WWP2
MRPL12	MRPL12
ATRX	PTPN4
AXL	GRB2
RFC5	UNC119
CDK9	IL6ST
ACTA1	CNN1
COL17A1	CTNND1
BCL2L1	IRS1
APPBP2	PCSK5
NID1	NID1
JUN	MAPK8
MCM3	ORC2L
GTF2B	NCOA4
IGF1	IGFALS
NR1H3	RXRA
DUSP6	MAPK3
TPD52L1	TPD52L1
IRF7	TRAF6
APOE	LRP8
RRM1	RRM2
PHC2	PHC2
DUSP3	MAPK3
KAT5	SYN1
SND1	STAT6
SQSTM1	SQSTM1
CIB1	PRKDC
MEN1	MLL
HLA	TRA
SP1	SP4
PSMA1	PSMA4
ATN1	CRIP2
ASL	ASL
KHDRBS1	STAT3
F5	F5
POLR2A	TCEA1
KHDRBS1	NCK1
CBLB	CRKL
AP1B1	ATM
CDC37	CDK6
PLG	THBS1
PDK1	PDK2
MYOD1	RORA
LEPR	PIN1
FYB	LCP2
HDAC2	RBBP7
CREB1	CREBBP

ADAM15	LYN
MASP1	MBL2
MAPK1	PEA15
NCOA6	RARA
CCNE1	SMARCC1
EPS15	EPS15
BRCA1	SMARCA2
HNRNPK	PCBP2
EIF3B	EIF3F
PCNA	POLD2
MEP1A	PTH
SERPINE1	VTN
APOA1	PDE1A
NFKBIE	SKP1
BST1	BST1
PCNA	RFC1
TPM3	TPM3
INPP1	LIG1
TP53BP2	USP4
OPN1LW	RANBP2
ATXN1	FDPS
NFKBIA	NFKBIB
CREM	SPI1
GTF2B	RELA
IL10RA	IL10RB
AR	FLNA
ATXN1	PSMC3
PPP2CB	PPP2R1A
APOB	SEC61B
CNTNAP1	RHOA
RUNX1T1	RUNX1T1
BRCA1	DHX9
EEF1G	ILF2
NR3C1	SFN
ATN1	RBM10
TP53	UBE2A
LCK	PTPRC
EPR1	F5
ABI2	PCM1
ITGB3BP	RXRA
COPB2	RGS4
SDC2	SDCBP
CREBBP	NFE2L2
ELK3	TCF3
ITGA3	RABIF
KCNQ1	TRAF6
MCM7	SSRP1

CCT7	EEF1G
SETDB1	SULT1E1
DAXX	PAX3
COPS6	LPL
PPP2R1B	PPP2R5D
TAF10	TAF5
PLCG1	ZAP70
MAPK9	PRKD1
MCM3	MCM5
ENOX2	MAGEA11
ARHGEF7	CBL
EDNRA	GNA11
RPLP2	RPLP2
EEF1D	GARS
CCND1	ESR1
FKBP4	HSP90AA1
COPS6	LAMA4
NCOR2	PPARA
C5	C8B
PTPN2	STAT3
CREBBP	NKX2
PKD1	RGS7
ATF2	SMAD4
HNRNPM	LYST
PML	SUMO1
ATF2	CSNK2A2
DHX9	PRMT1
RPS14	SMAD2
PSMA4	PSMA5
CCNG2	PPP2CA
DAP3	HIF1A
STAT1	TRADD
FABP1	PPARA
GTF2B	GTF2F1
MEN1	RBBP5
TAF6	TAF6
CRK	ZAP70
CD46	YES1
RELA	TWIST1
LYN	PRKDC
NRCAM	PTPRB
GHR	SHC1
SMG1	UPF1
MAPK1	RPS6KA2
CACNA1B	GNAO1
RB1	RBBP7
OCLN	YES1

GNAQ	RGS16
NCSTN	PSEN2
CDK4	CEBPA
TAF10	TAF11
BCL2	SOD1
PRKAR1A	SMAD2
ATXN2L	EPOR
GRIA1	GRIA4
CASP10	TNFRSF1A
PCBP1	PUF60
EIF2B1	EIF2S1
PLCG2	SHC1
ATXN1	ZYX
RBL1	USP4
GABPA	SP1
APCS	C4BPA
BTK	PLCG2
IGFBP5	SERPINE1
CYTH1	CYTIP
MAP3K3	YWHAZ
MEN1	NFKB1
CBL	SHC1
IL6ST	OSM
EFNA5	EPHB1
PML	RB1
CDKN1A	PSMA3
ABL2	EPHB2
EWSR1	NPPB
CTNND1	EGFR
MATK	PXN
F3	FLNA
PLSCR1	SF1
PML	SRF
FZD9	MDFI
COMMD1	CUL2
EIF4A1	EIF4G1
CSK	IGF1R
ATF2	UBE2I
EWSR1	SMAD4
EP300	PCNA
CD44	EZR
HDAC1	PPARD
ITSN1	SCAMP1
GNAO1	OPRD1
DHX9	TOP2A
GNAQ	VIPR1
LBR	SRPK1

GRB2	SNTA1
FOS	MAPK1
EWSR1	MYL6
KPNA1	STAT1
PARP1	TP53
AGT	EWSR1
PTK2B	PXN
CRHR1	GNAS
SEPHS1	UNC119
CHGA	PLG
DGKZ	HRAS
SETDB1	TSC22D1
CD9	PRKCA
MARCKS	TOB1
ARNTL	CRY1
GSK3B	PTPN1
PIK3R1	PIK3R1
CDKN2A	NPM1
STAT3	STAT3
NMI	TUBA3C
POLR2E	POLR2F
GDNF	GFRA2
WAS	WIPF2
FGA	FGB
IRF3	IRF5
SKIL	UBE2I
ATM	PRKDC
CPSF1	WWOX
TAF1	TAF4
APPBP2	MLLT3
NEFH	NEFL
GNAI3	RGS3
MAP2	MAP2
EIF2AK2	EIF2AK2
EEF1A1	PHYHIP
GALT	TRIP13
PML	SMAD3
NEFL	NEFL
DHFR	HSPD1
FASN	FASN
EGFR	RGS16
VASP	WAS
PLAT	SERPINE1
PCNA	RFC3
KAT2B	SMAD3
CCR5	CD4
DLG4	PTK2B

PTPRC	PTPRCAP
CREBBP	STAT6
MAPK8	TP53
ATP2A2	PLN
CD4	KCNAB2
CDK7	GTF2H1
SUMO2	VIM
RPS3A	SAP18
CITED1	EP300
FECH	FECH
ACTN2	ATXN2
SKIL	SRP72
PF4	PF4
CDC7	CHAF1A
UQCRC1	UQCRC2
CBL	YWHAQ
DDR1	RGS2
A2M	AMBP
NAPA	STX1A
ID2	MYF5
NR3C1	STAT3
FGFBP1	HSPG2
CD247	LCK
PSMB10	PTN
ARHGEF7	PAK2
SCN5A	SNTA1
NCOA1	NR5A1
NR3C1	TXN
PHC2	RPL7
BAK1	MCL1
GJA1	MAPK7
CSNK2A1	CSNK2B
MAPK1	SREBF1
AKT1	NR4A1
MYB	PAX5
BAG1	RAF1
MCM2	SSRP1
GTF2E1	TBP
FEZ1	TTR
GADD45A	GADD45A
TNFRSF1A	TRAF1
EP300	KLF5
BTF3	POLR2B
EEF1A1	PTPRCAP
NFYB	NFYC
CD22	GRB2
CREBBP	CSNK2A1

BCL2L1	PMAIP1
MYCBP	SSRP1
KRT20	KRT20
DMD	SNTA1
NEDD4	RPL18A
KAL1	SDC2
CANX	CD3D
APLP1	HLA
KPNB1	SMAD3
NR3C1	NRIP1
COX6C	PTN
PSMC1	TRAF6
LGALS1	PTPRC
FAS	FYN
CTNNB1	EGFR
IL6	IL6R
BCL3	RXRA
MCL1	VDAC1
MYOD1	MYOD1
MPRIP	SFN
CSNK2A1	EEF1D
POLR2A	POLR2E
FHL3	ITGA7
CTSE	EMG1
EPHA2	GRB2
BLM	TP53
RB1	RB1
DSC2	JUP
PEX12	PEX5
DHX34	POLA2
C5AR1	GNAI2
PTPN12	STX16
PUF60	U2AF2
CLIP1	PAFAH1B1
SAT1	SETDB1
HDAC2	TOP2A
NCOR2	PGR
ACVR2B	SNX1
APOB	HSP90B1
NF2	PXN
PSMA4	PSMA4
JAK1	TNFRSF1A
SKP2	TCF3
CD9	ITGA5
BTK	HCK
GRB2	SKAP1
ABL1	PLCG1

MAPK1IP1L	UBE2I
HSPB3	SETDB1
ESR1	NCOA2
CDC6	MCM7
CTNNB1	TGFBR2
PBX1	PKNOX1
CASP10	CASP9
BIRC3	CASP9
PSMC2	TBP
BLM	TOP3A
SMN1	TP53
GSTP1	GSTP1
JUN	MAPK10
GRK5	TACR1
HSF1	HSPA1A
BLM	MX1
PIP4K2B	PIP4K2B
PCBP1	SFRS3
EWSR1	KRR1
MYC	ZBTB17
CDK2	MCM4
DGKD	DGKD
LCK	PIK3CA
POLR2A	POLR2L
DLST	OGDH
SRC	WAS
STX3	STXBP2
DCTD	DCTD
DNM1L	GSK3B
PLK1	PSMA4
HDAC1	MTA1
FEZ1	TOMM20
PPP2CA	PPP2R5C
ADRBK1	PDC
GBP2	SAT1
SNX17	VLDLR
EGFR	YWHAZ
RALY	SPG7
IGFBP5	PNO1
RPA1	XPA
CD34	CRKL
GTF2B	HSF1
EFNB3	EPHB3
KLF5	NFKB1
IGF1	NOV
TERT	YWHAQ
ESR1	POU4F2

PPFIA1	PPFIA1
ACVR2B	INHBA
SNRNP70	SRPK1
ANK1	TIAM1
DHX9	HDLBP
EP300	TFAP2A
BMP4	BMPR1B
HIPK3	SIAH1
HDAC1	TOP2B
IGF1	IGF1R
SMAD3	SMAD4
AHR	RB1
ADRB2	OPRD1
CA2	SLC9A1
PCNA	XRCC1
DAXX	MX1
GGA3	M6PR
MYLK	PAK1
ERCC5	EWSR1
GPC1	VEGFA
DYNLL1	MYO5A
DLG4	GRIK2
PPP1CC	TP53BP2
CRK	PLSCR1
EZR	SDC2
TP53	VRK1
EP300	NUP98
GFAP	MEN1
DLG3	PTK2B
FOS	SMAD3
JUP	PTPRF
CASP7	TNFRSF1A
TPM1	TPM2
CBL	FYN
EGFR	SHC1
MORF4L2	RB1
RAB4A	STX4
MX2	MX2
PRKDC	XRCC4
PIM1	SHMT1
RNF144A	UBE2L3
CPE	POLA2
MAP3K14	MAP3K14
EMD	SH3GL3
SLC9A2	SPTA1
MEP1A	MEP1A
GSN	PXN

RAF1	YWHAZ
HMGA1	IRF1
ARHGDIA	RDX
MYOD1	TCF3
CRKL	PTPN11
EWSR1	FASN
HCK	WAS
CD2	CD48
ATP5C1	PNO1
ARHGAP1	RHOA
CTNNB1	SMAD4
RPA1	SELENBP1
INSR	PTPN1
CCL3	CCL4
ACVR2B	GDF5
TFAP2A	TP53
CD24	LYN
TLK1	TLK1
CCL5	CCR5
RAF1	VDAC1
INPP5D	PTPN11
CCND1	TAF1
GSK3B	TSC2
SMAD3	SP1
ID3	TCF3
TEP1	TERT
ITGB3	PDGFRA
CRK	PDGFRA
CETN2	XPC
AKAP13	THRA
CALM1	MYLK
GANAB	PTPRC
SMAD7	SOX5
AFAP1	AFAP1
HEXB	HEXB
CNTNAP1	FYN
SFPQ	SFPQ
ITSN2	WAS
JUN	SUMO2
HSPA1A	YWHAQ
CRMP1	TRIP13
HTR1A	S1PR1
PRKAA1	PRKAB1
BAD	YWHAB
KAT5	MAD2L1BP
PSG3	SKIL
PAX5	TLE4

AKT1	ILK
LAMA3	SDC2
EEF1A1	STMN2
ERCC3	GTF2H2
GNA13	RGS16
CHGB	SAFB2
BRCA2	TP53
CPSF6	WWP2
PSMA3	PSMA4
BCL2	NR4A1
DHX9	SMN1
MAP3K12	MAPK8IP2
EPRS	IARS
BAD	EWSR1
CRIP1	SH3GL3
IQGAP1	TSG101
PLSCR1	ZNF638
EPOR	GRAP
RAF1	YWHAE
APOE	NEFM
CTSB	RGS2
ARF6	CYTH2
APP	GRB2
JAK1	PRMT5
APOB	MTTP
NXF1	TNPO1
HIVEP1	RAB1A
CBL	UBE2L3
HOXC4	XRCC6
MAX	SMAD4
PLCG2	SYK
CBL	NCK1
HIF1A	NR4A1
RUNX2	SMAD3
GSTP1	TGM2
COPS6	CUL1
COPS5	JUND
CBX1	CBX3
PKN2	PLCG1
RELB	SMARCC2
DVL1	SMAD3
ABL1	ST5
APOA1	APOA1
DBH	DBH
MEF2A	SMAD2
NFKB2	RELA
GNAO1	RGS19

RARA	ZBTB16
CAMK2G	SMAD4
LCK	SKAP1
ABCD1	ABCD2
TNF	TNFRSF1B
MDM2	TSG101
HNRNPC	UBE2I
COPS2	GFER
CDC25B	YWHAQ
ATN1	PCSK5
CCND2	PCGF2
RBBP4	SP3
ENO1	YWHAZ
FLT3LG	FLT3LG
PAFAH1B2	PAFAH1B3
PRPS2	PRPSAP1
ATXN1	GSPT1
NDUFV3	PHYHIP
MED24	PPARG
CCNA2	RBL2
TLE1	TLE2
NFIB	RFX1
SMAD2	TGM2
CBL	VAV1
CSNK2B	RPS6KB1
SLA	VAV1
USP8	YWHAB
NDN	NUCB2
PSMD8	SMAD2
NQO2	NQO2
MAPT	RPS6KB1
GRB2	PTPN11
BTK	GNAQ
EGFR	PLCG1
NFYC	SMAD2
ESR1	RBM39
CRK	NCK1
BRCA1	TP53
ATM	MRE11A
DOK1	RASA1
CLTC	IKBKE
SNRPA	SNRPA
CALCOCO2	SMARCD1
CRK	SYN1
EPHA3	TP53
FKBP1A	FKBP1A
CDH1	NEDD9

CD36	ITGA2B
FEZ1	SMARCD1
LAMA4	TP53
ANXA1	S100A11
ITGB4	SHC1
NFIC	ZNF167
GRK6	RCVRN
AR	STAT3
PAFAH1B3	PAFAH1B3
CRP	SNRNP70
EFNA1	EPHA4
GNAS	RGS2
CCNE1	CUL3
DAP3	HSP90AA1
NCOA6	RB1
PKD2	TNNI3
TNFRSF8	TRAF5
CD247	PTPRC
BIRC2	TRAF1
HLA	TAP2
POLR2A	POLR2G
FEZ1	HTT
CDC37	IKBKE
ERBB3	GRB7
CCNA1	RBL1
ITPR3	SIGMAR1
ACTG1	CFL1
NEDD4	UBE2D2
FGF2	SDC1
MSX1	MSX1
LAPTM5	UBA52
HAPLN1	VCAN
PDLIM7	ZNF165
CCND1	RFC1
HNF4A	NCOA2
TNFAIP3	YWHAE
KRAS	RAF1
DDB1	SKP2
BTK	BTK
CREBBP	TP53
FASLG	MMP7
PSMD2	PSMD5
EPOR	GRB2
KNG1	PLAUR
ITSN1	LMO4
ITGB2	KNG1
CRH	CRHR1

POLR2C	POLR2E
AHR	ARNTL
LAD1	SFN
PPP2R2A	TGFBR1
CD4	CXCR4
ADRBK1	EGFR
DOCK1	SRC
MSX1	PAX3
CRMP1	VIM
PTPRA	SRC
JUN	MAPK9
CSNK2A1	XRCC1
PTN	SAT1
APLP1	TK1
SMAD2	SRI
SETDB1	TOB1
HDAC1	TPD52L1
ABL1	TP53
PHYHIP	PRMT5
COIL	SART3
ERBB3	IL6ST
WWP1	ZNF638
ACTN1	MAGEA11
EXOC5	PRKCG
ESR1	TP53
IKZF1	UBE2I
AR	CCNE1
FHL3	RBM42
RFC1	RFC3
NCOR2	RARA
CHM	RAB3A
FEZ1	GTF2F1
EIF4E	EIF4E
CCK	CCKBR
TNFRSF1A	TNFRSF1A
DOCK1	RAC1
MYD88	MYD88
MAGEA1	SMCR7L
OCRL	RAB1A
FGF2	FGFR1
MAP2	MYO7A
MAPK7	MEF2A
DMD	SNTB1
GHR	STAT3
GSTP1	PTN
PSMC1	PSMC2
BCL2	BNIP2

CBLB	VAV1
BRCA1	JUND
MAP2K6	MAP3K4
PAFAH1B3	TLE1
PTPRK	TK1
BIRC3	CASP7
NUP98	TNPO1
HIF1A	NCOA1
NCL	PRKCZ
ATXN1	RCN1
EP300	MDM4
PLN	SLN
LMO3	PHC2
EGFR	PIK3R2
EP300	RORA
PTN	SDC1
NONO	SPI1
RBPJ	SND1
EPS8	EPS8
CXCL10	CXCR3
CALCOCO2	TCL1A
ELF4	RUNX1
EIF3F	HAX1
CSTF2	SYMPK
CHGB	MGLL
SHC1	STAT5B
BCR	UNC119
GNAO1	OPRM1
CD44	FYN
FAS	FASLG
ATXN1	ATXN2
BARD1	XRCC6
AKT1	RAF1
CBL	KDR
COPS6	CUL5
CTBP1	NRIP1
FGFR3	SLC25A6
TP53	USP7
EP300	SP1
ATN1	PSMA3
INSR	RASA1
CDKN1A	GADD45A
PTPRD	PTPRS
CRKL	FCGR1A
CDK5	STX1A
E2F1	NDN
MED1	THRA

TEAD1	TEAD1
CDC25A	RAF1
PECAM1	PIK3R1
MAPT	PIN1
PHYHIP	S100A13
CCL2	DARC
AKT1	MAPKAPK2
MYOD1	NR2F2
CASP9	MAPK1
KPNA2	RELA
CCND2	CDK4
COPS2	THRB
COL1A1	MMP2
SSTR5	SSTR5
BMP7	BMPR2
PLK1	PSMB7
ERBB4	PTPN11
FN1	MEP1A
CHRNB1	COPS6
HIF1A	OS9
SMARCA4	STAT2
SMAD1	SMAD5
DLST	ZBTB16
EWSR1	SALL2
DNM2	ITSN1
RFC4	RFC5
CDK8	POLR2A
COPS6	PSAP
PRMT5	PRMT5
ABL1	GRB2
MAPK1	VAV1
CCNH	GTF2H1
EGFR	PRKACA
TAF10	TAF9
BSG	MMP1
ACAN	TNFAIP6
MEOX1	PAX3
CDK2	MYBL2
C1R	C1S
IRS1	YWHAE
ALG13	ATN1
ACVR2A	GDF5
SLC9A2	SRC
HIF1A	MDM2
BLM	TERF2
APP	BLMH
AKT1	MAP3K11

ABL1	MDM2
FHL2	IGFBP5
NUP153	XPO1
KAT5	NDUFV2
MEF2C	NCOA2
TSC22D1	TSC22D1
CD8A	PTPRC
APPBP2	SYT11
CCDC85B	CDKN1A
CSNK2A1	SPIB
MLH1	PMS2
RER1	SH3GL3
ELK1	EP300
PIGR	RAB3B
NR0B2	NR5A2
TAF13	TBP
EPOR	STAT5A
MAPK8	MYC
EIF4A1	EIF4G3
ARAF	RRAS
TAF1B	TAF1C
CASP3	HSPD1
EIF4E	EIF4G2
TERT	XRCC6
SKIL	SMAD3
FUBP1	VIM
ATRX	PTN
PGM1	S100A1
COPS6	SULT1E1
CDR2	PKN1
FANCC	HSP90B1
KRT18	KRT8
ELF1	REL
DYNLL1	TP53BP1
IFT88	RPGR
FYN	THY1
ATF6	YY1
CDK7	ESR1
AR	HMGB1
PLAG1	SMAD3
ARPC1B	WAS
F2	THBS1
NCOA6	XRCC6
NFKBIB	SKP1
CTNNB1	PTPRZ1
SF1	U2AF2
APC	PPP2R5A

PAPOLA	REL
EIF3F	PTN
CDH1	EGFR
PDGFRA	PDGFRA
HSP90AA1	RIPK1
ARSE	TNK2
CRYBB1	CRYBB1
ARL3	GOLGA4
TRIM32	TRIM32
GRM1	GRM1
NTS	NTSR1
GAB1	PIK3R1
LDLR	SNX17
TAF9	TP53
CEBPE	MYB
ARHGDIA	RAC2
CSK	PXN
BGN	MFAP2
HRAS	SRC
CYFIP2	FXR1
IFNGR1	JAK1
PRKCA	YWHAZ
FYN	ZAP70
ACTB	CCT2
ACTN1	XRCC4
IL6R	IL6ST
CD44	TIAM1
CD2	FYN
FEZ1	HTATSF1
SNCA	SNCB
NUP62	XPO1
ARHGAP1	SRC
NRIP1	PPARA
EZR	SPN
RBBP4	RPN1
ERCC2	GTF2H1
PDGFRB	PDGFRB
NEFL	VIM
AMPH	DNM2
CLTC	TNK2
SETDB1	SLC38A3
MAP3K5	QARS
MAPK3	PEA15
EIF3A	EIF4G2
EPHA4	FYN
IL9R	YWHAZ
AR	CDC25B

MTA1	TP53
BPTF	H3F3A
PDGFRB	PTPN11
PRMT1	PRMT1
GRK5	SNCA
IL1B	IL1R1
ZNF174	ZNF174
GTF2I	MAPK3
RAD51	RPA1
EGFR	PTPN6
TOMM20	UCP1
CA8	ITPR1
SNX1	SNX1
MAP3K4	RAC1
CSNK2A2	FGF1
COL1A1	IGFBP3
CEACAM1	PXN
ATXN1	ITGB4
BCAP31	BCAP31
CSNK2A2	PIN1
BNIP2	BNIP2
TG	TG
BAD	SFN
FCGR3B	IGHG1
NR1I3	POU1F1
ERCC2	ERCC5
ICAM1	IL2RA
DDX17	SNRNP70
SCNN1A	USP10
MDC1	TP53BP1
RBBP8	RBL2
CREBBP	ESR1
EIF2B2	EIF2B5
ESR1	PRMT1
APC	GSK3B
NFKB1	STAT3
FYN	LCP2
ANXA11	ENO2
COPS6	PTEN
SORD	SORD
MEF2C	TEAD1
ATF2	HMGA1
GTF2I	NFKB2
GAS6	MERTK
KPNB1	TP53
LRP1	SNX17
ALDH1A1	ALDH1A1

CRMP1	HSPE1
CDK2	ORC2L
IRF9	STAT2
SMARCB1	SMARCB1
CRK	PSMC6
PTEN	UBE2I
FIG4	VAC14
JUN	SMAD3
ESR2	MAD2L1
COPS5	SMAD2
FGA	PLAT
RNF10	TLE1
MPP3	RPS2
KPNB1	RUNX1T1
ITK	ITK
KIF5B	SFN
ABAT	ALDH5A1
NUP98	TPR
RPL18A	TNK2
DVL3	ZBTB48
NCOR2	NFKBIA
DAXX	SUMO1
HNRNPK	PRMT1
LRPAP1	VLDLR
CNR1	GNAI1
CHRNA4	YWHAH
PHB	RBL2
PLK1	PSMB3
TAF11	TBP
FYN	HRAS
CASP8	CASP8
PIK3R1	RAC1
FHL3	PHC2
ADRB2	SLC9A3R2
LTBR	LTBR
CD63	HLA
CITED2	CREBBP
KHDRBS1	LYN
IQGAP1	PRKACA
DRAP1	NFYB
INSR	SNX1
CDK2	RBL2
MITF	PAX6
CCND3	CRABP2
RAE1	SFN
EEF1A1	PLCG1
TAF10	TAF7

BIRC2	CASP7
CD3E	CD3G
SST	SSTR3
CD14	LTF
CTNNA1	TJP2
SAT1	SEPHS1
STAT1	STAT2
NXF1	RAE1
SMAD5	TOB1
ACTN1	SRC
ACVR1	SMAD1
HDAC2	RCOR1
COPS6	PFKL
MSH2	MSH6
ANP32A	ATXN1
ACTB	DSTN
ATF1	HNF1B
PDGFA	PDGFRA
CREB1	VIM
IL4R	INPP5D
MYO5A	RAB27A
GTF2B	REL
ATN1	NELL1
CYC1	CYCS
CDC16	SMAD3
TNFAIP3	YWHAB
IL4R	PTPN11
ADRBK1	CCR4
ATP5C1	CCND3
NFIX	PIR
DCTN2	GNAO1
EWSR1	WWP2
CRK	SHB
CREBBP	SREBF1
MEN1	RPA2
GRN	TOP3B
EMG1	KHDRBS1
PRKCE	TIAM1
EIF2S2	TP53
APOC2	LPL
CD2	PTPRC
MAPK9	TP53
CYFIP2	WASF1
HNF1A	HNF1A
CTNNB1	PIN1
HDAC1	ZBTB16
USP8	YWHAZ

AP2M1	CTLA4
DFFA	YWHAZ
CAPN2	NMT1
FOXO4	SMAD4
CTLA4	LCK
COMMD1	RELA
CD55	CD55
FEZ1	TLK2
FYN	RAF1
HMGN1	YWHAZ
RFX5	RFXAP
EGF	EGF
JAK1	TSHR
BLM	RAD51
S100B	TP53
DLG2	KCNA4
ARHGEF1	GNA13
CD44	LCK
CEBPA	NR3C1
MAP2K3	MAP3K4
VEGFA	VTN
CCR5	STAT3
ACP1	CTNNB1
ESR1	PTPN6
MAP3K3	MAP3K3
MED12	SOX9
KRT15	KRT6A
ILK	LIMS1
ELK1	MAPK1
A2M	LEP
HOXA1	PLSCR1
CDC27	PPP5C
CCL3	CCR4
BCAP31	BCL2L1
EIF4G2	MKNK1
AR	TGIF1
L1CAM	PEA15
HMGA1	JUN
BCL2L1	CYCS
CASP2	CCND3
ENPP1	INSR
DYNLL1	EEF1A1
GNA13	PRKCB
MAD2L1BP	TP53
COPS5	GPS1
GRIN1	GRIN2B
MYC	YY1

CD79A	SYK
GSR	GSR
CDK7	GTF2H2
ACTB	SMARCA4
GNB2L1	PTPRM
MCM3	MCM4
IL2RG	SHC1
DDX18	MTA1
IL10	IL10
CDH5	JUP
ARF1	ARFIP1
IL1R1	MYD88
MAPK3	SREBF1
ITGB1BP1	LRP1
PIAS1	SMAD4
BRCA2	SHFM1
GAD1	GAD2
CCND1	THRB
KIFAP3	MAP3K10
RELA	TERT
CIB1	PLK3
GRB2	SHC1
CAV1	RCVRN
CSNK2B	FGF1
HNRNPC	LMO3
TNFAIP3	YWHAZ
COL17A1	ITGB4
BAG1	ESR1
EGFR	HBEGF
MAP2K6	PLCB2
MAX	MYCN
CD74	HLA
BCL2	PPP2R5A
SMAD3	TOB1
PIK3R4	YWHAB
EPHB2	EPHB2
PPP2CA	TRIP13
ATM	CREB1
NFKBIA	RELB
LIMS1	RBBP8
CD4	LGALS1
SRPK2	U2AF2
CXADR	EWSR1
BIRC3	CASP3
ASCL1	MEF2A
TP53	WRN
DPH1	HSPA5

ITGB3	PECAM1
FXR2	HNRNPC
CDH3	CTNNB1
FOXO1	YWHAZ
DDR2	SHC1
DAXX	FAS
CDH5	VIM
PPARD	PPARD
HMGB1	PLG
ACTA1	SPTAN1
GSTP1	MAPK8
SMAD3	TFE3
DSG1	PKP1
PUM2	PUM2
B2M	HLA
COPS6	RFC5
TRADD	TRADD
C3	CPN1
CTNNB1	FOXO4
AKT1	PKN2
ARAF	TIMM44
CCND2	CDKN1A
NTRK3	PTPN1
GRB2	RASA1
ABI2	SNAP23
CD48	EEF1D
BCAP31	CASP8
PSPH	PSPH
HSPB2	HSPB3
CALM1	EWSR1
CDK2	POLA1
IMMT	IMMT
ATP5B	PSME3
ADRA2C	EIF2B1
AKT1	YWHAZ
ADRBK1	FSHR
MNT	MNT
NUP153	NXF1
ATF2	RB1
POR	XRCC6
ARF1	EEF1G
RPS3A	SOD2
LYN	NEDD9
RIPK1	TAX1BP1
C3	ITGAX
CHGB	SLC25A6
LAMC1	NID2

TNFRSF17	TRAF1
MAP3K5	TRAF6
IFNG	IFNGR1
ANXA5	COL10A1
AR	CAV1
PMAIP1	PPBP
GFER	GFER
APBA1	PSEN1
CALB1	IMPA1
CCNB1	RALBP1
HIST2H2BE	HSPD1
CRMP1	MRPS12
CDH5	KDR
RALGDS	RRAS
DUSP1	SKP2
MAPK3	PTPN5
PECAM1	PTPN11
DHX38	PPP4C
PRKAR2A	RAB32
FKBP1A	RYR1
EGFR	PRKCA
NR3C1	ONECUT1
FBLN2	FBN1
CCL3	CCL3
PPP2R1A	PPP2R5C
BYSL	KRT8
BCL2	MYC
SNW1	VDR
SYK	TRAF6
IL6ST	STAT3
GNA13	PTK2B
EFNB1	SDCBP
NCL	SSB
MYC	RBL1
F13A1	F13A1
PLAU	SERPINA5
COPS6	SLC2A1
E2F3	TFE3
KPNB1	PTHLH
CCDC85B	KRT17
STK4	STK4
EED	ITGAE
CREBBP	SREBF2
NCOA1	STAT3
IQGAP1	RAC1
GBE1	PGD
HLA	LILRB1

SMN1	TIAL1
CCND1	NCOA1
NMI	STAT5B
ABLIM1	GOLGA2
IL2RB	STAT1
CD80	CTLA4
FADD	NACA
CDK4	RFC1
FYN	SYK
APOB	PPIB
IGF1R	YWHAE
DVL3	PITX1
PI4KB	YWHAB
KLKB1	SERPINA5
PGAM1	XRCC6
DAXX	HDAC2
ARHGAP5	RHOA
MYC	RAF1
CSF1R	YES1
EGFR	STAT1
COPS6	RAB27A
RAG1	RAG2
PRTN3	SERPINA1
MDFI	MDFI
TAF1B	TP53
NFYB	TP53
EP300	STAT1
GLI2	SKI
FMR1	FXR2
PTPN11	STAT5A
NFKB2	NFKB2
PML	RELA
FHL2	FHL2
HRAS	RASA1
BCL3	KAT5
ITK	PPIA
SETMAR	SETMAR
RPS14	TAF9
EHMT2	LIMS1
TGFBR2	TGFBR3
A2M	LRP1
HSP90AA1	STIP1
MAD2L1	MAD2L1BP
GHR	GRB10
PEX13	PEX5
CALR	TF
CNTFR	PLSCR1

CCDC85B	PSMF1
ESR1	STAT5A
SULT1E1	UNC119
ERBB3	MUC1
DLG1	KCNJ6
NCK1	PXN
NCF2	RAC2
HTT	TP53
FYN	VAV1
BAG1	SIAH1
ARSA	ARSA
EWSR1	KEL
HBEGF	MMP7
CCL7	CCR3
CCND3	PCNA
GRB2	KRT17
F2R	GNA13
CCNE1	SMARCA4
FGB	NID1
FYN	MAPT
CASP8	RALBP1
JUP	PKP2
HNRNPU	PRMT1
ATF2	JUN
ARL1	GOLGA4
PAK2	RAC1
DAP3	DAP3
GAD1	HAAO
GABPB1	LMO3
MDK	RPL18A
RING1	RING1
ELAVL3	EWSR1
HDAC1	SMAD2
INSR	KHDRBS1
ATXN1	GCA
CD81	KIT
NAP1L1	TP53
F10	F5
CTNNB1	SMAD7
GNAQ	RGS7
DDR1	SHC1
GCA	LCP1
PXN	TUBG1
GOLGA2	GPS2
RAB5B	RIN1
ERCC3	GTF2E1
CUL1	GPS1

PRKCD	YWHAZ
COPS6	TK1
CDC37	MAP3K3
HSPE1	TLE1
MYB	PML
MARK2	SFN
CYFIP2	FMR1
DAZAP2	PLSCR1
TSN	TSNAX
FUS	SPI1
GPSM2	HRAS
GTF3C1	MAPK10
S100A2	S100A2
TBP	UBTF
GMFB	MAPK3
BCL2A1	HRK
JAK3	SHB
PLK1	PSMA1
TAF1	TBP
FHL2	ITGB1
GNAO1	RGS16
EEF1G	PTPN4
ERBB3	PIK3R1
PPP2CA	PTN
PPP4C	RELA
CD19	CD79A
BRD8	THRB
DPM1	ZBTB16
PLK1	TP53
GRB2	OCRL
ATN1	RUNX1T1
SH3GL1	SH3GL3
DAB2	SRC
MNAT1	POU2F2
ORC2L	RPA2
CREBBP	STAT3
KRT18	PKP2
UROD	UROD
RELA	STAT3
AP1B1	CLTC
CSF2RB	YWHAZ
SKIL	XRCC6
EPS8	ITGB3
ENO2	UBE2C
COL9A2	FEZ1
SLC4A1	SLC4A1
ATXN1	TBC1D5

GTF2E2	GTF2F2
PCNA	POLD1
GRB10	KDR
FYN	IL7R
FYN	PAK2
CBL	CBL
MATK	SRC
CREB1	SGK1
CYR61	ITGB5
ELN	PRTN3
SMAD2	ZMYND11
ENO2	HSF1
ERBB3	PIK3R2
S100A4	TP53
GNB2	GNG4
CCT7	CRMP1
ATR	CHD4
MARK2	YWHAZ
CTBP1	HDAC2
MCM5	STAT1
EMG1	HIVEP1
NPPB	NPR3
IRS1	UBTF
MAP1B	SNCA
RELA	SRF
BCR	FES
DOCK2	RAC2
HMGB1	RAG1
ESR1	PRDM2
CCDC85B	MOBKL1B
DLG4	KCNA4
BARD1	CSTF1
BCL6	JUN
AR	FOXO1
ITGAD	ITGB2
F8	PROS1
TK1	UNC119
EEF1A1	FAS
POLR2E	TAF15
HMGB1	NFKB1
CALR	CD1D
CRK	NEDD9
NR0B2	RXRA
TRIM9	TRIM9
PDGFRA	PLCG1
DLG1	GRIA1
NEDD4	TP73

CDK2	CHAF1A
GLB1	NEU1
ESR1	PIK3R1
RUNX2	XRCC6
PHB	RAF1
KLF10	SP1
AKT1	SMAD3
APLP1	EIF2S2
CBX5	XRCC6
MYH9	MYL9
PDLIM7	UBE2I
COL4A5	RNF10
ATF2	MAPK14
CCNA1	CDC25A
GNB2L1	STAT1
PTPN14	TJP1
CCNA2	SKP2
CASP3	SREBF2
CNTF	CNTF
CD19	SYK
PRKAR2A	RUNX1T1
ABL1	MAP4K1
ABCA4	CNGB1
CAV1	TNFRSF1B
PLAGL1	SMAD3
SMARCA2	SS18
AR	CCNH
CYBA	NCF2
CD247	STAT5A
PSAP	SMAD2
MAPK12	SNTA1
CKS2	EEF1A1
NME1	TERF1
HDAC1	SATB1
DHX9	GTF2B
MAGEA11	TCEA2
ACVR1B	INHBA
HCK	UNC119
PRKAR2A	RYR2
LCK	PXN
EZR	FASLG
COPS6	COX5A
BRCA1	USF2
TRADD	TRAF3
MGMT	PRKACA
NFKB2	NFKBIE
ESR1	TBP

SLC25A11	SLC25A11
SCRIB	TJP2
HDAC1	TP53
ACP5	RPA2
HIP1	RPS10
SMAD2	UBA52
L1CAM	NUMB
DSC3	PKP4
PRKCZ	TRAF6
MCM2	RPA2
SMAD7	YAP1
GRB7	INSR
ATN1	FBLN2
FGFR1	PLCG1
EDNRA	KAT5
TGFBR1	TGFBR2
SHC1	ZAP70
EGR1	EP300
AGTR1	RAB5A
CDX2	PAX6
TAF9	UBA1
APEX1	HIF1A
NCOR2	RELA
COL1A1	TXN
KPNA2	KPNB1
ALOX12	PLA2G2A
JUNB	SMAD4
TNF	TNFRSF1A
DES	SPTAN1
BMPR1A	BMPR1B
PECAM1	SRC
CRYBB2	CRYGC
ELAVL4	EWSR1
BIK	MCL1
BCL6	NCOR2
CASP3	DCC
CREBBP	FOXO1
PECAM1	PECAM1
WT1	WTAP
BRCA1	RB1
ACTA2	CCT4
CBX3	LBR
EWSR1	MATK
MAPT	YWHAB
MAPK7	SGK1
KAT2B	NPAS2
IL6ST	PTPN11

FTH1	FTL
CALR	FGB
NR1H3	PPARA
SFN	ZNF638
AES	HMGB1
CREBBP	POLR2A
PHB	SMARCA4
DLG2	NOS1
DSC2	DSG2
APC	CTBP1
ITGB3BP	ITGB5
FLNA	ITGB7
IFNAR1	PIK3R1
BAT3	TDGF1
CCDC6	PPP4C
CSTF2	EEF1G
DNMT1	RB1
DHX9	RELA
NCOA1	THRB
CCR3	HCK
DCTN1	RPGR
ITGB1BP1	KRIT1
NTRK3	SHC1
AHR	NRIP1
EGR2	HCFC1
UBE2D3	UBE3A
POLR2G	POLR2H
PSME1	PSME2
BRCA1	BRCC3
CDH8	CTNNB1
PTH	PTH1R
JUND	MAPK1
FBN1	MYOC
ANP32A	APEX1
HNRNPH1	NCBP2
HGF	HGF
LYL1	NFKB1
SMAD3	SRY
GZMA	HMGB2
TP73	YAP1
GAST	MEP1B
CTCF	POLR2A
MMP2	THBS1
NFYA	SRF
CRKL	NEDD9
BCL2	PPP3CA
KCNH2	YWHAE

JUN	SPI1
CREBBP	NCOA2
HNRNPU	SMN1
DPEP1	DPEP1
EXOSC7	IP6K1
BCL2	BCL2L1
HSP90AA1	LSM1
ORC2L	XRCC5
SH3BP2	SYK
PPP2R3A	RBL1
MAP2K4	MAPK8
NCOA6	THRB
RAB3A	RABGGTB
MAPK1	PRKCE
SFN	SRRM2
POU2F2	TBP
CBL	YWHAB
FGF7	HSPG2
FYN	ITK
CUL2	TCEB1
GRIN2A	SRC
CDK9	GRN
CFTR	PRKAA1
NCOR2	PML
HSPA5	YWHAB
CSNK1A1	TNFRSF1B
C1R	C1R
EED	EZH1
MYC	MYCBP
POLR2C	POLR2J
CNTN2	NFYB
FTL	GADD45A
FN1	TSHR
FMR1	UBE2I
GNAI1	GPSM3
PRPSAP1	PRPSAP1
DAPK1	TNFRSF1A
RAD9A	RPA1
EP300	SMAD2
PSMC3	PSMC5
ADRM1	PSMD1
MAPK14	MKNK1
LYN	PPP1R8
ATF6B	NFYC
CDC6	PCNA
MDM2	TBP
BMPR1A	ZMYND11

CHGB	MARK3
CUL4B	NEDD8
DHFR	TP53
STX1A	STXBP1
CSNK2A1	HDAC2
PRSS1	SERPINB8
JUN	SPIB
F13A1	FN1
EIF2AK2	PDGFRB
CNTN2	TUBG1
S100A8	UNC119
ENG	TGFBR1
EPS8	PCM1
RAD9A	RPA2
RAB5B	RIN2
ALB	LRP2
PECAM1	PTPN6
HNRNPA2B1	VHL
KIF20B	PIN1
CCDC85B	NRIP1
PROC	PROCR
SNRPG	TLE1
E2F1	TP53BP1
RPGR	YWHAE
KPNA2	RAG1
HDAC2	IKZF1
GP1BA	VWF
EP300	ETS1
BRCA1	ESR1
FGF2	RPL6
PNN	RNPS1
AHSG	INSR
FXR2	FXR2
PFN1	VASP
OCLN	TJP1
NCK1	PAK2
RAB4A	TP53
KIF5B	YWHAZ
IFNAR1	PRMT1
CREBBP	HNF4A
CALCOCO2	FXR2
EEF1G	ZNF24
CAV2	SRC
CD28	GRB2
PPP2R1B	PPP2R5E
HTT	PDK2
ARL6IP1	INPP5K

JUN	MAPK3
NCOA1	RXRA
EGFR	GRB10
CD22	LYN
ITSN1	SMARCC2
PLK1	PSMA3
EWSR1	MAGEA11
GTF2H1	TP53
TRIM29	UBE2I
DMC1	DMC1
CDH11	CDH2
SLC25A6	VIM
CCDC85B	VPS72
AR	SART3
ITGA3	ITGB1
EFNA1	KAT5
EP300	SMAD1
MCM4	ORC2L
BLM	CHAF1A
CTNNB1	PTPN14
CCDC85B	EPS8
CGA	CGB
GOLGA2	ZNF250
GRB14	PDGFRB
PCNA	RFC2
PUF60	PUF60
ARHGAP19	ATXN3
ELF3	NFKB1
LDLR	LRPAP1
CREBBP	EWSR1
EP300	NAP1L4
PSMD7	TRAF6
CDK9	SKP2
SNRPN	TP53
ABL1	PRKDC
DNM1	GRB2
EPOR	PIK3R1
MAPRE1	TERF1
IRAK1	PRKCZ
HSPA1A	MAP3K5
AHR	ESR1
CDK4	CDKN2A
CRADD	RIPK1
BIN1	SYN1
ATR	MSH2
ATXN2	BAT3
RIPK1	TRAF1

LILRB4	PTPN11
IGBP1	PPP6C
MDFI	TAP1
BAT3	S100A4
PLD1	SNCA
KIT	YES1
AR	TMF1
OCRL	RAB5A
AKR1B1	SMAD1
CCND1	STAT3
EZH2	VAV1
RPL7	ZNF7
FN1	GSN
AFP	CCR5
PSMD2	TNFRSF1A
PLCG1	PTPRJ
FXR1	FXR2
DGKD	HAX1
HRAS	PIK3R1
TAF10	TAF10
CYFIP1	FMR1
FLT3LG	PFN2
CRMP1	SNRPG
NKX2	TBX5
GHR	PTPN11
ICAM3	MSN
CFTR	SLC9A3R2
CASP10	CASP2
CDK2	CEBPA
EIF2AK2	RAC1
TRIM23	ZNF250
TAF11	TAF5
CTTN	SYK
CTBP1	HTT
TOMM20	VDAC1
C3	CFI
SMAD3	TGM2
HNF4A	NR0B2
DNAJA1	TM4SF1
HIST1H4A	PRMT5
EEF1A1	SMAD2
MDC1	TP53
GRIN2A	PTPN4
CFH	SELL
NR3C1	RAF1
SEC13	SEC31A
EGFR	PTK6

FLT3	GRB2
SMAD1	SMAD6
PTPN1	STAT5B
EPS8	ITGB1
DAXX	MDM2
KDR	SHB
PDGFB	PDGFB
CREBBP	NEUROG1
FYN	GRIN2A
NCOR2	NR3C1
ANP32A	KPNA1
HSP90AA1	NR3C1
EWSR1	RAD23A
KCNJ11	LDHA
BAD	BCL2L2
CDK6	RUNX1
ALOX12	ITGB4
AXL	GAS6
HSP90AA1	LCK
FYB	FYN
GOLGB1	SKIL
EEF1A1	ITSN1
CDH1	CTNNA1
KRT2	SMAD3
ITPKB	PSME3
DHX9	TBP
FKBP4	GLMN
DHFR	THBS1
JAK1	PLAUR
HNF1A	STAT3
GRB10	RET
ITGA6	ITGB1
HUWE1	MCL1
CHAF1A	PCNA
GNAS	VIPR1
HIF1A	SP1
HMGN2	HMGN2
CBL	ITK
DAP3	PPARA
SMAD3	ST6GALNAC2
MAPK3	SREBF2
ERCC2	ERCC3
CCNG1	CDKN2A
GNAI2	RGS19
LCP2	NCK1
RAC1	TRIO
FANCA	FANCA

SCAMP1	SNAP23
CSF2RB	PRKCB
KAT2B	MDM2
MAD2L1BP	PTN
KRIT1	RAP1A
CLEC3B	HGF
ESR1	HSP90AA1
FOXO4	XPO1
RELA	RPS3
HLA	SH3GL2
MDM4	YWHAB
AR	NR2C2
FBN1	VCAN
MMP2	TIMP2
BLMH	RPL11
KIR2DL3	PTPN6
DMWD	PPBP
CREB1	GLI2
PRKCD	PTPN6
BCL2	PARP1
EPOR	GNB2L1
PPP2CA	PXN
KLF6	POLA2
KCNB1	SNAP25
MITF	TFE3
CCDC85B	PSMC6
IGFBP3	RXRA
JUN	PRKD1
CHAF1A	CHAF1A
GRK5	RCVRN
KAT5	PTPN4
NFKB1	REL
POLR2J	SATB1
EZR	S100P
PTPRC	SKAP1
FYN	PTPRA
MAGEA1	UQCRB
BNIP3	BNIP3
AR	MAPK1
HSPB3	PRPF4B
RAP1A	RAPGEF5
IMPA1	IMPA1
SMAD3	TPM3
SMAD2	TGFBR1
CREBBP	SRF
PIK3R3	RB1
GTF2E2	TBP

FHL2	ITGA3
CFLAR	FADD
PRTN3	SERPINB1
PRDX1	PRDX4
PSMD2	UNC119
RB1	SERPINB2
BAT3	NBL1
ARHGEF12	IGF1R
PKN2	RHOA
TSC2	YWHAZ
AR	XRCC6
KIT	PIK3R1
NOS2	RAC2
CASP10	CFLAR
AR	CREBBP
CREBBP	SMAD2
GNB1	GNG11
CTNNB1	TFAP2A
TPD52L1	YWHAB
CACNB4	TBL3
KNG1	KRT1
CHGB	YLPM1
CSRP3	MYF6
CTNND1	CTTN
LMNB1	PRKCA
CRMP1	FAS
RB1	RBBP5
ANK1	SLC4A3
RAF1	RBL2
SAFB	SRPK1
HMGB1	TLE1
ARL4D	NDRG1
HLA	HLA
FRK	RB1
CALM1	GRK4
CDK2	SKP2
NGFR	PRKACB
RBBP8	SIAH1
PRKCA	RALBP1
CIB1	NBR1
NCOR2	ZBTB16
TP53	YBX1
ERBB4	STAT5A
GNAZ	RGS7
MCM2	RPA1
NFIL3	NFIL3
CDH5	CTNND1

SMAD4	TDG
EP300	MYOD1
PRKCB	RGS2
HDAC2	PPP1R8
EIF2AK2	STAT1
IL6ST	PTPN6
MAF	MAF
MAP3K14	TRAF1
APBB1	APP
ARF1	KDELR1
KHDRBS1	TUBB3
ARFRP1	CYTH1
MYF5	TCF3
ACTN1	PKN1
HOXB6	SAT1
ACADVL	ACADVL
SP1	YY1
CD46	ITGB1
HDAC1	RB1
CBL	EGFR
PDLIM7	PSMF1
LYL1	TCF3
CDC20	TCP1
RAD51	SUMO1
ESR1	MTA1
ATF3	SMAD3
KPNA3	RCC1
MAPK1	RPS6KA3
GLG1	NFKB2
ICAM3	ZBTB16
CTSK	SERPINB3
CREBBP	RPS6KA1
PPP2R1A	PPP4C
BARD1	BARD1
CTCF	RAD21
A2M	NGF
ARHGEF5	SFN
DOK1	RET
MBP	PLP1
FOXO4	SMAD3
CLTC	KIT
ERH	UNC119
IL2RB	SHC1
ELN	FBN1
AP3B1	SLC30A3
ARF6	ARFIP2
MAPK8	WWOX

PRKAA2	PRKAB1
PXN	SRC
EEF1A1	TGIF1
FXR2	NT5C2
SAT1	SAT1
MYOG	SP1
AKAP1	PRKAR2A
GRIK1	SDCBP
NR2F6	NR3C1
NR3C2	PTGES3
PTN	PTPRS
HIF1A	TP53
ACP1	EPHB2
APOBEC1	KPNA2
DAG1	LAMA2
LRPPRC	NFKBIB
DRP2	DTNA
GSK3B	YBX1
MDM4	YWHAE
ATXN1	PIM2
MAP2K2	MAPK3
COL1A1	VWF
RB1	SKP2
EGR1	SP1
HDAC1	TOP2A
DNAJC7	SMAD2
DGKZ	SAT1
C1D	PRKDC
CD58	HERPUD1
CSF2RA	PIK3R1
MCL1	PCNA
ABLIM1	KRT15
EZH2	HDAC1
HSPE1	SAT1
CD22	SHC1
PSMD7	RAB1A
DSG3	JUP
MAGEA11	PSMF1
ESR1	SAFB2
SETDB1	TTR
RELB	RELB
MAP3K14	RPL4
HLA	LILRB1
TJP1	TJP2
DUSP4	MAPK3
IL4R	SHC1
SNAPC1	SNAPC3

PCNA	YBX1
ADRBK1	AGTR1
EWSR1	HSPA2
DDX17	DDX5
E4F1	TP53
AKT1	PPP2CA
CDKN2A	PSMC3
NCK1	WASL
CDX2	HNF1A
CTNNB1	PECAM1
ABCD1	PEX19
ELF1	SP1
KRT18	RAF1
MED1	TP53
PRKAB1	PRKAG1
PTEN	PXN
ASCL1	TCF4
RAF1	YWHAB
E2F1	PHB
CTCF	SMC1A
GNAI1	RGS19
RAB5A	RABEP1
ATXN1	SC4MOL
TYK2	XRCC5
MLLT10	MLLT10
NFKBIA	REL
AXL	PIK3R2
CALM1	MAPT
ESR1	NCOA1
GRB2	KIT
ARHGAP1	RHOC
PABPC1	PCBP1
CDK9	RELA
ASMTL	ASMTL
BAT2	IFT88
PIK3R1	SHB
KAT2B	RELA
ATP1A1	MAPK3
RAB5A	TSC2
DAD1	MCL1
GSK3B	MUC1
CD247	ZAP70
KPNB1	SMN1
FYN	GRB10
DNM1	SRC
AKAP9	KCNQ1
SMAD4	SP1

CDC37	MAP3K14
PTEN	TP53
PROC	SERPINA5
EGFR	STAT3
BMX	STAT3
COPS6	EDN1
ATF2	ATF2
CFTR	DNAJA1
NUP62	TRAF3
ADH7	ADH7
FUS	THRA
KIT	TEC
ADRB2	AKAP12
CNTN2	NRCAM
CREBBP	CTNNB1
PIN1	RAB4A
CBL	F2RL1
ABL1	RFX1
GCG	GLP1R
ID3	PAX5
FCGR1A	HCK
CRMP1	PFN1
PXN	SELE
SMAD1	TOB1
MDM2	PSME3
GRB2	PTPN6
PIAS1	SKIL
NEDD9	SMAD1
MEN1	NFKB2
SETDB1	SKIL
MCM2	MCM6
PIK3R1	SYN1
AKR1C3	MAGEA11
GDI1	RAB9A
BCL6	ZBTB16
CLU	VLDLR
GRK5	GRK5
HSPG2	TTR
MAX	MYCL1
MDFI	ZNF136
CTSD	PSAP
RAB5A	SDCBP
PLG	S100A10
HERPUD1	USP7
MCM7	RPA1
ACVR1	FNTA
RB1	TGM2

PRMT5	SUPT5H
RAD52	RPA1
MARK2	YWHAB
IL6ST	PRKCD
FCER1G	SYK
SCNN1A	UBE2I
PPFIA1	PTPRF
LMO2	TAL1
PAX6	SMARCA4
CTNND1	PTPRM
CREBBP	FGFR1
BRAF	HRAS
ARF3	ARFIP2
RNF4	TCF20
KPNB1	SREBF2
CBS	CBS
ANXA5	ITGB5
RPA1	RPA3
GHR	PIK3R1
CLEC3B	PLAT
AXIN1	CSNK1E
NCOA2	NR3C1
EP300	MYB
CDH5	PTPRB
MCM2	TBP
PSMD11	UNC119
BTF3	CSNK2B
GRIA2	SDCBP
CBX1	DNMT1
LCK	LCP2
BRCA1	MED21
HSPA4	TRAF6
PCNA	PCNA
POLR2B	WWOX
NCOA1	RARB
GP1BA	SELP
EGFR	GRB2
COL3A1	THBS1
COL4A1	COL4A1
GNAI3	RGS19
EIF4G2	SKIL
AR	TCF4
TP73	WWOX
HSF1	XRCC5
GATA1	MED1
ABL1	CBL
PFN1	WASL

CSTF2	ECH1
AXL	LCK
ASAH1	SETDB1
BAT1	RPS15A
BRCA1	KPNA2
CLU	TGFBR2
IGF1R	IGFBP3
AR	NCOA4
FKBP1A	YY1
CD36	MATK
PTPN2	SFN
KDR	RASA1
BTG1	PRMT1
SELP	VCAN
C1QBP	YWHAB
DRD3	GRB2
GNB2L1	SRC
RPLP1	XRCC6
STX3	VAMP3
ARHGDIA	RAC1
ABCE1	RNASEL
HNRNPA1	SAFB
HRAS	RAF1
CREBBP	KLF5
EEF1G	HMOX2
CRKL	MAP4K1
PEX5	PEX7
TRIM28	ZNF197
ECH1	PAFAH1B3
NFKB1	RELB
CALB1	TRPV6
FYN	PIK3R1
GP1BA	YWHAZ
PML	STAT3
AXIN1	DVL1
ANG	RNH1
MAPK1	MAPK14
CFHR4	CFHR4
BLMH	BLMH
APC	SIAH1
ARNTL	EPAS1
PSMB5	TRAF6
AXL	CBL
LYN	NMT1
ITGA9	ITGB1
CD80	CD80
PEX19	SMAD2

CTNNB1	MUC1
PLSCR1	SPG7
ARL3	TP53
PCNA	PRKDC
GNB2L1	ITGB1
MAPK7	PTPRR
PSEN1	TCF7L2
HDAC1	RBBP7
BRCA1	SP1
KLK2	SERPINF2
CASP3	PARG
ERCC2	GTF2H2
E2F1	TFDP1
POLR2A	POLR2H
BTK	EWSR1
CYR61	ITGAV
AGA	AGA
F2	THBD
CDK2	CDKN1A
PDHX	PDK2
PIK3R1	WAS
MCM3	MCM7
DYNLT3	VDAC1
FYN	NMT1
MYOD1	STAT3
SELP	SERPING1
FBN2	MATN2
EIF2AK2	PPP2R5A
RAF1	RB1
GRB7	RET
ADRBK1	PDE6G
AKT1	CASP3
E2F1	SP4
NFKBIB	POLR2L
TGFB1	TGFBR2
PLN	PPP1R3A
EEF1D	EEF1G
CCT3	RAF1
IMMT	KIF22
ATXN1	BAT2
NME1	RRAD
CASP3	TRAF3
CTNNB1	DVL3
CCL8	VCAN
NR3C1	STAT5B
COPS2	IRF8
GNAQ	RGS4

DLG4	PTPRG
PIN1	TOP2A
MAP3K5	MAP3K5
CSNK2A1	IRF2
ARHGDIB	RAC2
APC	MUC1
ECH1	SERPINB9
APBB2	APP
POLR2C	POLR2H
STX1A	SYT1
EPHA2	PTPN11
HK3	LEP
ESR1	NRIP1
BAG1	HSPA1A
HMGB2	POU5F1
BRCA1	JAK1
CBL	TYK2
ESR1	JUN
GNA13	MCF2
PAFAH1B3	ZBTB16
ADRB2	GRK6
CCDC85B	POLR2L
BCL2L1	PSEN1
GNAI1	RGS16
PML	ZBTB16
EEF1G	GSTO1
SNAP23	VAMP3
GRB2	PTPRA
MAPT	PSEN1
TERF1	TERF1
IKZF1	TBP
MCM7	ORC3L
MDM2	NUMB
RAB5A	RIN2
CYB5A	CYCS
IRF2	KAT2B
GDI2	RAB2A
S100A8	S100A8
PLAUR	TYK2
TAL1	TCF3
NID1	SKIL
APC	APC
SERPINE1	SERPINE1
MAN2A2	VIM
HCK	RAPGEF1
CACNA1C	SRI
MSH2	MSH3

PSMA3	SNRPB
CFTR	SNAP23
AP3B2	CLTC
RXRG	VDR
LMNB1	PRKCB
LYST	YWHAB
DDX3X	NFKB2
CDC7	CDKN1A
BRCA1	FHL2
CASP3	HCLS1
CEACAM5	EWSR1
BRCA1	TUBG1
ERBB2	HSP90AA1
CCDC85B	SMARCD1
NCOR2	SP1
HSPD1	HSPE1
GRIA4	PRKACA
CTNND1	PTPRJ
DVL1	DVL3
IRS1	PIK3R1
IFNAR1	STAT3
EPS15	NUMB
HMGB1	TP53
MYC	RELA
CSK	ERBB3
MCM7	MNAT1
NR0B1	RORA
TAF6	TAF7
F8	VWF
ACP1	EPHB1
NME1	TIAM1
DAG1	RAPSN
PECAM1	PLCG1
BIRC2	JUP
BIRC2	CASP3
BMX	PAK1
LGALS1	LGALS3BP
HNF4A	ZNHIT3
GRIA1	SDCBP
F5	PROS1
EEF1A1	POLR2C
CRYAA	CRYGC
GAPDH	RPA2
PUM1	SMAD1
DCC	MAPK3
DAP3	FADD
HSP90AA1	MAP3K14

NFKB1	NFKBIE
AKAP13	YWHAB
AKAP13	RHOA
FADD	RIPK1
CCNB1	CDC25A
DOK1	TEC
JUN	NR5A1
ADAM15	SRC
PPBP	PPBP
PRMT5	TYK2
NR1H2	RXRA
ABL1	VAV1
S100A11	S100B
MCM6	PSMA1
ATM	TERF1
IGF1R	YWHAB
CADPS	PIP5K1A
CDC25C	YWHAH
EEF1A1	MNAT1
ABL1	BCR
AHR	NCOA2
BNIP1	NCBP1
CCNB1	CDKN1A
ITGB3	PTK2B
CLTC	GGA3
HMGA2	RELA
SKAP1	SRC
PIK3R1	SYK
G3BP1	USP10
MPRIP	YWHAQ
COASY	RPS6KB1
PDK1	RPS6KB1
ITSN1	KIF5A
MAD1L1	MAD1L1
CCL5	CCR4
CXCL12	CXCL12
BARD1	TP53
PIAS1	SMAD1
CGA	FSHB
DLG2	GRIN2B
ADD2	FYN
AR	SMAD3
CDH1	ITGAE
LYST	YWHAQ
ADAM9	PRKCD
MDFI	VPS72
EWSR1	PRUNE2

PPP2R5D	PPP4C
EPS8	SRC
ADRBK1	SNCA
TOP2A	TP53
ISG15	UBA7
ESR1	NR0B2
ANXA2	S100A10
IRF3	IRF7
EED	EZH2
EP300	EP300
AHDC1	ATXN1
NCOA6	THRA
MDFI	MYF5
BCL2	PSEN1
CDC42EP1	RBPMS
PRKCG	YWHAE
DLG4	HTR2C
CRMP1	HTT
APCS	FCGR3B
F2R	SNX1
MCM7	RBL1
ABL1	ABL1
BCL3	NFKB2
BAG1	HBEGF
KRT15	PSMA1
MATN2	MATN2
PLSCR1	SLPI
AR	CDC37
ACTG1	ACTG1
CRMP1	FUBP1
NCK1	RRAS
HSP90AA1	RPS3A
CREB1	NR3C1
GRB2	PAK2
PARP1	PARP1
CCT5	TP53
APBA1	APP
CREBBP	EP300
PSMB6	PSMB7
PRKD1	SYK
PTGS2	TP53
EIF2AK2	EIF2S1
PRKCG	RGS2
ILK	ITGB1
BCR	ERCC3
MAP3K4	PTK2B
CD22	PTPN6

MED1	PPARG
BRCA1	SMAD3
SYN1	SYN1
HNRNPU	SFN
KRT15	ZNF638
CRYAA	CRYAB
POU2F2	POU2F2
CD81	CD81
OGT	OGT
COL1A1	MATN2
ATXN1	UBAP2L
CUL3	NEDD8
ANXA2	CTSB
GRB2	TNK2
SMAD3	SNW1
CRHR1	UCN
ATF4	TTR
TGFB1	TGFB2
CLTA	HIP1
PPIA	S100A8
ACVR1B	SNX1
IL2RG	JAK3
PDGFB	PDGFRA
C9	CLU
MNAT1	MTA1
C1QBP	COIL
G3BP1	RASA1
CALCOCO2	VPS72
CBL	LCK
C3	CFH
HNRNPC	KPNA3
BCL2L1	BIK
PARP1	RARA
BARD1	PTN
FGF1	S100A13
AHR	TBP
KRT15	PSMC5
CCDC130	EEF1A1
ADAM15	YES1
CTNNB1	RXRA
XRCC4	XRCC4
CDK4	CDKN1A
SP3	TP53
PML	SKI
JUN	STAT3
ACTN1	COIL
ATP5C1	CCT7

HMGB2	PGR
MAPK3	PTPRR
ARAF	RABGGTB
GJA1	PRKCA
GTF3C1	KLF6
SH3GL3	VIM
MNAT1	RB1
PARK7	PARK7
PRKACA	PRKAR1A
CITED2	TFAP2A
AKAP13	ESR1
FLNB	TSHR
CD9	SERPINH1
NEDD9	SMAD2
EIF3A	EIF4G1
GRB2	ZAP70
BAT2	UBAP2L
HNRNPA1	PRMT1
IL12RB2	STAT4
GOLGB1	PFN2
FOSL1	USF1
HDAC2	SP1
APLP1	HSPE1
CREBBP	RBBP4
ADAM15	FYN
MYC	SKP2
CSK	DAB2
RPA2	STAT3
ARL6IP1	FDFT1
DCTN1	VIM
SETDB1	TRIM28
IGFBP5	SPP1
IKBKE	TANK
MLH1	MLH3
TAF11	TAF7
NOV	POLR2L
LMNA	SREBF1
SMAD5	SNRPA
CASP3	YWHAE
ATM	RBBP8
GEM	TRIM23
NKRF	RELA
NR4A1	RXRG
LRPAP1	POLA2
PLCG1	SHB
TAF12	TAF4
INSM1	TUBB3

FLNA	TTN
SH3GL1	SH3GL1
BYSL	TROAP
GRN	SLPI
SCNN1B	WWP2
LIFR	PTPN6
MC1R	POMC
CSH1	SMAD4
FXR2	TRIM29
PNN	PPIG
BCR	GRB10
HIP1	HTT
PITX2	PITX2
SSBP1	SSBP1
CBL	LTK
DRD2	SLC6A3
PXN	VCL
LCK	MAPK1
LYN	SKAP1
COL2A1	TGFB1
IGFBP3	TF
SELP	SELPLG
POLR2G	VHL
RIPK1	TNFAIP3
NEDD8	PSMD4
ABL1	TUB
PSMC2	SKIL
TPD52	TPD52L1
ATF1	GABPA
ACAN	LUM
SF3A1	SMAD3
STX1A	VAMP1
BCL2	SMN1
EP300	MYBL2
PIN1	PTOV1
AES	RELA
HCK	PAK2
APLP1	ZNF24
MAP2K1	MAPK1
NCL	TERT
RB1	TBP
CDH1	PSEN1
RARA	RXRB
GRB7	KIT
PDGFRB	PIK3R1
CD247	SLA
MAD1L1	MAD2L1

LCK	SYK
OS9	SMAD2
TPSAB1	TPSAB1
PITX1	POU1F1
BCL2L2	HRK
EBI3	SMAD3
AKT1	AKT1
COX17	COX17
AR	GAPDH
DLG1	GRIN2A
P4HB	TG
BLOC1S1	PBX2
MLH1	TRIM29
GAPDH	TK1
AKT1	TCL1A
RXRA	SP1
CSF2	CSF2RA
GNB2L1	IL4R
BCL2	BECN1
BRAF	YWHAQ
EEF1A1	SMAD4
MDFI	PHLDA1
TFAP2C	TP53
FCN1	TGFB1
DLG1	KCNA5
C1S	SERPING1
COIL	MAD1L1
LCK	UNC119
DES	S100A1
EYA2	GNAZ
CALR	NKX2
AR	FHL2
CDC25A	MAP3K5
ARL4D	PGAM1
EFNA5	EPHA3
CEACAM1	CEACAM8
CCDC106	SETDB1
FGF2	GPC3
AES	CCL7
SREBF2	UBE2I
CREBBP	ONECUT1
FHL2	PSEN2
CCL22	VCAM1
CASP8	RIPK1
FLNB	PSEN2
CUL1	SKP2
LIG3	XRCC1

RIN1	YWHAE
ELK1	KLF4
CD163	CSNK2B
ESR1	MED1
RFX1	SMAD1
BAD	S100A10
PUF60	VIM
FOS	TSC22D3
EZR	ICAM2
SP100	UBE2I
CALM1	PTH2R
JUN	UBE2I
CSTB	CTSH
MAP3K8	NFKB1
CALR	PDIA3
MYC	RB1
CUL4A	DDB2
DLAT	PDHX
RPL35A	SH3GL3
EP300	HIF1A
MAPK3	MKNK1
CRKL	MAP4K5
ADORA2B	SLC9A3R2
NKX2	RELA
CCNA1	GPS2
CCNA1	XRCC6
MDM4	TP53
HTATSF1	SUPT5H
ABI2	KRT20
ABL1	PAK2
PLK1	TSC1
DLG4	KCNJ2
IL6ST	JAK1
LRP2	LRPAP1
RARB	RXRA
GATA4	SRF
CDC20	HDAC1
ENO1	PLG
CSE1L	HNRNPL
DLG4	NOS1
NXF1	SFRS3
FGA	FGA
CDKN2A	MDM2
JUN	TGIF1
MEF2C	SMAD2
CITED2	TFAP2C
TP53	ZNF148

CCT3	PAFAH1B2
STX3	STXBP1
ANP32A	SET
CSF2RB	CSF2RB
STX1A	STX1A
CBL	PIK3R1
RELA	RELA
EP300	USF2
CCL7	FEZ1
FASLG	NCK1
PTK2B	PTPN12
RPS6KB1	XPO1
CDC27	SMAD3
DRD5	GABRG2
JUN	SUMO1
CCL5	SDC1
COL2A1	PKD1
CBL	ZAP70
SEMA3F	UBA1
CCK	CCKAR
CAV1	ESR1
MDM4	SFN
DLG1	LCK
TAF1A	TBP
CTTN	WIPF1
PABPC1	WWOX
CFLAR	TRAF1
PSMC2	TRAF6
TNFAIP3	TNFAIP3
KPNA1	TAF9
DAG1	GRB2
TAF1C	TBP
DLG1	EPB41
ERBB2	GRB7
ANXA6	S100A1
CCNA1	GNB2L1
DGKZ	SNTB2
HNRNPF	HNRNPH1
EP300	MDM2
TRIM9	VASP
CSRP1	CSRP1
EWSR1	PCBP1
AR	DAXX
POLR2C	POLR2C
TERF1	ZBTB16
LYN	PTPRC
SMAD4	SMAD5

PLSCR1	ZBTB16
CGA	LHCGR
AR	PRMT1
GHR	STAT5B
NME4	TRIP13
GAP43	RABEP1
DDX5	ESR1
FKBP3	HDAC2
BARD1	EWSR1
EIF2AK2	HSP90AA1
MTMR2	MTMR2
RBBP4	SP1
PIAS1	UBE2I
APEX1	HNRNPL
NEUROD2	PKN1
ERBB2	STAT3
FLNA	MAPK14
CCND1	INSM1
MAML1	NOTCH3
USP7	USP7
FBP1	FXR2
LIG4	PRKDC
GNB1	GNGT1
EEF1A1	TTR
BCL6	EP300
MAP3K3	YWHAE
CBX3	TRIM28
MPP3	SF3B3
ANXA2	GRB2
CRMP1	SEPHS1
SAFB	SAFB2
HSP90AA1	TERT
TAF5	TAF9
KIF23	SFN
CEBPZ	TP53
CHN2	RAC1
NCK1	RASA1
AGFG1	EPS15
ARHGDIA	RHOA
ID1	TCF4
MAST1	SNTB2
ABL1	BRCA1
EGFR	RIPK1
CHRNA1	CHRND
COPS6	PAFAH1B3
SMAD2	SP1
IRS1	YWHAB

HCFC1	MLL
TARBP2	TARBP2
CSNK2A1	YWHAB
TAF1A	TAF1B
APBB1	TFCP2
ANXA3	EMG1
CCL7	CCR1
GNA11	RGS3
PCBP2	SFRS3
EIF4A2	EIF4G1
MPHOSPH6	TLE1
GAPDH	PDIA2
SFN	TRIM32
NCSTN	PSEN1
CDC25A	EGFR
CREBBP	HOXB7
DLG3	GRIK2
CTNNB1	HDAC1
CFTR	CLCN3
IFNG	IFNGR2
MAPK1	TP53
CAV1	CSK
CANX	LPA
FLAD1	TRIM23
CBL	UBE2D2
MPRIP	YWHAB
NEDD9	PTPN12
CBL	KRT18
MAPK8IP2	TIAM1
TRAF3	USP7
GOLGA2	TMED2
CRMP1	ZNF24
SFN	TSC2
MDM4	YWHAH
FKBP4	NR3C1
CBX3	HIST1H1E
TAF5	TAF6
GYPC	MPP1
BMP6	BMPR2
ILF2	PRKDC
COPA	COPB2
TAF1	TAF11
EGFR	VAV1
CDK10	ETS2
PSMA3	SNRPF
BFSP1	VIM
CD8A	CD8A

EGFR	HTT
NFIC	RFX1
THY1	THY1
DDB1	LMO4
SP100	SUMO1
GNB2L1	PTN
PTPRS	RAB35
PAK1	RAF1
PCBP1	UGP2
FYN	WAS
RELA	TP53BP2
ERBB2	ERBB4
AR	KAT5
IKBKE	IRF3
KIF22	SIAH1
EGFR	SRC
ACTN2	KCNA4
APOA2	APOF
AQP5	MDFI
MAPK3	RPS6KA3
FOS	TAF1
CCDC85B	EZH2
ATP5A1	YWHAB
CCDC85B	LMO3
LSM1	PSMB8
TLR1	TLR4
FGF1	FGFR3
CD9	KIT
STX1A	STXBP2
IL12A	IL12B
KRT8	PNN
CD40	XRCC5
NFIX	RFX1
KIAA0368	PCM1
GCA	GCA
NUP205	NUP93
CALR	SLC2A1
NCOA6	RXRA
KPNB1	PLCD1
SFN	TJP2
PTPRS	SETDB1
C1QBP	PRKCZ
KRT14	PKP1
FGF8	FGFR3
PSEN2	RAB11A
KIF5A	TP53BP2
ESR1	SHC1

ITK	KPNA2
BRCA1	NFYA
CCL21	VCAN
CSH1	SMAD2
RET	STAT3
CAPN1	CAST
GNA15	TTC1
HCFC1	PDCD2
AR	CTNNB1
PCNA	XRCC5
CRYBB2	HSPB1
AR	NCOA1
JUNB	SMAD3
MECP2	SKI
INPP5A	YWHAZ
RPA4	XPA
LMNA	TMPO
AKT1	BAD
TP53	UBE2I
STAT1	STAT3
RANBP2	UBE2I
BAT2	C1QBP
DVL1	USP13
MAGEA11	WTAP
CASP7	HSPA5
BCAP31	CASP1
LCK	NEDD9
BAD	BCL2L1
ACTN1	COL17A1
CDK7	E2F1
FEZ1	PTPRS
BRCA2	KAT2B
CUL5	SMAD2
PDLIM7	WWP2
GLI2	ZIC1
CDKN1A	TSG101
IQGAP1	S100B
EP300	SMAD4
HNRNPM	JUN
RELA	TAF6
EGFR	MAP4K1
HDAC1	ZMYND11
DMPK	HSPB2
MAPK14	MAPK3
HSPA2	MEOX2
CCNB1	TGFBR2
AHR	GTF2F2

PLAU	SERPINE1
CCT5	IMMT
COL3A1	SPARC
CSNK2A1	PIN1
RNF4	TBP
SAFB	TAF15
ABCC8	KCNJ11
CBL	CRKL
AVPR1A	GRK5
APBA2	APP
CTNNA1	PSEN1
ADAR	HDLBP
ARCN1	COPB1
JUN	STAT4
TSC1	TSC2
PKIA	PRKACA
FCGR2A	LGALS3
COL5A1	THBS1
HSPB3	UNC119
FOS	TBP
HMGB2	POU2F2
SKI	SMAD3
CTNNB1	PTPRJ
AKAP9	TUBGCP3
DDX17	SF1
GRB2	SYP
NR3C1	ZBTB16
BCL2	BNIP3
HNRNPM	LMO3
ITGB2	SYK
CYP11A1	FDX1
ACTN1	ATXN2
AKAP9	CLIC1
PHLDA1	RPL14
ARF1	PLD1
AKT1	AR
CD3E	ZAP70
CD9	ITGA3
CCND1	KAT2B
PKN1	VIM
CCND3	CDK4
ALOX12	TRIB1
JUN	VDR
PPP4C	PPP4R1
ICAM1	ITGAM
ETS2	SRC
F2	SERPIND1

CEBPZ	NFYB
CBL	PTPN11
F9	LRP1
ATF2	CSNK2A1
DAZ1	DAZL
CAV1	SRC
CDC25A	YWHAB
PFN1	WASF1
ABL1	RAD9A
RPS27A	SMAD2
FYN	KHDRBS1
CCL20	CCR6
KRT81	SKIL
LOR	VIM
CTLA4	PPP2R5A
CRK	PDGFRB
HMOX2	SETDB1
FGFR3	GPSM3
HSPA1A	SLC5A1
PLK1	PSMB1
FMOD	TGFB1
OPRL1	PNOC
BRCA1	MLH1
PRKG1	TNNT1
ABL1	CREB1
KLF6	SP1
CCNB1	CCNF
NFKB2	SUMO1
CDK9	HSPA1A
ETS1	UBE2I
B2M	CD1D
TK1	TP53
CSNK1D	GJA1
SCNN1G	WWP2
JUN	RBM39
AXIN1	CSNK1A1
NR0B2	PPARG
SMAD1	SMAD4
FOXO1	SRC
CD8A	HLA
TUBB	YWHAB
ARID3A	BTK
IRS1	PRKCD
TGFB1	TGFBR1
SNAP25	TRIM9
LRP1	PLAUR
CANX	TF

MSN	SPN
ATXN1	GAPDH
F13A1	FGA
COPS5	MDM2
CREBBP	RELA
GHR	PLCG1
PTPN1	TYK2
ADAM15	ARHGEF7
NONO	SFPQ
ELK4	SRF
GBP2	PAFAH1B3
POU2AF1	SIAH1
BARD1	BRCA1
ELN	FBN2
RAPGEF1	SHC1
IL6R	STAT3
POLR2A	POLR2C
EFNA5	EPHA7
BMI1	ZBTB16
KIF1A	KIF1A
RPA3	RPA4
NCOA1	TBP
BRAF	SFN
MCL1	MCL1
EIF3I	EIF4G1
ACTN2	TTN
ERBB4	PIK3R2
CASP8	MAPK3
RFC2	RFC4
PRSS1	SERPINF2
HSP90AB1	IKBKE
EGFR	PDGFRB
MAPK14	MEF2C
CDC7	MCM2
CREBBP	CSK
MED1	RARA
MPHOSPH6	TP53
EZH2	GTF3C1
SNAP25	STX3
BCL2L1	FKBP8
FKBP8	MAPK14
CANX	TSHR
PLK3	TP53
CTGF	VEGFA
GOLGA2	TRIM29
COPA	PDGFRB
ESR1	IGF1R

BATF	IFI35
CD4	UNC119
PIN1	PKMYT1
DCT	DCT
IGF2	IGF2R
COPS5	S100A7
FKBP3	MDM2
FBN1	MFAP2
MAPK1	PEBP1
GIT2	PXN
FGR	SLAMF1
YWHAE	YWHAH
CCND1	TSC2
C1QBP	MAPK1
CHML	RAB1A
PI4KB	SFN
CBX3	CBX5
PARP1	PCNA
CTNNA1	DLG1
SF1	TRIM23
GAPDH	PSMD11
BRAF	RAF1
KRT8	RAF1
AXL	SRC
YWHAE	YWHAZ
EWSR1	PTK2B
EYA2	GNAI2
CLIC1	LSM1
CREBBP	MYB
IL4R	PTPN6
CRKL	PIK3R2
MYOD1	SMAD7
CANX	LRP1
APPBP2	CREB3
HTR1B	HTR1D
ATM	RAD51
HOXA1	MDFI
DAZ1	DAZ1
HLA	TRA
RPA2	UNC119
PSMD1	SMAD1
CALR	MBL2
NTRK2	TRAF6
RB1	RING1
EEF1A1	PTPN4
ARNTL	CSNK1E
BAT2	MAN2C1

CBX3	CBX3
BBC3	BCL2
FTL	MAP3K12
FADD	FAS
BTK	JAK1
BBC3	BCL2L1
PKN1	RHOA
GRB2	SYN1
MAPK3	PTPN7
DHFR	MDM2
CRK	MAPK8
ETS1	RUNX2
MLH1	MYC
PAFAH1B2	SLA
ID2	TCF4
SP1	SREBF1
HSPA5	LCT
ATP2B4	DLG2
GTF2F1	MSX2
PSMC2	PSMD5
CUL4A	SKP2
NCOA1	NKX2
PLAT	SERPINA5
ERBB2	PTPN11
CRMP1	PLA2G2A
RIN1	YWHAB
EZR	SELL
CTSA	NEU1
LYN	SYK
CTNND1	PTPN6
CRMP1	EEF1D
BCL2	HSPA1A
HTT	PFN2
MCM7	NFKBIA
ABI2	VCL
GTF2I	PRKG1
JAK1	SHB
CRHR1	GNAI1
CST3	CTSB
SNAP25	VAMP2
IMMT	STX5
PRKCE	SLC25A4
MDFI	SLC9A1
ARNT	GTF2F2
NME4	NME4
NUMB	SIAH1
NEK2	NEK2

RBL1	TAF1
COPS6	PHYHIP
NFYA	NFYB
GTF2I	STAT1
MAPK1	TSC2
PTP4A2	RABGGTB
PTPRF	SKIL
EPHA2	SLA
FXR2	RBMX
CCDC106	EEF1G
CCND3	RARA
CAV1	NOS2
EXOSC2	UPF1
HMGB2	RAG1
COL3A1	MAG
RARB	RXRG
HDAC2	RFX5
NRIP1	PPARG
PRPS1	PRPSAP1
ATF6	ATF6
SETDB1	SUMO2
NFYA	TP53
CALM1	SYT1
HRAS	RIN1
ACTN1	CTNNA1
LMNA	RB1
SREBF1	YY1
CSNK2A1	DVL1
ANP32A	KPNA5
CCDC130	ZNF24
INPP4A	SMAD1
IL6ST	TYK2
CAV1	FLOT2
ADORA2B	EZR
GRB2	TNFRSF1A
NCF2	RAC1
ID1	TCF12
ANP32A	XPO1
FLNA	TRIO
KAT2B	ONECUT1
GRB2	KRT18
GZMB	SRGN
NFKB1	NKRF
ACTN2	KCNA5
ACTA1	PFN1
CXCL9	DPP4
MS4A2	SYK

ACAN	TNR
SRPR	SSR2
PDGFRB	SRC
SUMO1	UBE2I
FNTA	TGFBR1
FABP1	PPARG
EGFR	TJP1
BTK	WAS
CD28	PIK3R1
PEA15	RPS6KA3
PSAP	PSAP
CD7	SECTM1
LASP1	MDFI
FLI1	SRF
GNB1	KCNJ3
GAS6	TYRO3
PTK2B	PTK2B
PRKCZ	RELA
MAX	MXI1
EPHB1	NCK1
F11	KNG1
SELP	SNX17
CBL	SYK
COIL	PSME3
SYT5	SYT5
MAPK3	MYC
BRCA1	RBBP4
ATF3	JUN
IRF8	TRAF6
FEZ1	STAR
CSNK1A1	MDM4
KLF4	KLF6
ADD1	SPTB
KRT1	YWHAQ
AFAP1	PRKCE
CRMP1	PAFAH1B3
HIF1A	STAT3
NDN	NGFR
MAPRE3	RAB1A
ITPR1	ITPR3
FXR1	FXR1
GCA	SRI
ERG	JUN
CRKL	PXN
HSP90AB1	MAP3K3
GRIA2	SPTAN1
FYN	MS4A1

MYC	NFYC
ITGB3	ITGB3BP
KAT2B	TCF3
COPS6	COX17
DRAP1	TBP
NR1H2	RXRB
CTNNB1	FHL2
GNAI3	RGS7
GJB1	OCLN
RAF1	RAP1A
HDAC1	SP3
BAT3	SETDB1
SETDB1	VIM
ERCC3	GTF2H1
AMD1	AMD1
APOA1	PCMT1
TNFRSF8	TNFSF8
FGB	FGG
EP300	TSG101
HLA	UNC119
ANK1	RHAG
RASA1	SRC
PHB	TP53
BNIP3	CD47
HMGB1	POU5F1
GABRA1	PRKCD
CD40	XRCC6
FN1	TNC
CTTN	MYLK
CHN1	GTF3C1
GRIN2A	PTK2B
SMAD5	SOX5
HDAC1	RBBP4
ACTN2	DLG1
CALM1	CNN1
IL16	KCNJ4
SF1	TAF15
COL1A1	SPARC
TP53	WT1
TRIM21	YWHAZ
GSN	VDAC1
SFN	WEE1
TRIM25	TRIM25
ITGA5	SPP1
NCK1	TNK2
POLR2B	POLR2L
IL4R	JAK1

CDC16	SMAD2
EP300	PPARD
TFE3	TFE3
S100A11	S100A11
MAP2K5	PRKCZ
ETS1	JUN
ERCC5	PCNA
PAFAH1B3	TP53
GRB2	SYK
ARID3A	E2F1
CCDC85B	KRT6A
ARFIP2	RAC1
ANXA1	EGFR
AKAP13	GNAQ
CBL	CD5
ACTG1	DSTN
CREBBP	DDX5
SMAD2	SNW1
TRAF6	USP7
RB1	SNAPC3
MVK	MVK
KIF23	USP8
PRKD1	YWHAQ
DAZAP2	2-Sep
BIN1	CUX1
PABPC4	PHLDA1
CCDC85B	ZNF165
ATM	TP53BP1
HDAC1	MAD1L1
EIF2B2	NCK1
HTT	RASA1
DR1	NFIL3
ZNF174	ZNF24
CDKN1A	SKP2
SH3GL3	SNRPN
CENPF	CENPF
RAB5A	RIN1
FLI1	KLF1
COPS6	MYCBP
SYK	TUBA1A
ADAM15	LCK
VASP	WWP2
VAV1	ZAP70
LPL	LRP2
COPS6	RPA2
DAG1	FYN
PRNP	PSMA3

LTBR	TRAF3
CSNK2A1	HNRNPA2B1
PFN2	PLAUR
NR3C1	TSG101
MAP2K3	MAPK14
ESR1	MNAT1
ALDH2	HSPD1
ATF3	FGFR3
DYNLL1	NTRK2
JUN	TBP
INPP5D	SHC1
EFNA1	EPHA3
BMP2	BMPR2
DLGAP1	DYNLL1
HDAC1	MYOD1
EIF4G1	PDCD4
TXN	TXNIP
CANX	SLC2A1
DLAT	PDHB
DCTN1	PAFAH1B1
BMP2	BMPR1A
ALK	JAK3
EZR	SELP
MAX	MXD1
KPNA2	NFKBIB
COL4A2	COL4A2
BCR	CRKL
KCNA4	SAT1
CRK	XPO1
GDI2	RAB11A
IGF2	IGFBP4
FGF1	SYT1
IL16	KCNJ10
ALK	PTN
NCOA2	PRMT1
ACTN1	CDK5R1
CRK	EPHB3
C19orf57	GPS2
ATN1	TLE1
PTOV1	SPTAN1
SMAD7	XRCC6
SFRS5	TNK2
ACVR1B	INHBB
CDK2	UBE2A
FEZ1	PRKCZ
PDGFRA	PDGFRB
CLTC	VCL

DAG1	DRP2
NRIP1	PRMT1
HLA	HSPA5
PTGES3	TERT
CDK2	EP300
IDUA	MPP3
IFI16	TP53
TF	TUBB3
RNPS1	SFRS6
APP	NAE1
HDAC2	YY1
ABL1	RB1
CTSL1	SERPINB3
C19orf57	RUNX1T1
CSNK2A1	PSMA4
ZNF165	ZNF250
ELF1	NFKB1
CREBBP	HIF1A
BMPR1A	BMPR1A
CAPNS1	IL2RG
NMI	PSMA1
EGFR	STAT5A
POU2F2	XRCC6
TAF11	TAF4
CNTN2	L1CAM
ALK	IRS1
DSC3	JUP
ARF1	COPB1
AKAP9	TRIP10
CCND1	RB1
LRP1	SKIL
GTF2A2	TBP
HMGA1	SP1
ARL3	UNC119
HLA	TAP1
ATN1	HSPG2
GRB2	MUC1
FYN	GNB2L1
RIPK1	TRAF5
GRB2	MST1R
AREG	EGFR
MMP9	THBS2
NMI	STAT1
CRKL	KIT
ARR3	PTAFR
PLCG1	SH3BP2
JUN	TCF20

ETF1	GSPT1
TRIM31	TRIM31
CRKL	SHC1
CBL	LCP2
FABP4	VIM
BCL2	ITPR1
SFN	ST5
DDB1	ERCC8
CCT3	EIF2B2
C7	CLU
NGFR	SHC1
HSPA1A	RHOA
MST1R	SHC1
ABCD3	PEX19
BRF1	RBL1
CDC6	ORC1L
AUH	AUH
CAV1	TGFBR1
GTF2F1	PTN
ATN1	ECM1
CD40	TRAF5
CTNND1	SRC
FGF1	FGFBP1
GRB10	IGF1R
NGFR	TRAF6
IQGAP2	RAC1
BAT1	DNM2
RNPS1	SART3
COIL	CSNK2B
F10	F7
CACNA1C	RYR2
MSH2	PCNA
ATXN1	YWHAE
KAT5	MYC
RELB	SMARCB1
PPP2CA	PPP2R5E
EWSR1	TSPAN3
CCNO	PCNA
CRYBA4	CRYBB1
CDK2	TP53
ERBB2	PIK3R2
BNIP2	CREB3
APP	GSN
ARAF	MAP2K2
POLB	XRCC1
SHC1	STAT5A
MAX	TEAD1

SNAP25	STX1A
ATF6	SRF
GTF2I	SRF
FOS	RUNX1
ORM1	SERPINE1
DAB2	FGR
APC	KIFAP3
DLG1	ERBB4
CRKL	DOCK2
DLAT	PDK1
MAPK7	YWHAB
HGF	SDC1
ARHGEF7	PPM1F
HDAC1	HDAC2
PIK3CD	PIK3R2
ADORA1	GNAI2
BCL7A	RELB
BAT3	CTSE
TAF10	TAF4
CBX1	UCHL1
CDC6	CDKN2A
ID3	MYOD1
NSMAF	TNFRSF1A
RRAD	YWHAZ
CDK5	MAPT
DFFA	EWSR1
CTNNB1	NCOA2
PIK3R1	PTPN11
PIK3CA	PIK3R1
LHX2	MSX1
MAP3K3	YWHAB
HSP90AA1	MAP3K3
ESR2	STAT5A
IL16	KCNJ2
PTN	SSR1
CREBBP	GCM1
MAP2K3	SMAD7
LCN2	MMP2
BAD	YWHAZ
EZR	VCAM1
USF1	USF2
DLG2	ERBB4
CBL	CRK
MARK3	YWHAB
EDNRB	GNA11
DAZAP2	NDUFA5
FBLN1	SKIL

IGF1R	MDM2
BAD	YWHAQ
HLA	KIR2DL1
BMP4	BMPR2
KNG1	VTN
CSNK2B	NOLC1
GSN	PTK2B
NEFH	PKN1
SYK	VAV1
GAP43	PLCD1
MYOD1	RXRA
RPGR	TUBG1
PCNA	POLD3
ITGB2	PTK2B
CYTH1	ITGB2
DLG3	KCNJ12
CSF3R	LYN
FXR1	GBP2
AXL	PIK3R1
CXCL12	FN1
EIF3I	TGFB1
DLGAP1	GRIN2A
INSR	SHC1
ACVR1	GDF5
LCP2	PTPN6
CTNNB1	PTPRF
BCL2A1	BIK
DYRK1A	YWHAE
ESR1	NR2C1
HSF1	SYMPK
APPBP2	TBL3
ANG	TDGF1
HDAC1	STAT3
CYCS	HSPB1
BTK	LYN
AIP	HSP90AA1
A2M	IL10
ADH5	ADH5
PLK1	PSMB6
EGFR	SH3GL2
RBBP6	RPS14
HOXB1	PAX6
CAV1	PTEN
KCNJ6	KCNJ9
ALK	SHC1
HSP90AA1	NPAS2
ERCC3	PSMC5

GRIN1	GRIN2A
ACVR2B	BMP7
FLNA	PSEN2
FOSL2	JUN
SNRPA1	SNRPB2
B2M	HFE
KRT15	TSG101
CAMK2G	RRAD
CLTC	XRCC6
ESR1	SMARCA2
KRT15	MAD2L1BP
COPB1	HLA
CAV1	PTPN1
EPHB3	RYK
POU3F2	POU3F4
ATF2	MAPK11
ABLIM1	SFN
CELSR2	GARS
APBB1	LRP1
CUL1	MYC
HNF1A	PCBD1
SNAP23	VAMP2
MAX	SMAD3
TSC22D3	TSC22D3
TAF10	TAF12
CHGB	FGFR3
CHM	RAB7A
CSNK2B	LYST
CKS1B	SKP2
F8A1	HTT
EP300	HNF1A
COIL	SNRPB
IL6ST	TLE1
ARR3	CAPNS1
CNR1	GNAI2
GSTA1	GSTA1
BCL3	TBP
ATP5A1	YWHAZ
CD44	COL14A1
CDC34	CSNK2A1
CDH1	CSE1L
TGM2	TGM2
CEBPA	MYC
C5	C6
ALPP	PIGK
MDM4	SMAD3
EPB41	SPTAN1

NR3C1	SMARCD1
ARAF	EFEMP1
DLG3	GRIN2B
BAK1	TP53
CRKL	SYK
ARSE	NDN
TOP2B	TP53
PSMD4	RAD23A
CDC7	MCM5
CALM1	IQGAP1
NCOA6	XRCC5
COL2A1	THBS1
AKT1	IMPDH2
COPB2	NFKB1
FGR	HCLS1
NFKBIE	RELA
CYP1A2	POR
NCOR2	NR4A1
KPNA2	SLC2A2
APOB	LIPC
CREM	TBP
NF2	SPTBN1
CTNNB1	IQGAP1
BMI1	MLL
CR2	IFITM1
CTNNB1	EZR
GTF2B	GTF2E1
FBLN1	SMAD4
BRF1	RBL2
PCNA	RFC4
CD27	TRAF5
ORC2L	TERF2
KIT	PTPN11
FOS	NCOR2
SKI	SMAD4
EP300	GPS2
ABL1	INPPL1
ITK	PLCG1
KIFAP3	SRC
BMPR2	LIMK1
GTF2E2	GTF2F1
LMNA	ZNF239
EEF1G	EFNA1
AXIN1	AXIN1
BCL2	PIN1
RBBP4	XRCC6
MAG	MAP1B

PPP4C	TRAF6
ARFIP2	ARFIP2
APBB1	VASP
LSM1	PSMB5
BRCA1	HDAC2
RPS6KB1	TRAF4
NR3C1	SMARCA2
CDC16	CDC20
LASP1	PLSCR1
WEE1	YWHAB
CDC34	CSNK2B
PLCG1	TUB
BRCA1	CSTF1
CEBPA	MSX2
GDF15	GDF15
APP	FBLN1
ACVR1B	TDGF1
COL1A1	ITGA2
CSF2RB	MAD2L1
PZP	TGFB2
LMAN1	MCFD2
EZR	EZR
ADORA1	DRD1
CASP8	PEA15
FDPS	FGFR1
POP1	RPP38
HSP90AA1	RAF1
MAF	MYB
CTNNA1	VCL
CSF3R	PTPN11
FCGR2B	PTPN6
CREBBP	E2F1
ADRBK1	CAV1
PRKCD	SRC
HSPA5	VWF
CDKN1A	RAB1A
DLG4	KCNJ12
AKAP9	CSNK1E
SMAD4	TCTA
KPNA1	RAG1
EEF1D	VARS
CREBBP	MYBL1
SELENBP1	TRIP13
SOD1	SOD1
HNRNPF	NCBP1
DDR2	SRC
CASP1	IL18

ATXN1	HIVEP1
GLI3	ZIC1
HLA	TLE1
BMI1	RNF2
JUN	NR3C1
BTK	KHDRBS1
DYNLL1	NRF1
MCF2	RHOA
CLNS1A	PRMT5
GZMB	SERPINB9
RPA1	TCEA2
CCKBR	PTPN11
PRMT1	TP53
NFKB2	PSMD11
NPR1	PRKG1
CREB5	JUN
WEE1	YWHAZ
TYK2	VAV1
MRPS12	UNC119
DRAP1	PIK3R3
GNA13	PRKCD
ITGA5	L1CAM
POLR2H	POLR2L
SCARB2	THBS1
BAT2	PSMA3
FLNA	SMAD3
DLG3	GRIN2A
CES1	GUSB
HNRNPK	ITK
FXR2	RPIA
CCNE1	RBL1
EIF4B	PABPC1
CDC37	HSP90AA1
SERPINB9	SETDB1
NME1	NME3
GAB1	PLCG1
GRB2	PRKAR1A
CDK4	CDKN2D
IRAK1	IRAK1
DHFR	FKBP1A
PRMT5	SNRPD3
TNFRSF9	TRAF3
CSNK2A1	PTPN1
MDH1	MPP3
KCNK1	KCNK1
ANXA6	CR2
ETV6	ETV6

NFKB1	RELA
HRAS	NF1
SFN	TBL3
CD19	CD22
MAPT	S100B
NEDD8	PARP1
EPB42	KRAS
FN1	IGFBP3
PLCG1	TNK1
FNTA	TGFB1
LCK	NR3C1
EEF1G	PTPRS
KIT	PIK3R2
AKT1	PRKCZ
PML	PML
CSF2RB	IL3
EWSR1	MDFI
BCL3	GTF2B
ADRBK1	SRC
HNRNPA2B1	HNRNPL
CREBBP	MYBL2
CRMP1	DDX18
ATN1	PSME3
ATXN1	USP7
APOA1	TOMM20
DLG2	DLGAP1
DDX5	NCOA1
FADD	PRKCZ
CASP1	CASP1
GIT2	PAK1
CDC25B	KAT2B
CDH2	CDH4
SRF	SSRP1
ACTG1	CAP1
IPO5	NUP214
GTF2F1	SRF
MCM3	SSRP1
CALR	PRF1
HSPA1A	MSR1
GDI2	RAB5A
RAD51	VIM
VDR	VDR
MSN	SELL
LAMA4	PTN
FLT4	GRB2
IL5	IL5
APP	SNCB

HSF2	NUP62
H2AFX	SMARCA4
CDK5	CDK5R1
COL1A1	THBS1
HNF1A	SRC
TNFRSF1B	TNFRSF1B
JUND	SMAD3
FYN	GRIN2B
BIRC3	TRAF1
AP2B1	TGFBR1
ACTN1	PDLIM1
PIK3R1	TGFBR2
S100A8	S100A9
NEDD4	SCNN1G
CDC25B	ESR1
TFF1	TFF1
NR3C1	PTGES3
COIL	SMN1
KPNB1	PTN
GFI1	RUNX1T1
DYRK1A	SFN
COPS6	VIM
EBNA1BP2	FGF3
TNFRSF14	TRAF3
ATXN1	CRK
SON	YWHAB
POMC	VTN
FGR	SYK
TEP1	TP53
NCK1	PDGFRB
MCM2	ORC1L
ARHGEF7	TUBB3
ARAF	SFN
UCP3	YWHAQ
ARNT	HIF1A
NTRK2	PTPN1
GTF2B	GTF2F2
SMN1	UNC119
ARNT	PTGES3
CBL	PLCG1
CREBBP	HNF1A
NPPC	NPR3
GRB2	KHDRBS1
NQO1	NQO1
DLG4	DLG4
RGS3	YWHAZ
CRMP1	HNRNPH1

TRAF1	USP7
MAP2K6	SMAD7
NFKBIB	REL
COPS6	S100A10
HERPUD1	PSEN1
CLTC	HIP1
ADRB2	SRC
BRAF	RAP1A
CSNK1A1	YWHAQ
BCL2L1	PSEN2
CACNA1A	SYT1
MST1R	PLCG1
CRY1	MDFI
EED	ITGA4
KIF5B	YWHAB
EGFR	SNX1
CDH2	JUP
POLR2A	ZNF74
ACTN2	ACTN3
HSPA1A	ST13
MAP3K14	NFKB2
CALM1	SCTR
ICAM5	PSEN2
CREB1	SMARCA4
GNAI1	IGF1R
DAB2	DVL3
IRF1	KAT2B
HDAC2	STAT3
LEPR	LEPR
CDC7	MCM3
KIF5B	SNAP23
IFIT2	IFIT3
BCL2	CASP8
EIF4G1	NCBP1
APBB1	ATXN1
SUMO2	UBE2I
EEF1G	RGL2
IRS1	MAPK8
KRT18	PNN
FYN	NR3C1
CHRM3	CSNK1A1
GTF2E2	XPA
COL17A1	KRT18
CA2	SLC4A1
HCLS1	MAP4K1
ANKRD7	MARK3
ALDH2	UNC119

CDK2	ORC1L
ARNT	NCOA2
JUP	PTPN14
GSPT1	PABPC1
GATA1	ZBTB16
CD44	HBEGF
ESR1	SP3
CCNE1	SKP2
NFKBIA	RELA
GOLGA2	RAB2A
COL2A1	PRELP
S100A4	UNC119
MAPK8	REL
NCOR2	SNW1
CTSL1	RXRA
AHR	NEDD8
ASMTL	TDO2
GRN	HK3
GTF2F2	TBP
APEX1	MUTYH
APC	AXIN1
BAT3	CHN2
MCM4	MCM6
DRD4	GRB2
MAP3K10	YWHAE
CBX5	SMARCA4
ATP1A1	TPT1
COPS6	TDGF1
PDGFRB	SHC1
TRAF5	USP7
ATRX	DAXX
CSK	G3BP1
ALOX12	LMNA
PLCG1	SHC1
NRAS	RAF1
LCK	PTK2B
CRK	EGFR
LTA	LTB
RB1	USP4
RPIA	RPIA
GNB2L1	GRIN2B
RIPK1	TRADD
ITGB3BP	ITGB3BP
SMAD2	SNRNP70
CDK2	MCM3
HOXA9	PBX2
CLTC	PICALM

TANK	TRAF1
NR3C1	TBP
ARF4	EGFR
DDX21	JUN
COPS6	ZNF24
MDM2	RPL11
MAGEA11	PRDX3
EPB41	SMAD3
FES	PIK3R1
ATXN1	YWHAZ
NCOA6	PARP1
PTPN6	SSTR2
RAC1	RALBP1
ATXN1	CIRBP
EWSR1	VPS72
JUN	NFE2L2
MAPT	SNCA
ABL2	CAT
PSMB3	PSMB5
MAP3K8	NFKB2
STAT3	TSHR
RUNX1T1	ZBTB16
PEG3	SIAH1
DLG1	KCNA4
FN1	MYOC
NUP88	NUP98
MAPK14	MAPKAPK3
CCNE1	GSK3B
MEP1B	PYY
FYN	TNK2
DNTTIP2	PPARG
EXOSC2	EXOSC7
GNB2L1	PRKCE
SUMO1	TP73
NTRK2	SQSTM1
SKIL	TFPI2
ELF2	RUNX1
FYN	NEDD9
LIG1	PCNA
HSF1	XRCC6
CBL	RET
CTBP1	IKZF1
SMAD5	SNRNP70
ZBTB16	ZNF24
CAV1	PTGS2
MAP2K6	MAPK14
ARR3	SRC

A2M	HSPA5
NMI	STAT5A
JAK1	TEC
GSTO1	KAT5
CALM1	PDE1A
RYR2	SRI
COPS5	COPS6
FASTK	MDFI
CDC25C	PCNA
BMX	CASP3
APOE	LRP2
HDAC1	PML
PYGL	PYGL
COPS5	JUN
GTF2F1	PSMC2
CYP2C19	POR
E2F1	GSK3B
BCR	PTPN6
ITGA1	MATN1
SLC9A3	SLC9A3R2
E2F1	TOPBP1
TAF1	TAF6
COPB1	KDELR1
AKAP9	PKN1
DLG4	KCNA5
CDK2	CDKN3
GTF2B	TBP
CXCL10	DPP4
IFIT1	IFIT3
MLL	RNF2
RBPMS	TRIP13
HOXB6	PLSCR1
TGFB3	TGFBR2
EWSR1	RPL31
CSNK2A1	HSP90AA1
MAPK3	SPIB
BRF1	TP53
KCNB1	KCNB1
DOK1	SRC
MSX1	SP1
EIF2AK2	TP53
DLG4	MAP3K10
DDR1	TTR
FOXO1	HOXA5
S100A10	SETDB1
EP300	ETV1
MAP4K1	NCK1

S100A3	S100A3
MYBL2	RBL1
CREBBP	KHDRBS1
CSF1R	PIK3R1
NOVA1	SMARCC2
EPHB2	SRC
BAG1	NR3C1
EGR1	PSMA3
MTA1	RBBP4
HRAS	INSR
BIN1	ITGA1
ATF7	TAF12
ATP6V1E1	XRCC6
RXRA	TDG
PRKACA	RYR2
BCL6	JUND
FYN	SKAP1
DDO	PEX5
IKBKE	MYH10
MDM4	YWHAZ
CDX2	EP300
JUN	NCOA1
IGF2	IGFBP3
GTF2E2	SND1
JAK3	STAT5A
INSR	IRS1
DNM2	EPS15
AP2B1	AP2M1
CAT	CAT
PLAT	PLAU
EEF1A1	PAFAH1B3
TRAF6	ZMYND11
GNAI2	NUCB1
CBX5	TAF4
EGFR	MUC1
HNRNPA1	NFKBIA
EPOR	GNAI1
RB1	TAF1
PSMB2	PSMB3
EWSR1	WWP1
EPHB3	FYN
ATXN3	PSMD7
KLF1	SMARCB1
PTK2B	RB1CC1
SFPQ	TOP1
GTF2F1	MYC
AHNAK	S100B

MCM6	MCM7
AKT3	TCL1A
MAP2K1	PEBP1
PXN	SYK
ERBB2	ERBB3
CTNNB1	TCF4
ADRM1	RAD23B
ITGA3	LGALS8
CELSR2	KLF6
DUSP7	GHR
MYST3	RUNX1
MEN1	VIM
MEIS1	PBX1
ETF1	KEAP1
HSPA2	MAP3K3
TNFRSF8	TRAF3
BCL2	CASP3
ARHGAP1	BNIP2
MSH3	PCNA
CASP2	CASP7
CREBBP	STAT2
IL2RB	JAK1
PRKCA	SLC1A1
FYB	SKAP1
KEAP1	NFE2L2
FXR2	TNNT1
HNRNPD	HNRNPD
MAP3K3	YWHAH
FBLN2	VCAN
LTK	PTPN1
BAT3	GLRA2
ANP32A	MAP1B
MCM5	RPA2
CALM1	OPRM1
HNRNPL	PCBP2
RGS2	SCN5A
EED	HDAC2
FLT1	PLCG1
PEX13	PEX19
LRP1	PLAT
DNM2	GRB2
PARP1	XRCC5
CHML	RAB3A
AES	SH3GL3
FKBP5	PGR
CTNND1	MUC1
E2F1	SP1

RUNX1T1	TCF3
PRSS3	TFPI
ITGB3	THBS1
IFNG	IFNG
MED1	MED1
TAF5	TAF7
TXNIP	ZBTB16
CSF1R	GRB2
AKT1	IRAK1
CCL22	CCR4
FN1	SDC2
ACLY	GSK3B
BAD	PRKACA
DLAT	PDK2
PAK2	SRC
ESRRB	NCOA2
PIN1	SUPT5H
HCLS1	LYN
THBS3	THBS3
CDC7	CDK4
RXRG	SRF
USP8	YWHAQ
PPP2CA	PRKCD
TRIM28	ZNF74
JAK1	PTPN11
PPIB	PRL
BCL2	HRK
CRYAB	CRYGC
BAT1	BAT1
CDX1	CEBPA
DNMT1	EZH2
GTF2H1	PSMC2
HDAC1	NFKBIA
KARS	SLC25A6
ANXA7	SRI
RARA	RXRG
DUSP4	MAPK8
SFN	TRIM25
CUL4B	DDB2
NUP98	RAE1
DUSP3	MAPK1
CTNNB1	PTPRK
EZR	ICAM3
ADAM15	HCK
ATXN2	NCOA4
FASTK	TIA1
BMX	CAV1

IL2RB	STAT5B
PRMT5	YWHAQ
NPY	NPY1R
HDAC1	PTMA
CTNND1	PSEN1
ACTB	CCT5
ARF6	CHRM3
HDAC2	RELA
BLMH	UBE2I
CP	LTF
LASP1	TRIP13
CCDC85B	SF3A3
PAX5	RUNX1
ID2	MYF6
ACTB	PFN1
APPBP2	CNTFR
ACP1	KDR
EIF4E	EIF4G1
MCM7	MCM7
SMAD3	SNRNP70
AR	EP300
ATXN1	PUM1
ATXN1	PTGDS
PPP2CA	PPP2R1A
LMO4	RBBP8
TAF1	TAF1
ID2	MYOD1
ANP32A	AXIN1
GNA15	RGS2
FGF1	FGF1
PLP2	PLP2
CYBA	NCF4
NAPA	STX5
LMNB1	TMPO
CCT7	KAT5
CD5	PTPN6
ETV1	MAPKAPK2
EP300	GTF2B
MDFI	SPG7
PIP4K2B	TNFRSF1A
ACTG1	SH3GL2
RUNX1	YAP1
HSPG2	NID2
APBA1	KCNJ12
CREB5	CREB5
CDK5	STXBP1
GRK5	RHO

ATF4	JUN
KIT	LYN
HSF1	HSF2
MCM2	MCM5
CKM	FHL2
CASP8	TFCP2
BMP2	BMPR1B
EP300	RUNX1
KIF2C	KIF2C
PPP2CA	PPP2R2A
BMI1	PHC2
CRP	FN1
AVPR2	GRK5
LRP1	MDK
AP2M1	CD22
PTPRH	PXN
HNRNPK	MATR3
ADD1	HSPH1
DCC	NCK1
CFL1	YWHAZ
EP300	MEF2A
BIN1	ITGA3
DLG4	GRIN2B
HDAC2	RB1
EIF4E	MKNK1
CREBBP	NCOA1
SH3BP2	ZAP70
GNB2L1	JAK1
CAV1	PTPRF
ACTG1	BCAP31
DSG2	PKP2
RASA1	SLC9A2
FANCC	GSTP1
PTPN3	YWHAB
CBL	PTK2B
CSNK2A2	HSP90AA1
RPLP1	RPLP2
CRYAA	CRYAA
PTPN12	SHC1
PPFIA1	PTPRS
NGFR	TRADD
BBC3	MCL1
ADD1	ID3
BRCA2	RPA1
EFNA3	EPHA7
NFIX	SKI
PAFAH1B3	UNC119

PLG	SERPINF2
TAX1BP1	TRAF6
FASLG	SUMO1
TNFRSF1B	TRAF1
FKBP5	HSP90AA1
GNB2L1	PLCG1
DAG1	SHC1
BCL2L1	BECN1
ACVR1	BMP7
ESR1	PRMT2
PHLDA1	PLSCR1
FYN	SRC
ASL	QARS
FEZ1	NBR1
SKIL	TRAK1
COPS6	EIF3E
PIAS1	TP53
ATF3	JUND
CREBBP	MSX1
KAT2B	RBPJ
APPBP2	RRS1
MAPK3	TH
PLCG1	PRKD1
CANX	EBI3
HSP90AA1	MYOD1
FUBP1	TLE1
ATXN1	HSPA1A
PLSCR1	SHC1
CCL22	DPP4
MED24	SMAD2
TPD52L1	YWHAZ
KRT18	KRT5
CUL7	SKP1
CASP10	CASP8
CHRNA1	CHRNE
HDLBP	SMAD4
PIK3C3	PIK3R4
EIF2S2	TLE1
KPNB1	NUP98
AR	BRCA1
PKD1	SIAH1
FHL3	LASP1
AP2M1	FURIN
CCL11	CCR3
CTBP1	EP300
EWSR1	HERPUD1
DOK1	YES1

DLG4	ERBB4
CDC25B	MELK
SCNN1G	STX1A
HRAS	PIK3CA
E2F5	RBL1
ST6GAL1	ST6GAL1
G3BP1	G3BP1
EP300	SMAD3
BTK	CBL
G6PD	G6PD
INSR	PTPN11
EIF2S2	PRKDC
PSMB1	PSMB7
ITPR3	TRPC3
CXCL1	DARC
FHL2	ZNF638
FOSL1	JUN
GTF2E1	GTF2H1
FUBP1	SMN1
SMARCC1	WWOX
POLR2E	POLR2K
DDB1	VAMP3
EEF1A1	MLLT3
BRCA2	FLNA
NCOR2	RUNX1T1
MEP1A	NTS
MAPT	OGT
PRKCSH	PTPRC
GNB3	GNG4
BAT3	STX5
NFKBIE	REL
INSM1	MPP3
KAT5	SNRPD2
CPSF6	PLSCR1
GBP2	PPP1R8
CBFB	RUNX1
SYN1	VIM
PRKCG	TIAM1
CD74	CD74
MARK3	YWHAZ
EFNB2	EPHB2
CANX	EDEM1
NCK1	PAK1
AES	AR
CRMP1	SAT1
BCAP31	MYH10
CCR5	CXCR4

ERCC3	XPC
AP2M1	AQP4
CAMLG	EGFR
CALCOCO2	DAZAP2
ANXA6	S100B
GP1BA	GP5
KCNJ3	KCNJ5
AMPH	SH3GL2
BRCA1	CCNA1
CBX5	CHAF1A
PF4	PROC
PPP1CC	PPP1R8
TAF1	TAF12
S100P	S100P
CASP3	CFLAR
CIITA	RFX5
MAPK7	MEF2C
BIN1	ITGA6
MCC	NFKBIB
HMGB1	RB1
FLII	MYD88
CITED1	SMAD4
EGFR	PTPN1
GGA3	TSG101
POLR2B	POLR2C
SNAPC2	TBP
VIM	VIM
C1QBP	PRKCA
FHL2	MCM7
FN1	MEP1B
SH3GL2	TCEA2
FADD	TRADD
PTPN6	STAT5B
PLCG1	SELE
CRMP1	TK1
SUMO2	SUMO2
CCND3	CDK6
JUND	MAPK8
SMARCA4	SMARCB1
BAT1	DDX39
GNAI2	MDFI
MAP2K3	PLCB2
CDK9	TP53
CREBBP	SND1
HOXB1	PBX1
JUN	TAF1
FGFR3	SMG7

GTF2E1	GTF2H4
BRCA1	STAT1
FUS	PRMT1
CREBBP	VDR
FGA	NID1
AMPH	SYN1
CD36	ITGA6
MAP2K3	MAPK8IP2
CD79A	HCLS1
MED24	PPARA
JUN	MYOD1
LMNA	SMAD3
CD44	MMP7
AXIN1	GSK3B
ELL	TP53
CUL1	SKP1
MCM2	MCM3
CRYAB	CRYBB2
RB1	UBTF
MEN1	RELA
YAF2	YY1
LYN	UNC119
ATN1	DMPK
PAFAH1B1	PAFAH1B2
KLF1	SMARCC1
EPHB1	GRB2
CAPN1	PSEN2
DDX17	NCOA1
CTLA4	CTLA4
VEGFA	VEGFA
ATXN1	OAZ1
VAV1	XRCC5
RELN	RELN
BRCA1	MAP3K3
HMGA1	NFYA
MAPK10	TP53
CUL1	RAC2
MCM5	MCM7
INSR	PTPN6
MECP2	SMARCB1
NEDD8	UCHL3
PRMT1	SUPT5H
CD247	DOCK2
PPARA	RELA
NEB	TTN
CTNNB1	MAGI1
PPIF	SLC25A4

HOXA9	MEIS1
FGF9	FGFR3
MAPK3	TP53
NR0B2	NR1H2
ESR1	MDM2
GRB2	KDR
KHDRBS1	PIK3R1
CD72	SEMA4D
HTT	XRCC6
DAB2	TGFBR2
PBX2	RPL4
ACTA1	CCT4
RARA	TRIP4
GHR	PTPN1
CDC42EP1	PLSCR1
APOB	BGN
PDLIM4	RBPMS
ACTN1	ACTN1
GPS2	SETDB1
CRK	PTPN1
NAPA	SNAP23
CDC7	MCM7
PSMC5	THRB
NFKBIA	TP53
BCL2A1	PMAIP1
CALM1	RALB
CUL2	VHL
MAPK8	PRKD1
SERPINB9	TLE1
ITGB1BP1	LRP2
AR	IFI16
FUS	RXRA
GUCY1A2	GUCY1B3
KAT2B	TTF1
CDK2	PCNA
BRCA1	CDK2
PRKCI	SMG1
CD5	ZAP70
TAF11	TAF6
MTFR1	PIN1
MAP3K5	TRAF5
PPP4C	REL
PAFAH1B3	SETDB1
AXIN1	CTNNB1
DAZAP2	WWP1
CTSG	SDC1
RIT2	RLF

ACTB	RAC1
APLP1	SAT1
ACTB	CFL1
ANK1	L1CAM
FHL2	ITGB6
HNRNPU	NDN
CCDC85B	HNRNPC
CALCOCO2	PSMA1
CDKN1A	GNB2L1
BCL3	NFKB1
LRP1	SRC
NFYB	TBP
HNRNPC	PIN1
F8	LRP1
GRB2	USP6NL
ERCC1	XPA
CD2	CD53
NTRK3	SQSTM1
CNTFR	LIFR
KRT1	PRKCE
FCAR	FCGR1A
HDAC1	MDM2
ALOX5	GRB2
CDK9	CUL1
BNIP3	NCBP1
GGA3	RPS27A
CA9	CDH1
CD24	SELP
BRCA1	HDAC1
NCOR2	PPARD
TP73	TP73
MMP2	THBS2
ACY1	TTC1
CCNC	CDK8
DGUOK	DGUOK
DAB2	PIN1
COPS8	COPS8
ARHGDIA	SH3GL3
DNM1	ITSN1
BMPR1B	BMPR1B
PTPN11	STAT3
AR	GSN
CSF2RB	IL5RA
GNA13	RDX
CSK	FYN
GRB10	INSR
BET1	STX5

AR	CDK7
CALCOCO2	LGALS8
MAPK1	SREBF2
MAPKAPK2	SHC1
POLR2G	TAF15
CDH3	CTNND1
GFAP	PSEN1
HRAS	LGALS1
TP53	TP53BP1
DVL1	EPS8
AR	CALM1
PLAU	PLAUR
EP300	YY1
EEF1G	SNRPD2
KLK2	SERPINB6
TRIM23	TRIM31
XBP1	XBP1
GSK3B	PSEN1
APOA4	GPLD1
CRHR1	GNAO1
JAK1	STAT3
AR	NR2C1
GRIN2B	IL16
EEF1G	TUBB3
PSME1	VIM
CAV1	EGFR
ERBB2	PIK3R1
AKT1	IRS1
GAD2	PRKCE
IGF1R	IRS1
ATF4	CCDC106
EMD	SH3GL2
CCNO	RPA2
BAT2	EIF3E
AR	GTF2H1
RELA	TBP
CDH1	HDAC1
IL7R	PTK2B
TFRC	TFRC
KPNA4	TGM2
NPM1	TFAP2A
PTK2B	SRC
CDK5R1	SET
ATXN1	CFL1
CREBBP	PML
KPNB1	NUP62
AKT1	MDM2

QARS	RARS
NF2	NF2
DYNLL1	DYNLL1
DAP	SETDB1
LYN	MAPK3
ERCC5	NTHL1
PRKCI	RAB4A
LCP2	WAS
OGDH	PLSCR1
SRC	TRAF1
PGM1	S100B
MAPK14	MEF2A
ID2	UNC119
DSC2	PKP2
NCF4	TXN
BRCA1	LMO4
CTNNB1	SMARCA4
FGFR3	POLA2
ERCC3	GTF2E2
TDG	THRA
FCAR	LYN
SFPQ	SMAD5
ITGB3BP	NFKB1
SNRPD1	SNRPD2
ATP2A1	SLN
CCR3	FGR
EIF4G1	MKNK1
F12	GP1BA
PCBP2	PCBP2
CD63	TIMP1
ANXA5	KDR
MEOX2	VIP
CD36	CD9
APOA2	APOD
SKP2	WEE1
BAT2	GRB2
GRB2	IL2RB
MCM6	SSRP1
CNTF	LIFR
MPRIP	MPRIP
ALDOB	ATP6V1E1
ALB	FCGRT
MCM5	ORC2L
NEK9	SSRP1