Supplementary Materials

In silico Pleiotropy Analysis in KEGG Signaling Networks Using a Boolean Network Model

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Supporting Text

Nested Canalyzing Function

The implementation of a *Nested Canalyzing Functions* (NCFs) model [1,2] was to describe Boolean function update rules. Given a Boolean network $G(V, A)$, the value of each variable v_i at time $t+1$ is determined by the values of k_i other variables $v_{i_1}, v_{i_2}, \dots, v_{i_{k_i}}$ with a link to v_i at time t by the Boolean function f_i: $v_i(t+1) = f_i(v_{i_1}(t), v_{i_2}(t), \dots, v_{i_{k_i}}(t))$. The rule f_i is called *canalyzing* on the input variable v_{i_m} if there exist Boolean values, I_m and O_m, such that

$$v_{i_m}(t) = I_m \quad \rightarrow \quad v_i(t+1) = O_m. \tag{1}$$

Then, I_m and O_m are called the canalyzing and canalyzed values for the output variable v_i, respectively. Note that NCFs are a natural subset of canalyzing rules. It was inspired by a question of what happens in the non-canalyzing case: *When a rule is not canalyzed by the value of the first input variable, is it canalyzed by one of the remaining input variables?* The answer is this consecutive canalization test can be repeated for all inputs. Therefore, an NCF to update v_i can be represented as follows:

$$f_i\left(v_{i_1}(t), v_{i_2}(t), \dots, v_{i_{k_i}}(t)\right) = \begin{cases} O_1 & if\ v_{i_1}(t) = I_1 \\ O_2 & if\ v_{i_1}(t) \neq I_1 \text{ and } v_{i_2}(t) = I_2 \\ O_3 & if\ v_{i_1}(t) \neq I_1 \text{ and } v_{i_2}(t) \neq I_2 \text{ and } v_{i_3}(t) = I_3 \\ & \vdots \\ O_{k_i} & if\ v_{i_1}(t) \neq I_1 \cdots v_{i_{k_i-1}}(t) \neq I_{k_i-1} \text{ and } v_{i_{k_i}}(t) = I_{k_i} \\ O_{def} & otherwise \end{cases} \tag{2}$$

where all I_m and O_m $(m = 1,2,\cdots,k_i)$ denote the canalyzing and canalyzed Boolean values, respectively, and O_{def} is generally set to $1 - O_{k_i}$. In this works, each NCF is randomized by specifying every I_m and O_m between 0 and 1 uniformly at random. In addition, we are independently and randomly specified $O_1, \cdots, O_{k_i}$ values with the probabilities

$$P(O_m = 1) = \frac{\exp(-2^{-m}\theta)}{1 + \exp(-2^{-m}\theta)} \tag{3}$$

where θ is a constant. On the other hand, the value of I_m is deterministically specified by the value of O_m and the sign of the interaction from v_{i_m} to v_i $(m = 1, \cdots, k_i)$ that can be seen in Table 2.1.

Table 2.1 NCFs specification of I_m and O_m

O_m	*Sign of the interaction from v_{i_m} to v_i*	I_m
1	Positive ($v_{i_m} \rightarrow v_i$)	1
1	Negative ($v_{i_m} \dashv v_i$)	0
0	Positive ($v_{i_m} \rightarrow v_i$)	0
0	Negative ($v_{i_m} \dashv v_i$)	1

We note that NCFs have been shown to properly fit real biological experimental data [2,3] and many molecular interactions and analysis were successfully represented by NCFs [4-7]. For example, 133 out of 139 rules compiled from a dataset about a transcriptional regulatory network [5] or 39 out of 42 rules inferred from a signaling pathway dataset [4]. In addition, NCFs also support gene-gene pleiotropy analysis [8]. Those imply that NCFs-embedded random networks can describe the network dynamics considerably similarly to those real biological networks.

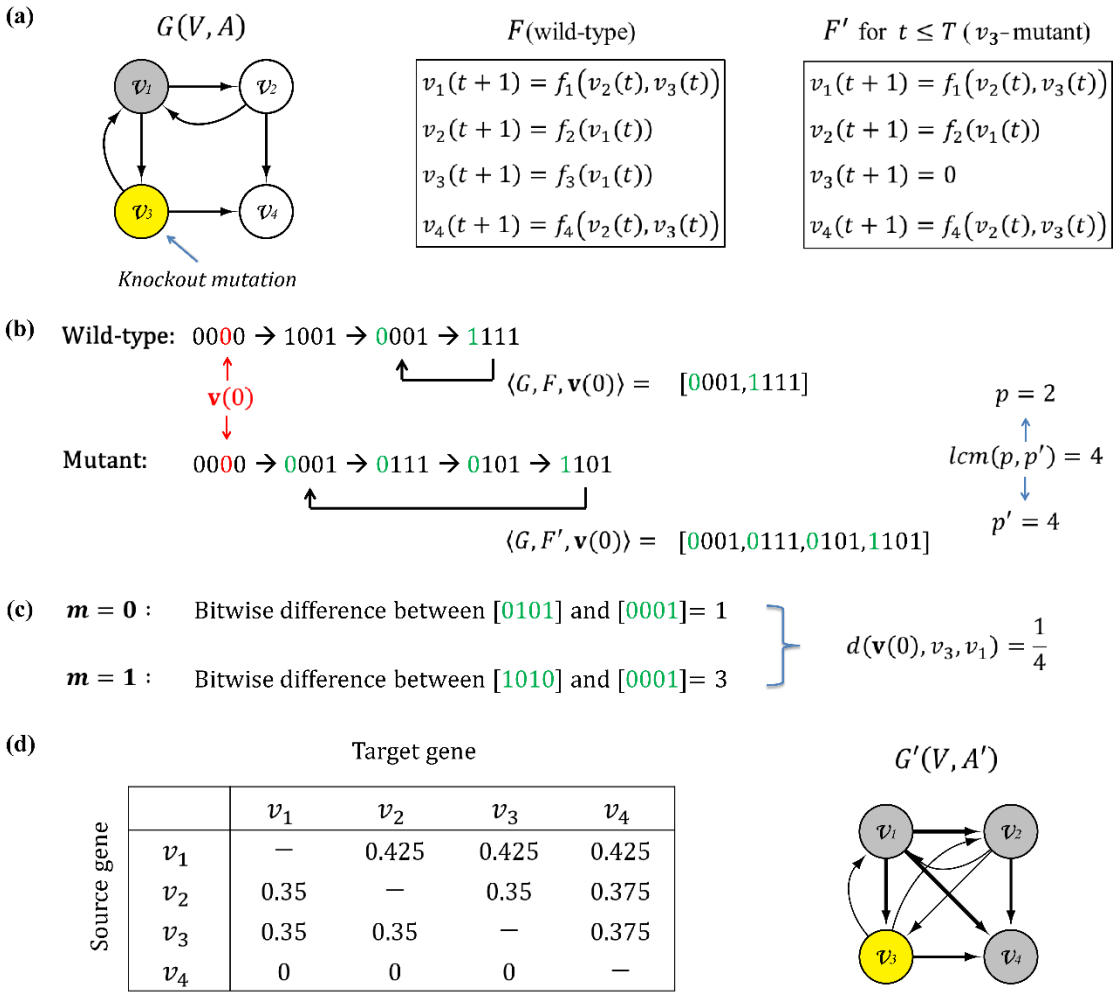

Figure S1. Dynamics influence computation example [9].

(a) An example GMI network. Given a network $G(V, A)$ with a set of update rules F, let v_3 a node subjected to the knockout mutation for $t \leq T$. The knockout mutation changes F into F' where the state value of v_3 is frozen to 0 for $t \leq T$. **(b)** Identification of wild-type and mutant attractors. Let $[0000] \in S$ be an initial state considered in this example. By examining two state trajectories along with F and F', respectively, obtain two corresponding attractors, $\langle G, F, \mathrm{v}(0)\rangle$ and $\langle G, F', \mathrm{v}(0)\rangle$ of which the *least common multiple* of the lengths is four. **(c)** Computation of a distance between wild-type and mutant attractors. Since the *greatest common divisor* of the lengths of two attractors is two, examine two different alignments of the state sequences of v_1 in those attractors. The number of different bits between $[0101]$ and $[0001]$ is 1 in case 1 ($m = 0$), whereas that between $[1010]$ and $[0001]$ is 3 in case 2 ($m = 1$). Accordingly, the minimum bitwise difference is 1, and hence $d(\mathrm{v}(0), v_3, v_1) = \frac{1}{4}$. Finally, compute $\mu(v_3, v_1)$ by averaging out $d(\mathrm{v}(0), v_3, v_1)$ over the set of initial states. **(d)** The resultant GDI network. The left matrix shows the dynamics influence value for every ordered pair of genes, and the right graph shows the resultant GDI network with nine positive dynamics influence relations.

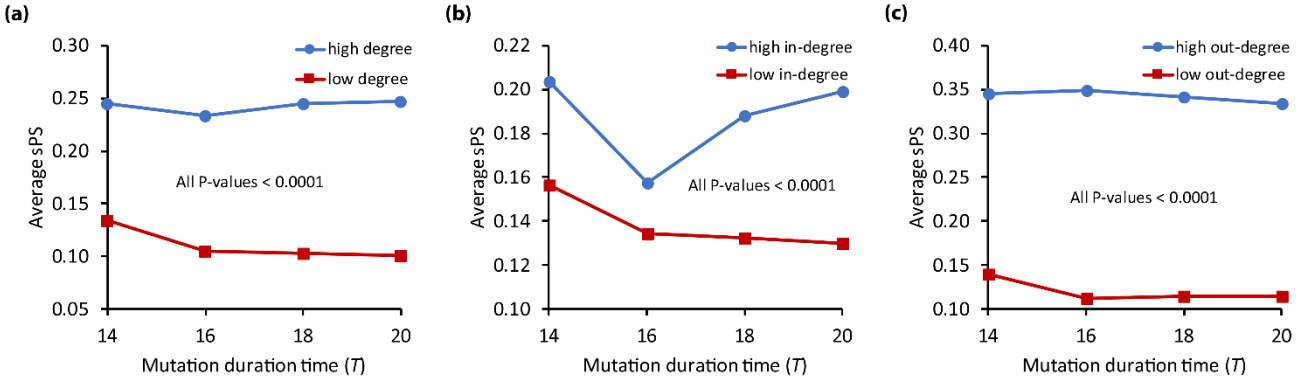

Figure S2. Relations of sPS and degree of nodes in KEGG network. All genes were classified into 'high/low degree/in-degree/out-degree' groups if any gene having high/low number of nodes' degree/in-degree/out-degree (blue/red lines). Y-axis means the average sPS for each group. Mutation duration time *T* was set from 14 to 20.

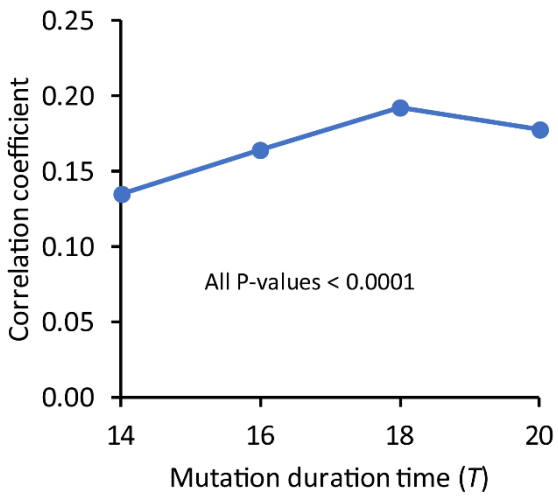

Figure S3. Relations of sPS values to feedback loops in KEGG network. All pairs of nodes were classified into 'FBL' and 'Non-FBL' groups such that any gene in the pair is involved with feedback loops or not. Y-axis values mean the correlation coefficient between $\boldsymbol{sPS}$ values and feedback loop. Mutation duration time was set to *T*=14-20.

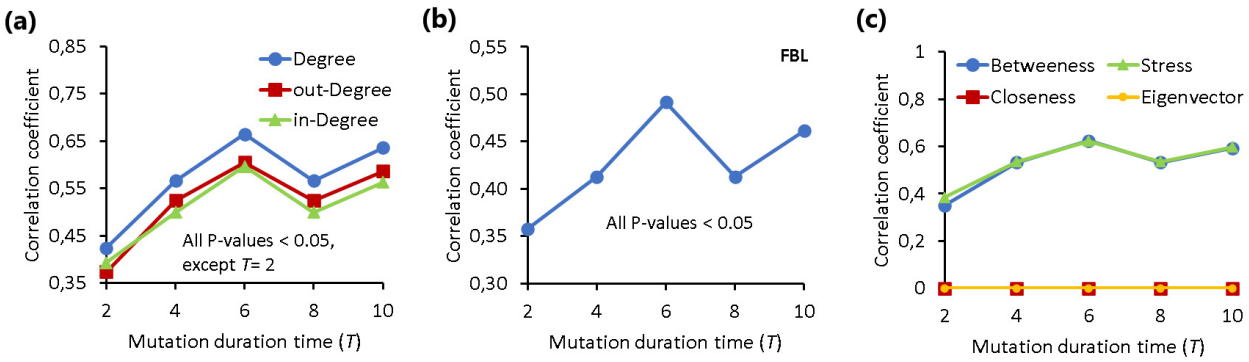

Figure S4. Relations of sPS value in random BA network.

A total of 250 BA random networks with $|V|$ = 50 and $|A|$ = 100 were generated. The time gap (T) was set to 2-10. (a) Relations to the degree of nodes. Y-axis values mean correlation coefficients between sPS and the number of nodes' degree, in-degree, and out-degree. (b) Relations to the feedback loops. All genes were classified into 'FBL' and 'No FBL' where gene is involving feedback loops or not, respectively. Y-axis values mean the correlation coefficient between $\boldsymbol{sPS}$ values and feedback loop. (c) Relations to the centrality measures including betweenness, stress, closeness, and eigenvector. Y-axis values mean the correlation coefficients between sPS and each centrality measures.

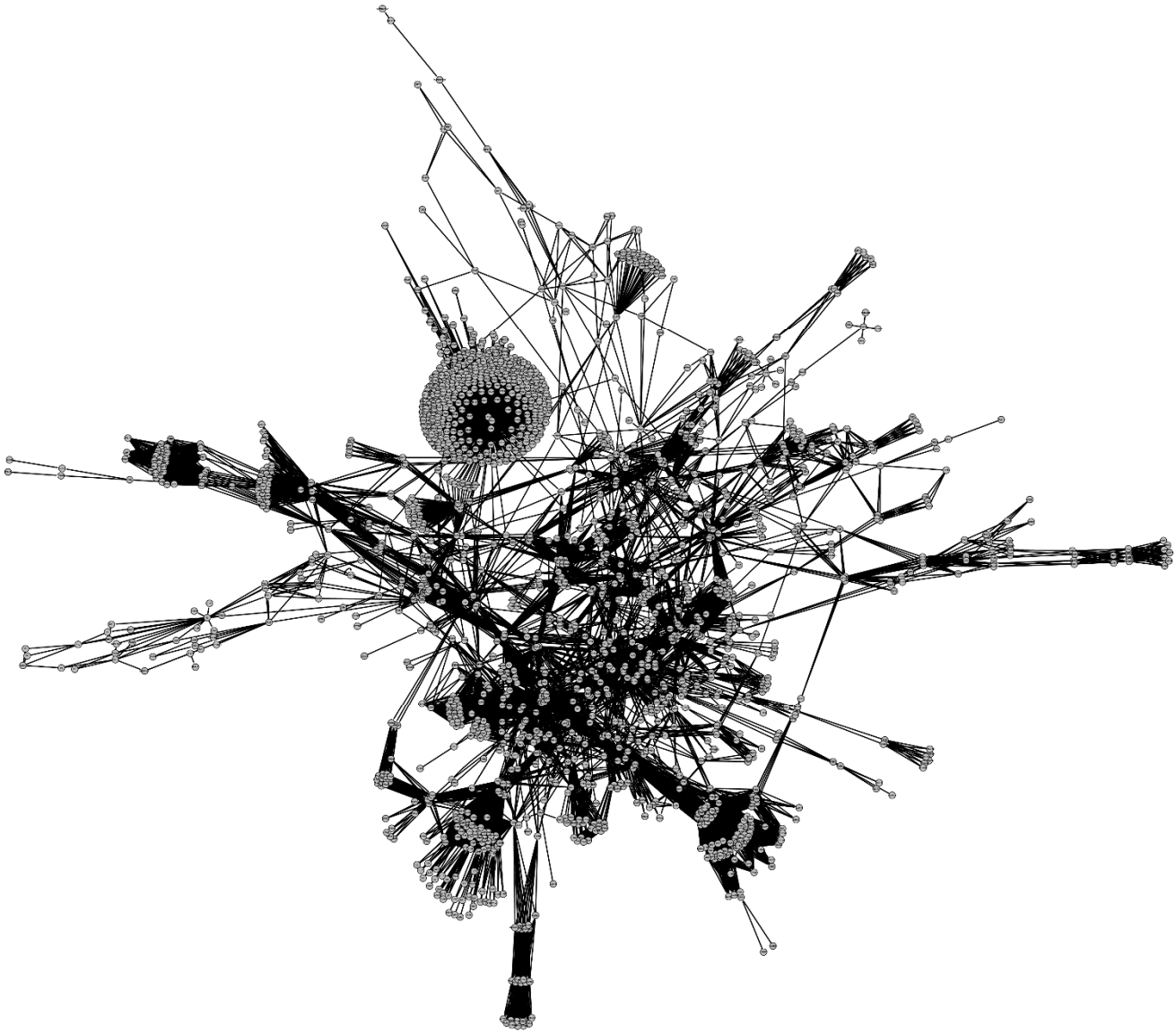

Figure S5. Original KEGG network with $|V|$=1659, $|A|$=7964.

Table S1. KEGG network dataset consists of 1659 nodes and 7964 interactions.

GeneID (source)	Interaction	GeneID (target)
9655	-1	7297
9655	-1	3718
9655	-1	3717
9655	-1	3716
9655	-1	9180
9655	-1	64109
9655	-1	58985
9655	-1	5618
9655	-1	53833
9655	-1	53832
9655	-1	50615
9655	-1	4352
9655	-1	3977
9655	-1	3953
9655	-1	3601
9655	-1	3598
9655	-1	3597
9655	-1	3595
9655	-1	3594
9655	-1	3590
9655	-1	3588
9655	-1	3587
9655	-1	3581
9655	-1	3575
9655	-1	3572
9655	-1	3570
9655	-1	3568
9655	-1	3566
9655	-1	3563
9655	-1	3561
9655	-1	3560
9655	-1	3559
9655	-1	3460
9655	-1	3459
9655	-1	3455
9655	-1	3454
9655	-1	2690
9655	-1	2057
9655	-1	163702
9655	-1	149233
9655	-1	1441
9655	-1	1439
9655	-1	1438
9655	-1	1271
9655	-1	116379
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30837	-1	3718
30837	-1	3717
30837	-1	3716
30837	-1	9180
30837	-1	64109

30837	-1	58985
30837	-1	5618
30837	-1	53833
30837	-1	53832
30837	-1	50615
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30837	-1	1438
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30837	-1	116379
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51422	-1	32
51422	-1	31
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5154	1	3791
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5154	1	5156
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8823	1	2261
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8822	1	5156
8822	1	4233
8822	1	3480
8822	1	1956
8822	1	2264
8822	1	2263
8822	1	2261
8822	1	2260
8817	1	5159
8817	1	5156
8817	1	4233
8817	1	3480
8817	1	1956
8817	1	2264
8817	1	2263
8817	1	2261
8817	1	2260
8074	1	5159
8074	1	5156
8074	1	4233
8074	1	3480
8074	1	1956
8074	1	2264
8074	1	2263
8074	1	2261
8074	1	2260
27006	1	5159
27006	1	5156
27006	1	4233
27006	1	3480
27006	1	1956
27006	1	2264
27006	1	2263
27006	1	2261
27006	1	2260
26291	1	5159
26291	1	5156
26291	1	4233
26291	1	3480
26291	1	1956

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26291	1	2263
26291	1	2261
26291	1	2260
26281	1	5159
26281	1	5156
26281	1	4233
26281	1	3480
26281	1	1956
26281	1	2264
26281	1	2263
26281	1	2261
26281	1	2260
2259	1	5159
2259	1	5156
2259	1	4233
2259	1	3480
2259	1	1956
2259	1	2264
2259	1	2263
2259	1	2261
2259	1	2260
2258	1	5159
2258	1	5156
2258	1	4233
2258	1	3480
2258	1	1956
2258	1	2264
2258	1	2263
2258	1	2261
2258	1	2260
2257	1	5159
2257	1	5156
2257	1	4233
2257	1	3480
2257	1	1956
2257	1	2264
2257	1	2263
2257	1	2261
2257	1	2260
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2256	1	5156
2256	1	4233
2256	1	3480
2256	1	1956
2256	1	2264
2256	1	2263
2256	1	2261
2256	1	2260
2255	1	5159
2255	1	5156
2255	1	4233
2255	1	3480
2255	1	1956
2255	1	2264

2255	1	2263
2255	1	2261
2255	1	2260
2254	1	5159
2254	1	5156
2254	1	4233
2254	1	3480
2254	1	1956
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2254	1	2261
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2253	1	5156
2253	1	4233
2253	1	3480
2253	1	1956
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2253	1	2263
2253	1	2261
2253	1	2260
2252	1	5159
2252	1	5156
2252	1	4233
2252	1	3480
2252	1	1956
2252	1	2264
2252	1	2263
2252	1	2261
2252	1	2260
2251	1	5159
2251	1	5156
2251	1	4233
2251	1	3480
2251	1	1956
2251	1	2264
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2251	1	2261
2251	1	2260
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2250	1	5156
2250	1	4233
2250	1	3480
2250	1	1956
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2249	1	5156
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2249	1	3480
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2249	1	2261
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2248	1	5159
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2248	1	3480
2248	1	1956
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2248	1	2261
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2247	1	2261
2247	1	2260
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2264	1	6654
2263	1	8503
2263	1	5296
2263	1	5295
2263	1	5294
2263	1	5293
2263	1	5291
2263	1	5290
2263	1	23533
2263	1	2885
2263	1	6655
2263	1	6654
2261	1	2885
2261	1	6655
2261	1	6654
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2260	1	3265
2260	1	8503
2260	1	5296
2260	1	5295
2260	1	5294
2260	1	5293
2260	1	5291
2260	1	5290
2260	1	23533
2260	1	2885
2260	1	6655
2260	1	6654
2246	1	5159
2246	1	5156
2246	1	4233
2246	1	3480
2246	1	1956

2246	1	2264
2246	1	2263
2246	1	2261
2246	1	2260
1956	-1	1499
1956	-1	1500
1956	1	6464
1956	1	53358
1956	1	399694
1956	1	25759
1956	1	1399
1956	1	1398
1956	1	6777
1956	1	6776
1956	1	868
1956	1	867
1956	1	23624
1956	1	5336
1956	1	5335
1956	1	4893
1956	1	3845
1956	1	3265
1956	1	3716
1956	1	6655
1956	1	6654
1956	1	8503
1956	1	5296
1956	1	5295
1956	1	5294
1956	1	5293
1956	1	5291
1956	1	5290
1956	1	23533
1956	1	5747
1956	1	2885
1956	1	6714
1950	1	3645
1950	1	2263
1950	1	2260
1950	1	5159
1950	1	5156
1950	1	4233
1950	1	3791
1950	1	3480
1950	1	2324
1950	1	2321
1950	1	2064
1950	1	1956

Table S2. KEGG-HPO associated. Degree of pleiotropy here represents the number of associated phenotypes from HPO database.

Entrez Gene ID	Gene Name	Degree of pleiotropy
10000	AKT3	126
10095	ARPC1B	56
10125	RASGRP1	285
1019	CDK4	79
102	ADAM10	9
1020	CDK5	102
1021	CDK6	102
10235	RASGRP2	22
1026	CDKN1A	168
1027	CDKN1B	211
1028	CDKN1C	297
1029	CDKN2A	196
10297	APC2	272
1030	CDKN2B	200
1031	CDKN2C	168
10319	LAMC3	35
10452	TOMM40	84
1050	CEBPA	16
10683	DLL3	234
107	ADCY1	13
1073	CFL2	207
1080	CFTR	281
10842	PPP1R17	34
10892	MALT1	106
109	ADCY3	26
111	ADCY5	79
112	ADCY6	62
1131	CHRM3	188
114609	TIRAP	15
1147	CHUK	86
1277	COL1A1	606
1278	COL1A2	374
1280	COL2A1	864
1281	COL3A1	563
1282	COL4A1	374
1284	COL4A2	47
1286	COL4A4	79
1288	COL4A6	15
1289	COL5A1	364
1290	COL5A2	332
1291	COL6A1	302
1292	COL6A2	327
1293	COL6A3	325

1301	COL11A1	532
1302	COL11A2	394
1311	COMP	275
1385	CREB1	7
1387	CREBBP	572
1399	CRKL	320
1407	CRY1	8
1438	CSF2RA	71
1439	CSF2RB	72
1441	CSF3R	19
1453	CSNK1D	17
1457	CSNK2A1	170
148022	TICAM1	12
1487	CTBP1	491
149233	IL23R	287
1493	CTLA4	427
1499	CTNNB1	491
1500	CTNND1	101
1535	CYBA	196
1536	CYBB	203
154	ADRB2	28
155	ADRB3	20
1605	DAG1	283
1616	DAXX	136
1630	DCC	296
1634	DCN	24
1729	DIAPH1	82
1730	DIAPH2	21
1813	DRD2	35
1816	DRD5	30
182	JAG1	355
1848	DUSP6	286
185	AGTR1	77
1855	DVL1	494
1857	DVL3	526
1906	EDN1	177
1909	EDNRA	159
1910	EDNRB	232
1947	EFNB1	325
1950	EGF	84
1956	EGFR	90
1969	EPHA2	23
2	A2M	34
200576	PIKFYVE	16
2033	EP300	627
2043	EPHA4	83
2048	EPHB2	18

2050	EPHB4	80
2056	EPO	19
2057	EPOR	52
2064	ERBB2	54
2065	ERBB3	121
2066	ERBB4	98
207	AKT1	693
208	AKT2	128
2122	MECOM	90
2147	F2	146
2153	F5	171
2155	F7	90
2157	F8	37
2158	F9	49
2159	F10	112
2160	F11	50
2161	F12	59
2162	F13A1	157
2165	F13B	134
2206	MS4A2	36
2243	FGA	124
2244	FGB	78
2245	FGD1	321
2248	FGF3	226
2250	FGF5	23
2253	FGF8	408
2254	FGF9	141
2255	FGF10	250
2257	FGF12	216
2259	FGF14	107
2260	FGFR1	1043
2261	FGFR3	1010
2263	FGFR2	1137
2266	FGG	78
22926	ATF6	82
2308	FOXO1	14
2322	FLT3	21
23236	PLCB1	48
2324	FLT4	125
2335	FN1	186
23385	NCSTN	19
23396	PIP5K1C	26
23529	CLCF1	179
2353	FOS	312
23533	PIK3R5	127
2475	MTOR	333
2488	FSHB	117

2492	FSHR	186
25	ABL1	234
2535	FZD2	427
2549	GAB1	11
26281	FGF20	113
268	AMH	35
2688	GH1	46
269	AMHR2	35
2690	GHR	207
2697	GJA1	769
26999	CYFIP2	207
27040	LAT	49
2735	GLI1	244
2736	GLI2	407
2737	GLI3	714
2767	GNA11	245
2771	GNAI2	20
2773	GNAI3	193
2774	GNAL	28
2775	GNAO1	278
2776	GNAQ	286
2778	GNAS	638
2782	GNB1	153
2784	GNB3	55
2796	GNRH1	198
2798	GNRHR	184
2811	GP1BA	194
2812	GP1BB	638
2815	GP9	119
284217	LAMA1	84
28514	DLL1	189
2892	GRIA3	69
2911	GRM1	137
29110	TBK1	242
2934	GSN	219
29851	ICOS	204
2997	GYS1	40
2998	GYS2	70
3053	SERPIND1	22
3082	HGF	13
31	ACACA	14
3105	HLA-A	90
3106	HLA-B	456
3107	HLA-C	25
3135	HLA-G	11
324	APC	669
3265	HRAS	679

330	BIRC3	84
331	XIAP	164
3339	HSPG2	549
3356	HTR2A	43
3371	TNC	7
3455	IFNAR2	8
3458	IFNG	212
3459	IFNGR1	143
3460	IFNGR2	11
3479	IGF1	205
3480	IGF1R	261
3516	RBPJ	264
355	FAS	556
3551	IKBKB	61
3553	IL1B	34
3559	IL2RA	167
356	FASLG	319
3560	IL2RB	68
3561	IL2RG	273
3566	IL4R	36
3569	IL6	180
3574	IL7	45
3575	IL7R	175
3586	IL10	293
3587	IL10RA	48
3588	IL10RB	49
3590	IL11RA	92
3592	IL12A	395
3593	IL12B	145
3594	IL12RB1	149
3596	IL13	11
3624	INHBA	103
3630	INS	269
3643	INSR	369
3654	IRAK1	186
3655	ITGA6	164
3661	IRF3	22
3663	IRF5	258
3665	IRF7	6
3667	IRS1	22
3673	ITGA2	95
3674	ITGA2B	158
3675	ITGA3	158
3679	ITGA7	251
3689	ITGB2	65
3690	ITGB3	158
3691	ITGB4	266

3694	ITGB6	152
3702	ITK	77
3717	JAK2	331
3718	JAK3	173
3745	KCNB1	193
375790	AGRN	364
3784	KCNQ1	279
3791	KDR	10
3815	KIT	314
3818	KLKB1	6
3845	KRAS	1153
3908	LAMA2	278
3909	LAMA3	240
3910	LAMA4	54
3912	LAMB1	109
3913	LAMB2	296
3914	LAMB3	239
3918	LAMC2	224
392255	GDF6	285
3932	LCK	49
3952	LEP	161
3953	LEPR	164
3955	LFNG	215
3972	LHB	74
3973	LHCGR	85
3977	LIFR	372
3984	LIMK1	734
3991	LIPE	117
4068	SH2D1A	111
4088	SMAD3	400
4089	SMAD4	707
4091	SMAD6	77
4092	SMAD7	15
4093	SMAD9	21
4149	MAX	242
4157	MC1R	149
4193	MDM2	70
4214	MAP3K1	202
4233	MET	111
4254	KITLG	98
4261	CIITA	230
4286	MITF	305
4313	MMP2	250
4352	MPL	309
4609	MYC	93
4615	MYD88	235
462	SERPINC1	66

4633	MYL2	273
4638	MYLK	259
4688	NCF2	190
4689	NCF4	148
4747	NEFL	183
4763	NF1	383
4790	NFKB1	157
4792	NFKBIA	83
4838	NODAL	213
4846	NOS3	89
4851	NOTCH1	331
4853	NOTCH2	537
4854	NOTCH3	530
487	ATP2A1	6
488	ATP2A2	87
4893	NRAS	743
4982	TNFRSF11B	177
5054	SERPINE1	22
5058	PAK1	118
50615	IL21R	67
5063	PAK3	262
5111	PCNA	105
51135	IRAK4	31
51206	GP6	46
5137	PDE1C	7
5139	PDE3A	45
51422	PRKAG2	130
5155	PDGFB	467
5156	PDGFRA	138
5159	PDGFRB	440
51744	CD244	20
5216	PFN1	99
5255	PHKA1	37
5256	PHKA2	39
5257	PHKB	35
5261	PHKG2	65
5265	SERPINA1	60
5290	PIK3CA	750
5293	PIK3CD	81
5295	PIK3R1	411
5296	PIK3R2	185
5327	PLAT	11
5328	PLAU	81
5332	PLCB4	182
5336	PLCG2	105
5337	PLD1	74
5340	PLG	218

5345	SERPINF2	73
5350	PLN	81
5371	PML	167
54205	CYCS	7
54361	WNT4	232
5443	POMC	119
54567	DLL4	293
5495	PPM1B	108
5500	PPP1CB	299
5506	PPP1R3A	22
5515	PPP2CA	153
5518	PPP2R1A	153
5519	PPP2R1B	18
5521	PPP2R2B	106
5530	PPP3CA	265
5566	PRKACA	132
5568	PRKACG	42
5573	PRKAR1A	794
5575	PRKAR1B	68
5580	PRKCD	362
5582	PRKCG	121
5583	PRKCH	9
55851	PSENEN	37
5591	PRKDC	153
5592	PRKG1	193
5594	MAPK1	320
5602	MAPK10	58
5604	MAP2K1	477
5605	MAP2K2	413
5618	PRLR	72
5624	PROC	89
5627	PROS1	87
5644	PRSS1	99
5645	PRSS2	86
5649	RELN	81
5663	PSEN1	332
5664	PSEN2	162
57105	CYSLTR2	71
5728	PTEN	911
57522	SRGAP1	18
57680	CHD8	66
5770	PTPN1	22
5781	PTPN11	571
5792	PTPRF	38
58	ACTA1	530
5818	NECTIN1	375
5836	PYGL	42

5837	PYGM	48
5879	RAC1	294
5880	RAC2	50
5894	RAF1	466
59	ACTA2	254
5906	RAP1A	296
59067	IL21	52
5908	RAP1B	296
5914	RARA	178
5921	RASA1	65
5922	RASA2	267
5925	RB1	277
595	CCND1	257
596	BCL2	66
5970	RELA	84
5993	RFX5	216
5994	RFXAP	216
60	ACTB	520
6091	ROBO1	92
6092	ROBO2	17
613	BCR	378
6197	RPS6KA3	578
6237	RRAS	267
64218	SEMA4A	339
64221	ROBO3	66
6424	SFRP4	94
64321	SOX17	25
64840	PORCN	541
650	BMP2	482
652	BMP4	442
653361	NCF1	190
657	BMPR1A	435
658	BMPR1B	387
659	BMPR2	71
6647	SOD1	123
6654	SOS1	337
6655	SOS2	299
6696	SPP1	186
6714	SRC	86
673	BRAF	912
6772	STAT1	249
6773	STAT2	9
6774	STAT3	479
6775	STAT4	418
6777	STAT5B	187
6778	STAT6	128
6789	STK4	48

6868	ADAM17	75
6870	TACR3	276
6885	MAP3K7	532
6915	TBXA2R	30
6934	TCF7L2	22
695	BTK	253
70	ACTC1	80
7039	TGFA	30
7040	TGFB1	429
7042	TGFB2	264
7043	TGFB3	346
7046	TGFBR1	375
7048	TGFBR2	587
7056	THBD	59
7097	TLR2	6
7098	TLR3	47
7099	TLR4	287
71	ACTG1	324
7124	TNF	36
7132	TNFRSF1A	217
7133	TNFRSF1B	139
7148	TNXB	163
7157	TP53	510
7173	TPO	91
7189	TRAF6	66
72	ACTG2	242
7201	TRHR	76
7248	TSC1	401
7249	TSC2	385
7252	TSHB	104
7253	TSHR	179
7297	TYK2	33
7299	TYR	140
7305	TYROBP	190
7424	VEGFC	94
7450	VWF	96
7454	WAS	317
7471	WNT1	78
7473	WNT3	236
7474	WNT5A	467
7476	WNT7A	402
7480	WNT10B	117
7482	WNT2B	7
7535	ZAP70	194
7852	CXCR4	193
801	CALM1	64
80326	WNT10A	207

805	CALM2	81
8074	FGF23	82
808	CALM3	19
815	CAMK2A	66
816	CAMK2B	66
81607	NECTIN4	104
81624	DIAPH3	26
8200	GDF5	602
8302	KLRC4	287
8322	FZD4	84
8323	FZD6	10
83700	JAM3	86
8398	PLA2G6	304
841	CASP8	100
843	CASP10	331
84433	CARD11	77
8516	ITGA8	149
8517	IKBKG	437
85366	MYLK2	28
857	CAV1	497
859	CAV3	180
8600	TNFSF11	267
861	RUNX1	104
8625	RFXANK	216
8660	IRS2	22
867	CBL	183
8737	RIPK1	59
8772	FADD	56
8792	TNFRSF11A	288
8795	TNFRSF10B	9
8822	FGF17	286
8823	FGF16	28
8863	PER3	12
8864	PER2	13
8915	BCL10	163
894	CCND2	115
8945	BTRC	45
89780	WNT3A	29
90	ACVR1	199
90993	CREB3L1	67
9180	OSMR	38
9181	ARHGEF2	119
919	CD247	107
9241	NOG	372
925	CD8A	38
93	ACVR2B	32
930	CD19	194

94	ACVRL1	258
940	CD28	139
9423	NTN1	74
9451	EIF2AK3	393
9459	ARHGEF6	210
948	CD36	18
958	CD40	53
959	CD40LG	106
9630	GNA14	80
9672	SDC3	20
9863	MAGI2	37
990	CDC6	292
998	CDC42	308

Table S3. KEGG functional importance genes

Entrez Gene ID	Gene name	Drug-target (1: True, 0: False)	Drug ID (-: un-known)	Tumor suppres-sor (1: True, 0: False)	Oncogene (1: True, 0: False)
387	RHOA	1	DB04315	1	1
2885	GRB2	1	DB00061	0	0
2549	GAB1	0	-	0	1
25	ABL1	1	DB00171	0	1
6093	ROCK1	1	DB04707	0	1
9475	ROCK2	1	DB08162	0	0
1398	CRK	0	-	0	1
1399	CRKL	0	-	0	1
5879	RAC1	1	DB00993	0	1
5880	RAC2	1	DB00514	0	0
5881	RAC3	0	-	0	1
6714	SRC	1	DB01254	0	1
3667	IRS1	1	DB08513	0	0
8471	IRS4	0	-	0	0
8660	IRS2	0	-	0	1
7294	TXK	1	DB12010	0	0
5499	PPP1CA	1	DB02506	1	0
5500	PPP1CB	0	-	0	0
5501	PPP1CC	1	DB02169	0	0
2911	GRM1	1	DB00142	0	1
2915	GRM5	1	DB00659	0	0
2932	GSK3B	1	DB01356	1	0
5058	PAK1	1	DB12010	0	1
2776	GNAQ	0	-	0	1
1956	EGFR	1	DB00002	0	1
9020	MAP3K14	0	-	0	0
836	CASP3	1	DB01017	0	0
2889	RAPGEF1	0	-	0	0
2775	GNAO1	0	-	0	0
867	CBL	0	-	1	1
868	CBLB	0	-	0	1
23624	CBLC	0	-	0	0
2149	F2R	1	DB00086	0	0
998	CDC42	1	DB02623	0	0
5601	MAPK9	1	DB07020	1	0
5599	MAPK8	1	DB01782	0	0
5602	MAPK10	1	DB01782	1	0
4659	PPP1R12A	0	-	0	0
5335	PLCG1	0	-	0	0

Table S4. KEGG functional importance genes (continuous). *NuCancer* represents the number of KEGG genes associated with any cancer types.

Entrez Gene ID	*Gene name*	*Essential gene (1:True, 0:False)*	*NuCancer*	*Disease gene (1:True, 0:False)*
387	RHOA	1	16	1
2885	GRB2	1	0	1
2549	GAB1	1	18	1
25	ABL1	1	19	1
6093	ROCK1	1	0	1
9475	ROCK2	1	0	1
1398	CRK	1	0	1
1399	CRKL	1	11	1
5879	RAC1	1	12	1
5880	RAC2	0	16	1
5881	RAC3	1	0	1
6714	SRC	1	15	1
3667	IRS1	1	21	1
8471	IRS4	1	21	1
8660	IRS2	1	17	1
7294	TXK	0	0	1
5499	PPP1CA	1	0	1
5500	PPP1CB	1	11	1
5501	PPP1CC	1	0	1
2911	GRM1	1	0	1
2915	GRM5	1	0	1
2932	GSK3B	1	17	1
5058	PAK1	0	17	1
2776	GNAQ	1	15	1
1956	EGFR	1	21	1
9020	MAP3K14	0	6	1
836	CASP3	1	0	1
2889	RAPGEF1	1	0	1
2775	GNAO1	1	0	1
867	CBL	1	19	1
868	CBLB	1	20	1
23624	CBLC	0	20	1
2149	F2R	1	0	1
998	CDC42	1	16	1
5601	MAPK9	1	0	1
5599	MAPK8	1	0	1
5602	MAPK10	0	0	1
4659	PPP1R12A	1	0	1
5335	PLCG1	1	23	1
2534	FYN	1	18	1
4067	LYN	1	18	1
815	CAMK2A	1	0	1
816	CAMK2B	0	0	1
817	CAMK2D	0	0	1
818	CAMK2G	1	0	1
5900	RALGDS	0	18	1
5502	PPP1R1A	0	0	1
5781	PTPN11	1	17	1
1630	DCC	1	0	1
5336	PLCG2	1	20	1
23365	ARHGEF12	1	20	1

7409	VAV1	1	20	1
7410	VAV2	0	21	1
10451	VAV3	0	0	1
2768	GNA12	1	15	1
5747	PTK2	1	0	1
1855	DVL1	1	0	1
1856	DVL2	1	0	1
1857	DVL3	1	0	1
3265	HRAS	0	13	1
3845	KRAS	1	25	1
4893	NRAS	1	22	1
7048	TGFBR2	1	21	1
5290	PIK3CA	1	23	1
5291	PIK3CB	1	22	1
5293	PIK3CD	1	21	1
5294	PIK3CG	0	20	1
5906	RAP1A	1	0	1
5908	RAP1B	1	0	1
1499	CTNNB1	1	22	1
5295	PIK3R1	1	21	1
5296	PIK3R2	1	20	1
8503	PIK3R3	0	19	1
23533	PIK3R5	0	0	1
2147	F2	1	0	1
3688	ITGB1	1	0	1
9138	ARHGEF1	1	0	1
8772	FADD	1	0	1
10672	GNA13	1	15	1
27040	LAT	1	0	1
2475	MTOR	1	23	1
1445	CSK	1	0	1
1147	CHUK	1	0	1
3551	IKBKB	1	18	1
8517	IKBKG	1	0	1
3937	LCP2	1	0	1
5590	PRKCZ	1	0	1
5777	PTPN6	1	16	1
5579	PRKCB	1	0	1
3480	IGF1R	1	21	1
5340	PLG	1	0	1
8826	IQGAP1	1	0	1
5605	MAP2K2	0	16	1
6654	SOS1	1	22	1
6655	SOS2	1	0	1
9846	GAB2	1	16	1
2890	GRIA1	1	0	1
2891	GRIA2	1	0	1
5578	PRKCA	1	0	1
5582	PRKCG	1	□	1
6009	RHEB	1	12	1
5922	RASA2	0	0	1
7535	ZAP70	0	0	1
2770	GNAI1	1	0	1
2771	GNAI2	1	0	1
2773	GNAI3	0	0	1

9459	ARHGEF6	1	0	1
841	CASP8	1	19	1
6850	SYK	1	20	1
843	CASP10	0	0	1
5594	MAPK1	1	18	1
5595	MAPK3	1	13	1
25791	NGEF	1	0	1
2774	GNAL	1	0	1
55970	GNG12	1	0	0
7249	TSC2	1	22	1
3683	ITGAL	0	0	1
3689	ITGB2	1	0	1
1500	CTNND1	1	0	1
801	CALM1	0	0	1
805	CALM2	1	0	1
808	CALM3	0	0	1
810	CALML3	0	0	1
51806	CALML5	0	0	1
163688	CALML6	1	0	0
8936	WASF1	1	0	1
10163	WASF2	1	0	1
2159	F10	1	0	1
2207	FCER1G	1	0	1
2066	ERBB4	1	25	1
51744	CD244	0	0	1
3690	ITGB3	1	0	1
3691	ITGB4	1	0	1
3693	ITGB5	1	0	1
3694	ITGB6	0	0	1
3695	ITGB7	0	0	1
3696	ITGB8	1	0	1
5159	PDGFRB	1	22	1
2778	GNAS	1	22	1
7186	TRAF2	1	18	1
8737	RIPK1	1	0	1
1387	CREBBP	1	24	1
2033	EP300	1	27	1
7040	TGFB1	1	0	1
7042	TGFB2	1	0	1
7043	TGFB3	1	0	1
5156	PDGFRA	1	21	1
8440	NCK2	1	0	1
5921	RASA1	1	22	1
5062	PAK2	1	0	1
4690	NCK1	1	0	1
6464	SHC1	1	0	1
25759	SHC2	0	0	1
53358	SHC3	1	0	1
399694	SHC4	1	0	1
5515	PPP2CA	1	0	1
5516	PPP2CB	0	0	1
5518	PPP2R1A	1	18	1
5519	PPP2R1B	0	0	1
842	CASP9	1	0	1
6237	RRAS	0	10	1

22800	RRAS2	1	12	1
22808	MRAS	0	0	1
4615	MYD88	0	13	1
7157	TP53	1	26	1
1839	HBEGF	1	0	1
1729	DIAPH1	1	0	1
1730	DIAPH2	1	0	1
23396	PIP5K1C	1	0	1
3676	ITGA4	1	0	1
5170	PDPK1	1	15	1
4638	MYLK	0	0	1
85366	MYLK2	1	0	1
91807	MYLK3	0	0	1
5063	PAK3	1	19	1
10298	PAK4	1	0	1
56924	PAK6	1	0	1
57144	PAK5	0	21	1
27289	RND1	1	0	1
148022	TICAM1	0	0	1
3791	KDR	1	23	1
369	ARAF	1	19	1
4851	NOTCH1	1	23	1
4853	NOTCH2	1	20	1
4854	NOTCH3	0	23	1
4855	NOTCH4	0	23	1
5728	PTEN	1	21	1
10842	PPP1R17	0	0	1
4233	MET	1	20	1
5604	MAP2K1	1	16	1
1793	DOCK1	1	0	1
10928	RALBP1	0	0	1
5530	PPP3CA	1	0	1
5532	PPP3CB	1	0	1
5533	PPP3CC	0	0	1
5534	PPP3R1	1	0	1
5535	PPP3R2	0	0	0
11261	CHP1	1	0	1
63928	CHP2	0	0	1
6091	ROBO1	1	22	1
940	CD28	0	13	1
50649	ARHGEF4	1	0	1
5364	PLXNB1	0	0	1
5365	PLXNB3	0	0	1
23654	PLXNB2	1	0	1
9855	FARP2	0	0	1
7132	TNFRSF1A	1	0	1
7305	TYROBP	0	0	1
10746	MAP3K2	1	0	1
10458	BAIAP2	1	0	1
3684	ITGAM	0	0	1
9901	SRGAP3	1	0	1
23380	SRGAP2	0	0	1
57522	SRGAP1	1	0	1
3643	INSR	1	20	1
5898	RALA	1	0	1

5899	RALB	0	0	1
3984	LIMK1	1	0	1
3985	LIMK2	1	0	1
572	BAD	1	0	1
8717	TRADD	0	0	1
3383	ICAM1	0	0	1
5609	MAP2K7	1	0	1
5894	RAF1	1	19	1
4193	MDM2	1	19	1
5624	PROC	1	0	1
5361	PLXNA1	1	0	1
5362	PLXNA2	1	0	1
55558	PLXNA3	1	0	1
2260	FGFR1	1	19	1
4089	SMAD4	1	17	1
595	CCND1	1	14	1
894	CCND2	1	13	1
896	CCND3	1	14	1
2158	F9	1	0	1
3554	IL1R1	0	0	1
3680	ITGA9	1	0	1
355	FAS	1	15	1
3479	IGF1	1	15	1
2161	F12	0	0	1
3655	ITGA6	1	0	1
3672	ITGA1	1	0	1
3673	ITGA2	1	0	1
3674	ITGA2B	1	0	1
3675	ITGA3	1	0	1
3678	ITGA5	1	0	1
3679	ITGA7	1	0	1
3685	ITGAV	1	0	1
8515	ITGA10	0	0	1
8516	ITGA8	1	0	1
22801	ITGA11	0	0	1
2322	FLT3	0	20	1
6092	ROBO2	1	0	1
29851	ICOS	0	0	1
3815	KIT	1	23	1
7852	CXCR4	1	17	1
1910	EDNRB	1	0	1
1394	CRHR1	1	0	1
2065	ERBB3	1	21	1
2263	FGFR2	1	21	1
2064	ERBB2	1	22	1
7850	IL1R2	0	0	1
4301	AFDN	1	24	1
3932	LCK	1	17	1
3802	KIR2DL1	0	0	1
3803	KIR2DL2	0	0	1
3804	KIR2DL3	1	0	1
3805	KIR2DL4	0	0	1
3811	KIR3DL1	0	0	1
3812	KIR3DL2	0	0	1
3821	KLRC1	0	0	1

3824	KLRD1	0	0	1
57292	KIR2DL5A	0	0	1
2767	GNA11	1	17	1
2769	GNA15	0	0	1
9630	GNA14	0	0	1
2781	GNAZ	1	0	1
1020	CDK5	1	0	1
919	CD247	1	0	1
4214	MAP3K1	1	20	1
4052	LTBP1	1	0	1
4087	SMAD2	1	15	1
4088	SMAD3	1	18	1
5328	PLAU	1	0	1
7454	WAS	1	13	1
8976	WASL	1	0	1
5327	PLAT	1	0	1
1978	EIF4EBP1	0	0	1
394	ARHGAP5	1	0	1
2909	ARHGAP35	1	23	1
9564	BCAR1	1	0	1
353376	TICAM2	0	0	1
2535	FZD2	1	0	1
7855	FZD5	1	0	1
7976	FZD3	1	0	1
8321	FZD1	0	0	1
8322	FZD4	1	0	1
8323	FZD6	1	0	1
8324	FZD7	0	0	1
8325	FZD8	0	0	1
8326	FZD9	1	0	1
11211	FZD10	0	0	1
814	CAMK4	1	0	1
5566	PRKACA	1	17	1
5567	PRKACB	1	0	1
5568	PRKACG	0	0	1
5613	PRKX	0	0	1
5616	PRKY	0	0	1
1969	EPHA2	0	0	1
2041	EPHA1	0	0	1
2042	EPHA3	1	22	1
2043	EPHA4	1	0	1
2044	EPHA5	0	22	1
2045	EPHA7	1	22	1
2046	EPHA8	0	0	1
285220	EPHA6	1	0	1
2798	GNRHR	0	0	1
56288	PARD3	1	0	1
5255	PHKA1	0	0	1
5256	PHKA2	1	0	1
5257	PHKB	0	0	1
5260	PHKG1	0	0	1
5261	PHKG2	0	0	1
2245	FGD1	1	0	1
89846	FGD3	0	0	1
4068	SH2D1A	0	13	1

28964	GIT1	1	0	1
83593	RASSF5	0	0	1
10810	WASF3	1	0	1
3973	LHCGR	1	0	1
3624	INHBA	1	21	1
3625	INHBB	1	0	1
3626	INHBC	0	0	1
83729	INHBE	0	0	1
3071	NCKAP1L	1	0	1
10152	ABI2	1	0	1
10787	NCKAP1	1	0	1
23191	CYFIP1	1	0	1
26999	CYFIP2	1	0	1
8793	TNFRSF10D	0	0	1
8794	TNFRSF10C	0	0	1
8795	TNFRSF10B	0	0	1
8797	TNFRSF10A	0	0	1
207	AKT1	1	16	1
208	AKT2	1	19	1
10000	AKT3	1	18	1
2185	PTK2B	1	0	1
7133	TNFRSF1B	1	0	1
3556	IL1RAP	0	0	1
7056	THBD	1	0	1
2321	FLT1	1	21	1
2324	FLT4	1	22	1
695	BTK	1	18	1
1027	CDKN1B	1	14	1
1385	CREB1	1	13	1
3645	INSRR	1	0	1
468	ATF4	1	0	1
9586	CREB5	1	0	1
10488	CREB3	1	0	1
64764	CREB3L2	1	18	1
84699	CREB3L3	0	0	1
90993	CREB3L1	1	17	1
148327	CREB3L4	1	0	1
5054	SERPINE1	0	0	1
81624	DIAPH3	1	0	1
4157	MC1R	0	0	1
1947	EFNB1	1	0	1
1948	EFNB2	1	0	1
1949	EFNB3	0	0	1
1026	CDKN1A	1	17	1
4633	MYL2	1	0	1
4636	MYL5	1	0	0
10398	MYL9	0	0	1
10627	MYL12A	1	0	1
29895	MYLPF	1	0	1
58498	MYL7	1	0	1
93408	MYL10	0	0	0
103910	MYL12B	0	0	1
7189	TRAF6	1	0	1
7099	TLR4	0	0	1
5350	PLN	1	0	1

1616	DAXX	1	20	1
346562	GNAT3	0	0	1
2261	FGFR3	1	20	1
5111	PCNA	1	0	1
5584	PRKCI	1	17	1
1017	CDK2	1	0	1
55845	BRK1	1	0	1
2264	FGFR4	1	20	1
1028	CDKN1C	1	0	1
91	ACVR1B	1	18	1
983	CDK1	1	0	1
7187	TRAF3	1	17	1
890	CCNA2	1	0	1
8900	CCNA1	1	0	1
7471	WNT1	1	0	1
7472	WNT2	1	0	1
7473	WNT3	1	0	1
7474	WNT5A	1	0	1
7475	WNT6	1	0	1
7476	WNT7A	1	0	1
7477	WNT7B	1	0	1
7478	WNT8A	0	0	1
7479	WNT8B	0	0	1
7480	WNT10B	0	0	1
7481	WNT11	1	0	1
7482	WNT2B	0	0	1
7483	WNT9A	1	0	1
7484	WNT9B	1	0	1
51384	WNT16	0	0	1
54361	WNT4	1	0	1
80326	WNT10A	0	0	1
81029	WNT5B	0	0	1
89780	WNT3A	1	0	1
840	CASP7	1	0	1
3654	IRAK1	1	0	1
1019	CDK4	1	13	1
1021	CDK6	1	11	1
4216	MAP3K4	1	0	1
1030	CDKN2B	0	10	1
7046	TGFBR1	1	17	1
130399	ACVR1C	0	0	1
2241	FER	1	0	1
1487	CTBP1	1	0	1
1488	CTBP2	1	0	1
650	BMP2	1	0	1
4838	NODAL	1	0	1
51135	IRAK4	1	0	1
8554	PIAS1	1	0	1
9063	PIAS2	1	0	1
9641	IKBKE	1	18	1
10401	PIAS3	1	0	1
29110	TBK1	1	0	1
51588	PIAS4	1	0	1
655	BMP7	1	0	1
8200	GDF5	1	0	1

898	CCNE1	1	16	1
9134	CCNE2	1	0	1
596	BCL2	1	11	1
9088	PKMYT1	1	0	1
10092	ARPC5	0	0	1
81873	ARPC5L	0	0	0
268	AMH	1	0	1
959	CD40LG	1	0	1
4086	SMAD1	1	0	1
4090	SMAD5	1	0	1
4093	SMAD9	0	0	1
5627	PROS1	1	0	1
114609	TIRAP	0	0	1
941	CD80	0	0	1
3065	HDAC1	1	16	1
3066	HDAC2	1	0	1
3818	KLKB1	0	0	1
3827	KNG1	0	0	1
3384	ICAM2	0	0	1
3385	ICAM3	0	0	1
652	BMP4	1	0	1
653	BMP5	1	0	1
654	BMP6	0	0	1
656	BMP8B	1	0	1
151449	GDF7	0	0	1
353500	BMP8A	1	0	1
392255	GDF6	1	0	1
4991	OR1D2	0	0	0
4992	OR1F1	0	0	0
4993	OR2C1	0	0	0
4994	OR3A1	0	0	0
4995	OR3A2	0	0	1
7932	OR2H2	0	0	0
8383	OR1A1	0	0	0
8385	-	1	0	0
8386	OR1D5	0	0	0
8387	OR1E1	0	0	0
8388	OR1E2	0	0	1
8390	OR1G1	0	0	0
8392	OR3A3	0	0	0
8590	OR6A2	0	0	0
10798	OR5I1	0	0	0
23538	OR52A1	0	0	0
26188	OR1C1	0	0	0
26189	OR1A2	0	0	0
26211	OR2F1	0	0	0
26212	OR2B6	0	0	0
26219	OR1J4	0	0	0
26245	OR2M4	0	0	0
26246	OR2L2	0	0	0
26248	OR2K2	0	0	0
26333	OR7A17	0	0	0
26338	OR5L2	0	0	0
26339	OR5K1	0	0	0
26476	OR10J1	0	0	1

26492	OR8G2P	0	0	0
26493	OR8B8	0	0	0
26494	OR8G1	0	0	0
26496	OR10A3	0	0	0
26529	OR12D2	0	0	0
26531	OR11A1	0	0	0
26532	OR10H3	0	0	0
26533	OR10G3	0	0	0
26534	OR10G2	0	0	0
26538	OR10H2	0	0	0
26539	OR10H1	0	0	0
26658	OR7C2	0	0	0
26659	OR7A5	1	0	0
26664	OR7C1	0	0	0
26682	OR4F4	0	0	0
26683	OR4F3	0	0	0
26686	OR4E2	0	0	0
26689	OR4D1	0	0	0
26692	OR2W1	0	0	0
26696	OR2T1	0	0	0
26707	OR2J2	0	0	0
26716	OR2H1	0	0	0
26735	OR1L3	0	0	0
26737	OR1L1	0	0	0
26740	OR1J2	0	0	0
56656	OR2S2	1	0	0
79290	OR13A1	0	0	0
79295	OR5H6	0	0	0
79310	OR5H2	0	0	0
79317	OR4K5	0	0	0
79324	OR51G1	0	0	0
79339	OR51B4	0	0	0
79345	OR51B2	0	0	0
79473	OR52N1	0	0	0
79501	OR4F5	0	0	0
79541	OR2A4	0	0	0
79544	OR4K1	0	0	0
81050	OR5AC2	0	0	0
81061	OR11H1	0	0	0
81099	OR4F17	0	0	0
81127	OR4K15	0	0	0
81168	OR8J3	0	0	0
81282	OR51G2	0	0	0
81285	OR51E2	0	0	1
81300	OR4P4	0	0	0
81309	OR4C15	0	0	1
81318	OR4A5	0	0	0
81327	OR4A16	0	0	0
81328	OR4A15	0	0	0
81392	OR2AE1	0	0	0
81399	OR4F16	0	0	0
81442	OR6N2	0	0	0
81448	OR6K2	0	0	0
81469	OR2G3	0	0	0
81470	OR2G2	0	0	0

81472	OR2C3	0	0	0
81696	OR5V1	0	0	1
81697	OR2B2	0	0	0
81797	OR12D3	0	0	1
119678	OR52E2	0	0	0
119679	OR52J3	0	0	0
119682	OR51L1	0	0	0
119687	OR51A7	0	0	0
119692	OR51S1	0	0	0
119694	OR51F2	0	0	0
119695	OR52R1	0	0	0
119749	OR4C46	0	0	1
119764	OR4X2	0	0	0
119765	OR4B1	0	0	0
119772	OR52M1	0	0	0
119774	OR52K2	0	0	0
120065	OR5P2	0	0	0
120066	OR5P3	0	0	0
120586	OR8I2	1	0	0
120775	OR2D3	0	0	0
120776	OR2D2	0	0	0
120787	OR52W1	0	0	0
120793	OR56A4	0	0	0
120796	OR56A1	0	0	0
121130	OR10P1	0	0	0
121275	OR10AD1	0	0	0
121364	OR10A7	0	0	0
122740	OR4K14	0	0	0
122742	OR4L1	0	0	0
122748	OR11H6	0	0	0
124538	OR4D2	1	0	0
125958	OR7D4	0	0	1
125962	OR7G1	0	0	0
125963	OR1M1	0	0	0
126370	OR1I1	0	0	0
126541	OR10H4	0	0	0
127059	OR2M5	0	0	0
127062	OR2M3	0	0	0
127064	OR2T12	0	0	1
127066	OR14C36	0	0	0
127068	OR2T34	0	0	0
127069	OR2T10	0	0	0
127074	OR2T4	0	0	0
127077	OR2T11	0	0	0
127385	OR10J5	0	0	0
127623	OR2B11	0	0	0
128360	OR10T2	0	0	1
128367	OR10X1	0	0	0
128368	OR10Z1	0	0	1
128371	OR6K6	0	0	0
128372	OR6N1	0	0	1
130075	OR9A4	0	0	0
134083	OR2Y1	0	0	0
135924	OR9A2	0	0	0
135941	OR2A14	0	0	0

135946	OR6B1	0	0	0
135948	OR2F2	0	0	0
138799	OR13C5	0	0	0
138802	OR13C8	0	0	0
138803	OR13C3	0	0	0
138804	OR13C4	0	0	0
138805	OR13F1	0	0	0
138881	OR1L8	1	0	0
138882	OR1N2	0	0	0
138883	OR1N1	0	0	1
143496	OR52B4	0	0	0
143502	OR52I2	0	0	0
143503	OR51E1	0	0	1
144124	OR10A5	0	0	0
144125	OR2AG1	0	0	1
150681	OR6B3	0	0	0
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162998	OR7D2	0	0	0
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219429	OR4C11	0	0	0
219431	OR4S2	0	0	0
219432	OR4C6	0	0	0
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219437	OR5L1	0	0	0
219438	OR5D18	1	0	0
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219464	OR5T2	0	0	0
219469	OR8H1	0	0	0
219473	OR8K3	0	0	0
219477	OR8J1	0	0	0
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219487	OR5M11	0	0	0
219493	OR5AR1	1	0	0
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219870	OR10G9	0	0	0
219873	OR10S1	0	0	0
219874	OR6T1	0	0	0
219875	OR4D5	0	0	0
219952	OR6Q1	0	0	0
219954	OR9I1	1	0	0
219956	OR9Q1	0	0	1
219957	OR9Q2	0	0	0
219958	OR1S2	0	0	0
219959	OR1S1	1	0	0
219960	OR10Q1	0	0	0
219965	OR5B17	0	0	0
219968	OR5B21	0	0	0
219981	OR5A2	0	0	0

219982	OR5A1	0	0	0
219983	OR4D6	0	0	0
219986	OR4D11	1	0	0
254783	OR6C74	0	0	0
254786	OR6C3	0	0	0
254879	OR2T6	1	0	0
254973	OR1L4	0	0	0
255725	OR52B2	0	0	0
256144	OR4C3	1	0	0
256148	OR4S1	0	0	0
256892	OR51F1	0	0	1
282763	OR51B5	0	0	1
282770	OR10AG1	0	0	0
282775	OR5J2	0	0	1
283092	OR4C13	0	0	1
283093	OR4C12	0	0	0
283111	OR51V1	0	0	0
283159	OR8D1	0	0	0
283160	OR8D2	0	0	0
283162	OR8B4	0	0	0
283189	OR9G4	0	0	0
283297	OR10A4	0	0	1
283365	OR6C6	0	0	0
283694	OR4N4	0	0	0
284383	OR2Z1	0	0	0
284433	OR10H5	0	0	0
284521	OR2L13	0	0	0
284532	OR14A16	0	0	0
285659	OR2V2	0	0	0
286362	OR13C9	0	0	0
286365	OR13D1	0	0	0
338662	OR8D4	0	0	0
338674	OR5F1	0	0	0
338675	OR5AP2	0	0	0
338751	OR52L1	0	0	0
338755	OR2AG2	0	0	0
340980	OR52B6	0	0	0
341152	OR2AT4	0	0	0
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341416	OR6C2	0	0	0
341418	OR6C4	0	0	0
341568	OR8S1	0	0	1
341799	OR6S1	0	0	0
343169	OR6F1	0	0	1
343171	OR2W3	0	0	0
343172	OR2T8	0	0	0
343173	OR2T3	0	0	0
343406	OR10R2	0	0	0
343563	OR2T29	0	0	0
346517	OR6V1	0	0	0
346525	OR2A12	0	0	0
346528	OR2A1	0	0	0
347168	OR1J1	1	0	0
347169	OR1B1	0	0	0
347468	OR13H1	0	0	0

387748	OR56B1	0	0	0
389090	OR6B2	0	0	0
390036	OR52K1	0	0	0
390037	OR52I1	0	0	0
390038	OR51D1	0	0	0
390054	OR52A5	0	0	0
390058	OR51B6	0	0	1
390059	OR51M1	0	0	0
390061	OR51Q1	0	0	0
390063	OR51I1	0	0	0
390064	OR51I2	0	0	0
390066	OR52D1	0	0	0
390067	OR52H1	0	0	0
390072	OR52N4	0	0	0
390075	OR52N5	0	0	0
390077	OR52N2	1	0	0
390078	OR52E6	0	0	0
390079	OR52E8	0	0	0
390081	OR52E4	0	0	0
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390084	OR56A5	0	0	0
390093	OR10A6	0	0	0
390113	OR4X1	0	0	1
390142	OR5D13	0	0	0
390144	OR5D16	0	0	0
390151	OR8H2	0	0	0
390152	OR8H3	0	0	0
390154	OR5T3	0	0	0
390155	OR5T1	0	0	0
390157	OR8K1	0	0	0
390162	OR5M9	0	0	0
390167	OR5M10	0	0	0
390168	OR5M1	0	0	1
390174	OR9G1	0	0	0
390181	OR5AK2	0	0	0
390191	OR5B12	0	0	0
390195	OR5AN1	0	0	0
390197	OR4D10	0	0	0
390199	OR4D9	0	0	0
390201	OR10V1	0	0	0
390260	OR6X1	0	0	0
390261	OR6M1	0	0	0
390264	OR10G4	0	0	0
390265	OR10G7	0	0	0
390275	OR8A1	0	0	0
390321	OR6C1	0	0	0
390323	OR6C75	0	0	0
390326	OR6C76	1	0	0
390327	OR6C70	0	0	0
390429	OR4N2	0	0	0
390431	OR4K2	0	0	0
390433	OR4K13	0	0	0
390436	OR4K17	0	0	0
390437	OR4N5	0	0	0
390439	OR11G2	0	0	0

390442	OR11H4	0	0	0
390445	OR5AU1	1	0	0
390538	OR4M2	0	0	0
390648	OR4F6	0	0	0
390649	OR4F15	0	0	0
390882	OR7G2	0	0	0
390883	OR7G3	1	0	0
390892	OR7A10	0	0	0
391107	OR10K2	0	0	0
391109	OR10K1	0	0	0
391112	OR6Y1	0	0	1
391114	OR6K3	0	0	0
391189	OR11L1	0	0	0
391190	OR2L8	0	0	0
391191	OR2AK2	0	0	0
391192	OR2L3	0	0	0
391194	OR2M2	0	0	1
391195	OR2T33	0	0	0
391196	OR2M7	0	0	1
391211	OR2G6	0	0	0
392138	OR2A25	0	0	0
392309	OR13J1	0	0	1
392376	OR13C2	0	0	0
392390	OR1L6	0	0	0
392391	OR5C1	0	0	0
392392	OR1K1	0	0	0
393046	OR2A5	0	0	0
401427	OR2A7	0	0	0
401665	OR51T1	0	0	0
401666	OR51A4	0	0	0
401667	OR51A2	0	0	0
401992	OR2T2	0	0	0
401993	OR2T5	0	0	0
401994	OR14I1	0	0	0
402135	OR5K2	0	0	0
402317	OR2A42	0	0	0
441608	OR5B3	0	0	0
441639	OR9K2	1	0	0
441669	OR4Q3	0	0	0
441670	OR4M1	0	0	0
441911	OR10J3	0	0	0
441933	OR13G1	0	0	1
442186	OR2J3	0	0	1
442191	OR14J1	0	0	1
442194	OR10C1	0	0	0
442361	OR2A2	0	0	0
504189	OR8U8	0	0	0
2	A2M	0	0	1
27	ABL2	1	17	1
31	ACACA	1	0	1
32	ACACB	0	0	1
52	ACP1	1	0	1
58	ACTA1	1	0	1
59	ACTA2	0	0	1
60	ACTB	1	20	1

70	ACTC1	1	0	1
71	ACTG1	1	18	1
72	ACTG2	1	0	1
90	ACVR1	1	15	1
92	ACVR2A	1	20	1
93	ACVR2B	1	0	1
94	ACVRL1	1	0	1
102	ADAM10	1	0	1
107	ADCY1	1	0	1
108	ADCY2	1	0	1
109	ADCY3	1	0	1
111	ADCY5	1	0	1
112	ADCY6	0	0	1
113	ADCY7	1	0	1
114	ADCY8	0	0	1
115	ADCY9	1	0	1
135	ADORA2A	0	0	1
136	ADORA2B	0	0	1
146	ADRA1D	0	0	1
147	ADRA1B	0	0	1
148	ADRA1A	0	0	1
153	ADRB1	1	0	1
154	ADRB2	0	0	1
155	ADRB3	0	0	1
157	GRK3	0	0	1
182	JAG1	1	0	1
185	AGTR1	1	0	1
269	AMHR2	1	0	1
317	APAF1	1	0	1
324	APC	1	25	1
329	BIRC2	1	0	1
330	BIRC3	1	14	1
331	XIAP	1	14	1
356	FASLG	1	0	1
374	AREG	1	0	1
406	ARNTL	1	0	1
409	ARRB2	0	0	1
434	ASIP	1	0	1
462	SERPINC1	1	0	1
487	ATP2A1	1	0	1
488	ATP2A2	1	0	1
489	ATP2A3	0	0	1
552	AVPR1A	0	0	1
553	AVPR1B	0	0	1
598	BCL2L1	1	12	1
613	BCR	1	21	1
623	BDKRB1	0	0	1
624	BDKRB2	1	0	1
637	BID	1	0	1
657	BMPR1A	1	17	1
658	BMPR1B	1	0	1
659	BMPR2	1	0	1
673	BRAF	1	22	1
685	BTC	0	0	1
839	CASP6	0	0	1

857	CAV1	0	0	1
858	CAV2	0	0	1
859	CAV3	0	0	1
861	RUNX1	1	18	1
862	RUNX1T1	1	20	1
886	CCKAR	0	0	1
887	CCKBR	0	0	1
891	CCNB1	1	0	1
925	CD8A	1	0	1
926	CD8B	0	0	1
929	CD14	0	0	1
930	CD19	1	0	1
942	CD86	1	0	1
948	CD36	0	16	1
958	CD40	0	0	1
960	CD44	0	0	1
961	CD47	0	0	1
962	CD48	0	0	1
990	CDC6	1	0	1
1022	CDK7	1	0	1
1029	CDKN2A	1	20	1
1031	CDKN2C	1	12	1
1032	CDKN2D	1	0	1
1050	CEBPA	1	9	1
1072	CFL1	1	0	1
1073	CFL2	0	0	1
1080	CFTR	1	0	1
1081	CGA	1	0	1
1101	CHAD	1	0	1
1128	CHRM1	1	0	1
1129	CHRM2	0	0	1
1131	CHRM3	1	0	1
1132	CHRM4	1	0	1
1133	CHRM5	0	0	1
1154	CISH	1	0	1
1270	CNTF	1	0	1
1271	CNTFR	1	0	1
1277	COL1A1	1	21	1
1278	COL1A2	1	0	1
1280	COL2A1	1	22	1
1281	COL3A1	1	0	1
1282	COL4A1	1	0	1
1284	COL4A2	1	0	1
1286	COL4A4	0	0	1
1288	COL4A6	1	0	1
1289	COL5A1	1	0	1
1290	COL5A2	1	0	1
1291	COL6A1	1	0	1
1292	COL6A2	0	0	1
1293	COL6A3	0	0	1
1301	COL11A1	1	0	1
1302	COL11A2	1	0	1
1311	COMP	0	0	1
1392	CRH	1	0	1
1407	CRY1	0	0	1

1408	CRY2	1	0	1
1432	MAPK14	1	0	1
1437	CSF2	1	0	1
1438	CSF2RA	0	0	1
1439	CSF2RB	1	0	1
1440	CSF3	0	0	1
1441	CSF3R	1	21	1
1442	CSH1	0	0	1
1452	CSNK1A1	1	0	1
1453	CSNK1D	1	0	1
1454	CSNK1E	1	0	1
1455	CSNK1G2	1	0	1
1456	CSNK1G3	1	0	1
1457	CSNK2A1	1	0	1
1459	CSNK2A2	1	0	1
1460	CSNK2B	1	0	1
1489	CTF1	1	0	1
1493	CTLA4	1	15	1
1511	CTSG	0	0	1
1535	CYBA	0	0	1
1536	CYBB	1	0	1
1605	DAG1	1	0	1
1634	DCN	1	0	1
1647	GADD45A	1	0	1
1676	DFFA	0	0	1
1808	DPYSL2	1	0	1
1812	DRD1	1	0	1
1813	DRD2	1	0	1
1816	DRD5	1	0	1
1840	DTX1	0	21	1
1843	DUSP1	0	0	1
1844	DUSP2	0	14	1
1845	DUSP3	0	0	1
1846	DUSP4	0	13	1
1847	DUSP5	0	0	1
1848	DUSP6	1	0	1
1849	DUSP7	0	0	1
1850	DUSP8	0	0	1
1852	DUSP9	1	14	1
1869	E2F1	1	0	1
1870	E2F2	1	0	1
1871	E2F3	1	19	1
1874	E2F4	1	0	1
1875	E2F5	1	0	1
1902	LPAR1	1	0	1
1906	EDN1	1	0	1
1909	EDNRA	1	0	1
1942	EFNA1	0	0	1
1943	EFNA2	1	0	1
1944	EFNA3	1	0	1
1945	EFNA4	0	0	1
1946	EFNA5	1	0	1
1950	EGF	1	0	1
1977	EIF4E	1	14	1
2047	EPHB1	1	22	1

2048	EPHB2	1	0	1
2049	EPHB3	1	0	1
2050	EPHB4	1	20	1
2051	EPHB6	0	0	1
2056	EPO	1	0	1
2057	EPOR	1	18	1
2069	EREG	0	0	1
2081	ERN1	1	0	1
2113	ETS1	1	19	1
2122	MECOM	1	22	1
2150	F2RL1	1	0	1
2151	F2RL2	0	0	1
2152	F3	1	0	1
2153	F5	1	0	1
2155	F7	1	0	1
2157	F8	1	0	1
2160	F11	1	0	1
2162	F13A1	1	0	1
2165	F13B	0	0	1
2206	MS4A2	0	0	1
2242	FES	1	17	1
2243	FGA	1	0	1
2244	FGB	0	0	1
2246	FGF1	0	0	1
2247	FGF2	0	0	1
2248	FGF3	1	16	1
2249	FGF4	1	11	1
2250	FGF5	0	0	1
2251	FGF6	0	18	1
2252	FGF7	0	0	1
2253	FGF8	1	0	1
2254	FGF9	1	0	1
2255	FGF10	1	14	1
2256	FGF11	0	0	1
2257	FGF12	0	16	1
2258	FGF13	1	0	1
2259	FGF14	0	16	1
2266	FGG	1	0	1
2277	VEGFD	0	0	1
2308	FOXO1	1	19	1
2309	FOXO3	1	18	1
2323	FLT3LG	1	0	1
2335	FN1	1	0	1
2353	FOS	1	0	1
2488	FSHB	1	0	1
2492	FSHR	1	0	1
2648	KAT2A	1	0	1
2688	GH1	0	0	1
2689	GH2	0	0	1
2690	GHR	1	0	1
2697	GJA1	1	0	1
2735	GLI1	1	22	1
2736	GLI2	1	0	1
2737	GLI3	1	0	1
2782	GNB1	1	21	1

2784	GNB3	1	0	1
2785	GNG3	1	0	1
2796	GNRH1	0	0	1
2797	GNRH2	0	0	1
2810	SFN	1	0	1
2811	GP1BA	0	0	1
2812	GP1BB	1	0	1
2814	GP5	0	0	1
2815	GP9	0	0	1
2872	MKNK2	0	0	1
2892	GRIA3	1	0	1
2925	GRPR	0	0	1
2934	GSN	1	0	1
2997	GYS1	1	0	1
2998	GYS2	0	0	1
3001	GZMA	0	0	1
3002	GZMB	0	0	1
3053	SERPIND1	1	0	1
3082	HGF	1	19	1
3084	NRG1	1	17	1
3105	HLA-A	0	15	1
3106	HLA-B	0	16	1
3107	HLA-C	0	12	1
3133	HLA-E	0	0	1
3134	HLA-F	0	0	1
3135	HLA-G	0	0	1
3269	HRH1	0	0	1
3274	HRH2	0	0	1
3303	HSPA1A	0	0	1
3304	HSPA1B	0	0	1
3305	HSPA1L	0	0	1
3306	HSPA2	1	0	1
3310	HSPA6	0	0	1
3312	HSPA8	1	0	1
3339	HSPG2	1	0	1
3356	HTR2A	0	0	1
3357	HTR2B	1	0	1
3358	HTR2C	1	0	1
3360	HTR4	1	0	1
3361	HTR5A	0	0	1
3362	HTR6	0	0	1
3363	HTR7	0	0	1
3371	TNC	0	0	1
3381	IBSP	0	0	1
3439	IFNA1	0	0	1
3440	IFNA2	0	0	1
3441	IFNA4	0	0	1
3442	IFNA5	0	0	1
3443	IFNA6	0	0	1
3444	IFNA7	0	0	1
3445	IFNA8	0	0	1
3446	IFNA10	0	0	1
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3460	IFNGR2	0	0	1
3467	IFNW1	1	0	0
3486	IGFBP3	1	0	1
3516	RBPJ	1	0	1
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3558	IL2	0	8	1
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3569	IL6	0	0	1
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3572	IL6ST	1	18	1
3574	IL7	0	0	1
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3586	IL10	0	13	1
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3594	IL12RB1	1	0	1
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3596	IL13	0	0	1
3597	IL13RA1	1	0	1
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3600	IL15	1	0	1
3601	IL15RA	0	0	1
3630	INS	1	0	1
3656	IRAK2	0	0	1
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3682	ITGAE	0	0	1
3687	ITGAX	0	0	1
3702	ITK	0	20	1
3706	ITPKA	0	0	1
3707	ITPKB	1	0	1

3714	JAG2	1	0	1
3716	JAK1	1	21	1
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3725	JUN	1	16	1
3745	KCNB1	1	0	1
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4050	LTB	0	9	1
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4194	MDM4	1	13	1
4215	MAP3K3	1	0	1
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4792	NFKBIA	1	18	1
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4862	NPAS2	1	0	1
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5137	PDE1C	0	0	1
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5509	PPP1R3D	0	0	0
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5522	PPP2R2C	0	0	1
5536	PPP5C	1	0	1
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5563	PRKAA2	0	0	1
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5565	PRKAB2	1	0	1
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5573	PRKAR1A	1	15	1

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5581	PRKCE	1	0	1
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5646	PRSS3	0	0	1
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5720	PSME1	0	0	1
5721	PSME2	0	0	1
5724	PTAFR	0	0	1
5726	TAS2R38	0	0	1
5731	PTGER1	0	0	1
5733	PTGER3	0	0	1
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5801	PTPRR	0	0	1
5817	PVR	0	0	1
5818	NECTIN1	0	0	1
5819	NECTIN2	1	0	1
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5837	PYGM	1	0	1
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5923	RASGRF1	1	0	1
5924	RASGRF2	1	0	1
5925	RB1	1	21	1
5933	RBL1	1	0	1
5934	RBL2	1	0	1
5970	RELA	1	0	1
5986	RFNG	1	0	1
5993	RFX5	1	0	1

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5998	RGS3	0	0	1
6195	RPS6KA1	0	0	1
6196	RPS6KA2	0	0	1
6197	RPS6KA3	1	0	1
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6199	RPS6KB2	0	18	1
6300	MAPK12	0	0	1
6382	SDC1	1	0	1
6383	SDC2	0	0	1
6385	SDC4	0	17	1
6387	CXCL12	1	0	1
6416	MAP2K4	1	17	1
6422	SFRP1	1	0	1
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6424	SFRP4	0	15	1
6425	SFRP5	1	0	1
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6500	SKP1	1	0	1
6558	SLC12A2	1	0	1
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6667	SP1	1	0	1
6688	SPI1	1	0	1
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6778	STAT6	1	23	1
6788	STK3	0	0	1
6789	STK4	0	0	1
6865	TACR2	1	0	1
6868	ADAM17	1	0	1
6869	TACR1	0	0	1
6870	TACR3	0	0	1
6885	MAP3K7	1	18	1
6915	TBXA2R	1	0	1
6932	TCF7	1	0	1
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7027	TFDP1	1	0	1
7035	TFPI	1	0	1
7039	TGFA	1	0	1
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7057	THBS1	1	0	1
7058	THBS2	1	0	1
7059	THBS3	0	0	1
7060	THBS4	0	0	1
7070	THY1	0	0	1
7074	TIAM1	1	0	1
7097	TLR2	0	0	1
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7100	TLR5	0	0	1

7124	TNF	1	0	1
7143	TNR	1	0	1
7148	TNXB	0	0	1
7173	TPO	0	0	1
7201	TRHR	0	0	1
7248	TSC1	1	21	1
7252	TSHB	0	0	1
7253	TSHR	1	20	1
7297	TYK2	0	23	1
7299	TYR	1	0	1
7412	VCAM1	1	0	1
7422	VEGFA	1	14	1
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7424	VEGFC	1	0	1
7448	VTN	0	0	1
7450	VWF	1	0	1
7465	WEE1	1	0	1
7525	YES1	1	19	1
8027	STAM	1	0	1
8074	FGF23	0	17	1
8302	KLRC4	0	0	1
8394	PIP5K1A	0	0	1
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8396	PIP4K2B	1	0	1
8398	PLA2G6	1	0	1
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8408	ULK1	1	0	1
8454	CUL1	1	0	1
8482	SEMA7A	0	0	1
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8600	TNFSF11	0	0	1
8625	RFXANK	0	0	1
8633	UNC5C	1	0	1
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8650	NUMB	1	0	1
8651	SOCS1	1	10	1
8681	JMJD7-PLA2G4B	0	0	0
8740	TNFSF14	0	0	1
8743	TNFSF10	0	0	1
8764	TNFRSF14	0	12	1
8771	TNFRSF6B	1	0	1
8792	TNFRSF11A	0	18	1
8817	FGF18	1	0	1
8822	FGF17	0	0	1
8823	FGF16	1	0	1
8835	SOCS2	0	12	1
8837	CFLAR	1	0	1
8850	KAT2B	1	0	1
8863	PER3	0	0	1
8864	PER2	1	0	1
8874	ARHGEF7	1	0	1
8877	SPHK1	1	0	1
8915	BCL10	1	10	1
8945	BTRC	1	0	1
9002	F2RL3	0	0	1

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9047	SH2D2A	0	0	1
9133	CCNB2	1	0	1
9180	OSMR	0	0	1
9181	ARHGEF2	1	0	1
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9252	RPS6KA5	1	0	1
9253	NUMBL	1	0	1
9350	CER1	0	0	1
9353	SLIT2	1	0	1
9423	NTN1	1	0	1
9451	EIF2AK3	1	0	1
9470	EIF4E2	1	0	1
9541	CIR1	1	0	1
9542	NRG2	1	0	1
9575	CLOCK	1	0	1
9612	NCOR2	1	23	1
9655	SOCS5	0	0	1
9672	SDC3	0	0	1
9693	RAPGEF2	1	0	1
9706	ULK2	0	0	1
9794	MAML1	1	0	1
9863	MAGI2	1	0	1
9899	SV2B	1	0	1
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9965	FGF19	1	11	1
9978	RBX1	1	0	1
10093	ARPC4	1	0	0
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10095	ARPC1B	0	0	1
10109	ARPC2	1	0	1
10125	RASGRP1	0	0	1
10154	PLXNC1	1	0	1
10197	PSME3	1	0	1
10235	RASGRP2	1	0	1
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10319	LAMC3	1	0	1
10411	RAPGEF3	0	0	1
10452	TOMM40	1	0	1
10468	FST	1	0	1
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10552	ARPC1A	0	0	1
10603	SH2B2	1	0	1
10637	LEFTY1	1	0	1
10666	CD226	0	0	1
10683	DLL3	1	0	1
10718	NRG3	0	0	1
10725	NFAT5	1	0	1
10788	IQGAP2	0	0	1
10800	CYSLTR1	0	0	1
10870	HCST	0	0	1
10892	MALT1	1	15	1

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11009	IL24	0	0	1
11069	RAPGEF4	1	0	1
11072	DUSP14	1	0	1
11186	RASSF1	1	0	1
11197	WIF1	1	20	1
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11317	RBPJL	1	0	1
22798	LAMB4	0	0	1
22885	ABLIM3	0	0	1
22926	ATF6	0	0	1
22987	SV2C	1	0	1
23220	DTX4	1	0	1
23236	PLCB1	1	0	1
23291	FBXW11	1	0	1
23308	ICOSLG	0	13	1
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25945	NECTIN3	1	0	1
25989	ULK3	0	0	1
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26279	PLA2G2D	0	0	1
26281	FGF20	0	0	1
26291	FGF21	0	0	1
27006	FGF22	0	0	0
27035	NOX1	1	0	1
27330	RPS6KA6	0	0	1
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29949	IL19	0	0	1
29984	RHOD	0	0	1
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50508	NOX3	0	0	1
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50604	IL20	0	0	1
50615	IL21R	0	21	1
50616	IL22	0	0	1
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50833	TAS2R16	0	0	1
50834	TAS2R1	0	0	1
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50838	TAS2R13	1	0	1
50839	TAS2R10	0	0	1
50840	TAS2R14	0	0	1
50848	F11R	1	0	1
50855	PARD6A	0	0	1
51107	APH1A	1	14	1
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51422	PRKAG2	1	0	1
51561	IL23A	0	0	1
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51764	GNG13	0	0	0
53632	PRKAG3	0	0	1
53832	IL20RA	0	0	1
53833	IL20RB	0	0	1
53944	CSNK1G1	1	0	1
54106	TLR9	1	0	1
54205	CYCS	1	0	1
54429	TAS2R5	0	0	0
54472	TOLLIP	0	0	1
54567	DLL4	1	0	1
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55534	MAML3	0	0	1
55740	ENAH	1	0	1
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56413	LTB4R2	0	0	1
56832	IFNK	0	0	1
56848	SPHK2	1	0	1
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57105	CYSLTR2	0	19	1
57154	SMURF1	1	0	1
57369	GJD2	1	0	1
57680	CHD8	1	0	1
57715	SEMA4G	0	0	0
58494	JAM2	0	0	1
58985	IL22RA1	0	0	1
59067	IL21	0	0	1
59343	SENP2	1	0	1
63923	TNN	0	0	1
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64218	SEMA4A	0	0	1
64221	ROBO3	1	0	1
64321	SOX17	1	15	1
64600	PLA2G2F	0	0	0
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64840	PORCN	1	0	1
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79660	PPP1R3B	0	0	1
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80319	CXXC4	0	0	1
80824	DUSP16	0	0	1
80834	TAS1R2	0	0	1
80835	TAS1R1	0	0	1
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84448	ABLIM2	0	0	1
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84612	PARD6B	1	0	0
84647	PLA2G12B	0	0	0
84867	PTPN5	0	0	1
85407	NKD1	1	0	1
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85417	CCNB3	0	19	1
85477	SCIN	0	0	1
85480	TSLP	0	0	1
90249	UNC5A	1	0	1
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115727	RASGRP4	0	0	1
116379	IL22RA2	0	0	1
117157	SH2D1B	0	0	1
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122809	SOCS4	0	0	1
128239	IQGAP3	1	0	1
131873	COL6A6	0	0	0
137970	UNC5D	0	0	1
145957	NRG4	0	0	1
149233	IL23R	0	0	1
150084	IGSF5	0	0	1
151636	DTX3L	0	0	1
163702	IFNLR1	0	0	1
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219699	UNC5B	1	0	1
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259294	TAS2R19	0	0	0
259295	TAS2R20	0	0	0
259296	TAS2R50	0	0	1
260425	MAGI3	0	0	1
282616	IFNL2	0	0	1
282617	IFNL3	0	0	1
282618	IFNL1	0	0	1
284217	LAMA1	1	0	1
338376	IFNE	0	0	1
338398	TAS2R60	0	0	1
345456	PFN3	0	0	0
353164	TAS2R42	0	0	1
375189	PFN4	0	0	0
375790	AGRN	1	0	1

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648921	-	1	0	0
649853	-	1	0	0
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652346	-	1	0	0
652671	-	1	0	0
653361	NCF1	1	0	1
653888	-	1	0	0
728622	SKP1P2	0	0	0
731751	-	1	0	0
1E+08	-	1	0	0
1E+08	PLA2G4B	0	0	1

References

1. Kauffman, S.; Peterson, C.; Samuelsson, B.; Troein, C. Genetic networks with canalyzing Boolean rules are always stable. *Proceedings of the National Academy of Sciences of the United States of America* **2004**, *101*, 17102-17107, doi:10.1073/pnas.0407783101.
2. Kauffman, S.; Peterson, C.; Samuelsson, B.; Troein, C. Random Boolean network models and the yeast transcriptional network. *Proceedings of the National Academy of Sciences* **2003**, *100*, 14796-14799, doi:10.1073/pnas.2036429100.
3. Samal, A.; Jain, S. The regulatory network of E. coli metabolism as a Boolean dynamical system exhibits both homeostasis and flexibility of response. *BMC Systems Biology* **2008**, *2*, 21, doi:10.1186/1752-0509-2-21.
4. Naldi, A.; Carneiro, J.; Chaouiya, C.; Thieffry, D. Diversity and Plasticity of Th Cell Types Predicted from Regulatory Network Modelling. *Plos Computational Biology* **2010**, *6*, e1000912, doi:10.1371/journal.pcbi.1000912.
5. Harris, S.E.; Sawhill, B.K.; Wuensche, A.; Kauffman, S. A model of transcriptional regulatory networks based on biases in the observed regulation rules. *Complexity* **2002**, *7*, 23-40, doi:10.1002/cplx.10022.
6. Trinh, H.C.; Kwon, Y.K. Edge-based sensitivity analysis of signaling networks by using Boolean dynamics. *Bioinformatics* **2016**, *32*, i763-i771. doi:10.1093/bioinformatics/btw464.
7. Trinh, H.-C.; Kwon, Y.-K. Effective Boolean dynamics analysis to identify functionally important genes in large-scale signaling networks. *Biosystems* **2015**, *137*, 64-72, doi:https://doi.org/10.1016/j.biosystems.2015.07.007.
8. Seoane, J.A.; Campbell, C.; Day, I.N.M.; Casas, J.P.; Gaunt, T.R. Canonical Correlation Analysis for Gene-Based Pleiotropy Discovery. *PLOS Computational Biology* **2014**, *10*, e1003876, doi:10.1371/journal.pcbi.1003876.
9. Mazaya, M.; Trinh, H.-C.; Kwon, Y.-K. Construction and analysis of gene-gene dynamics influence networks based on a Boolean model. *BMC Systems Biology* **2017**, *11*, 133, doi:10.1186/s12918-017-0509-y.