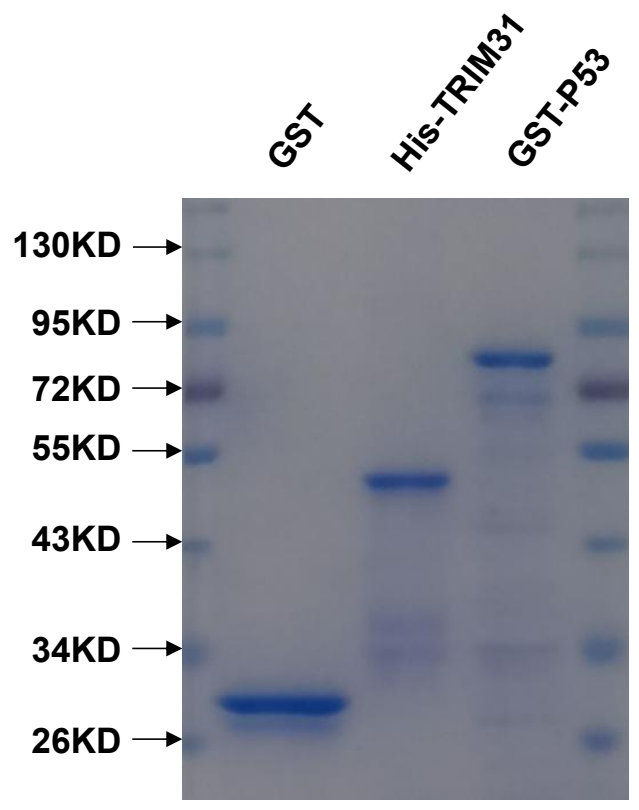
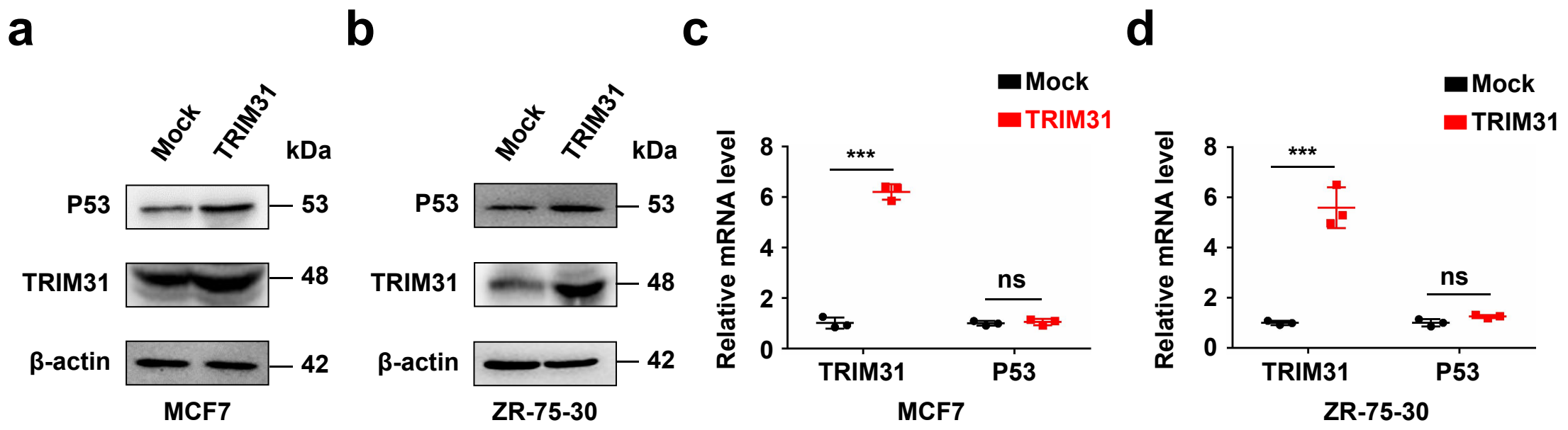
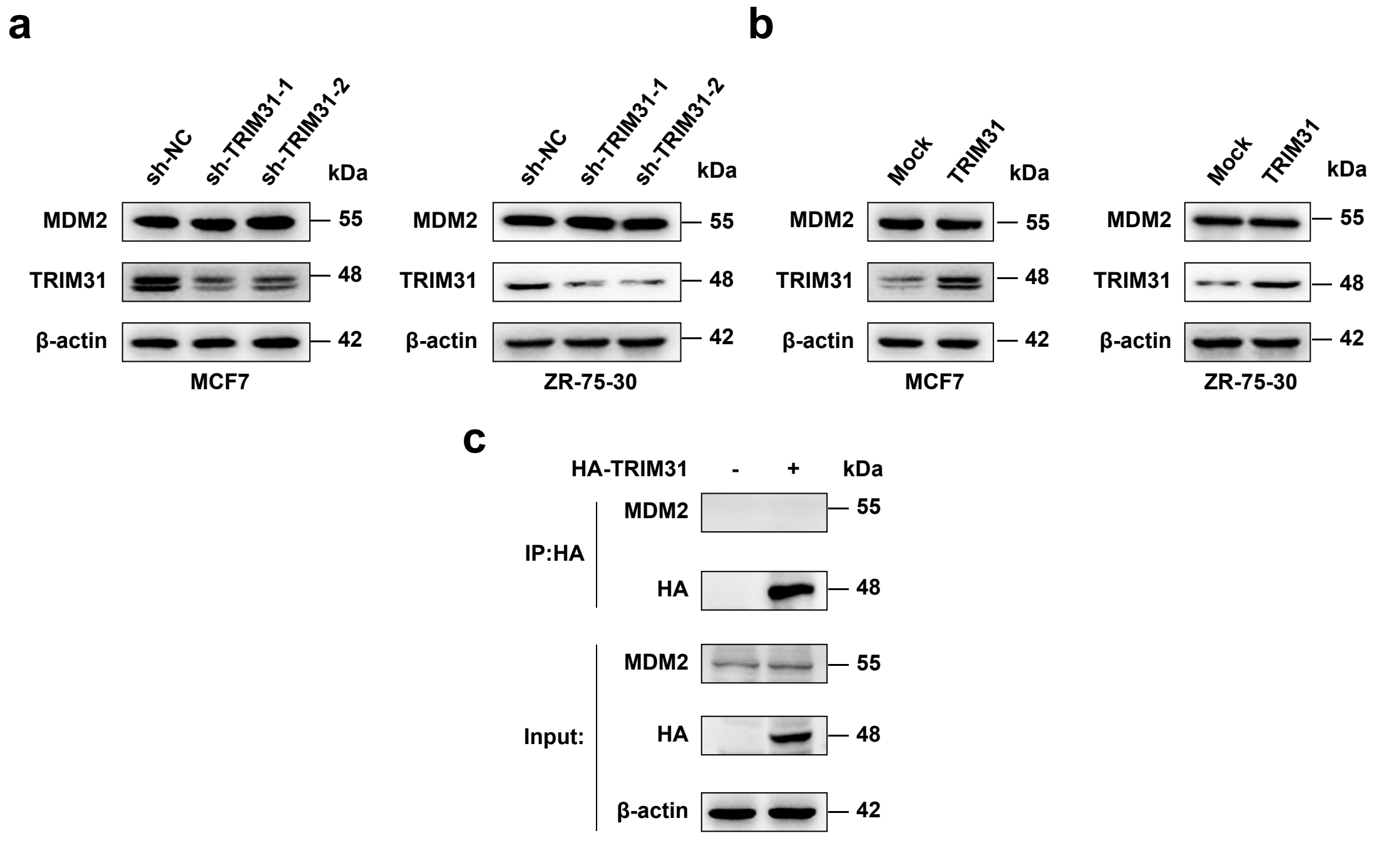
Supplementary Fig. S1



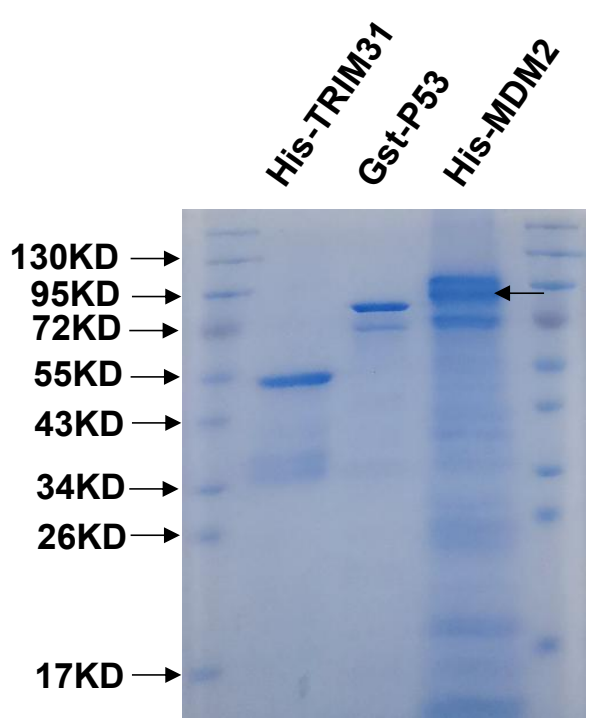
Supplementary Fig. S2



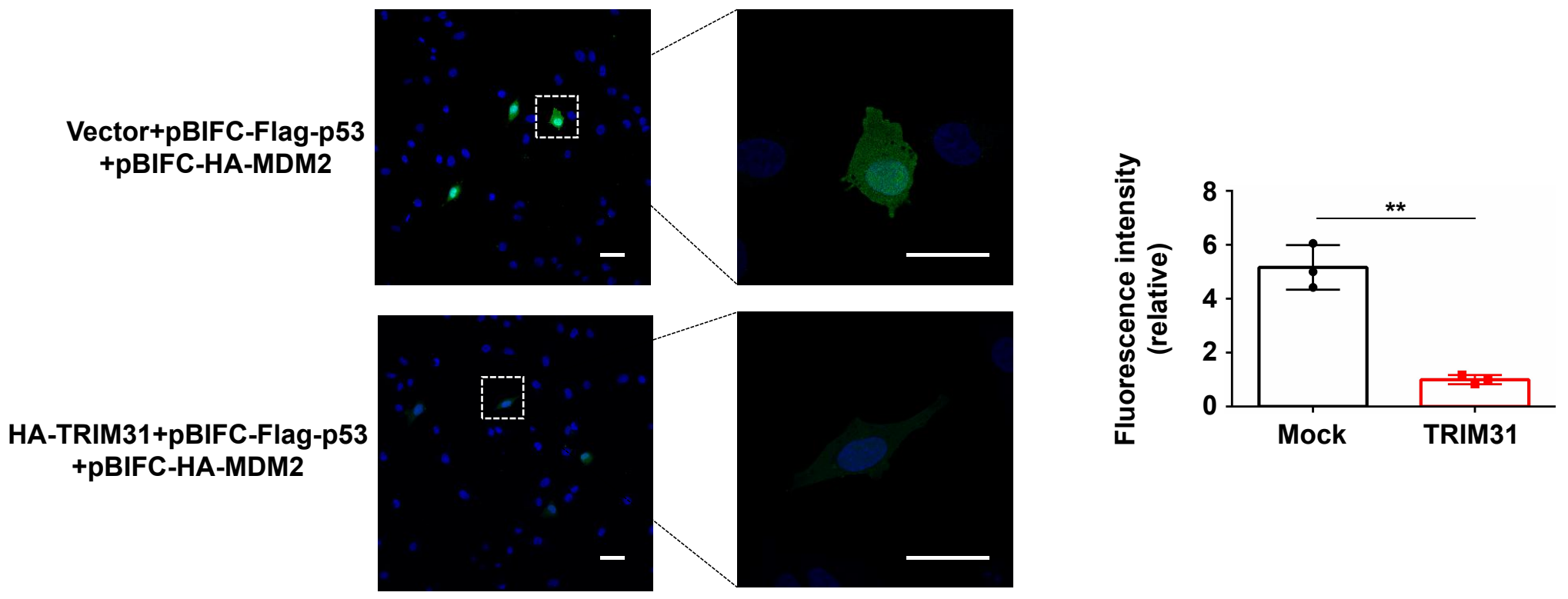
Supplementary Fig. S3



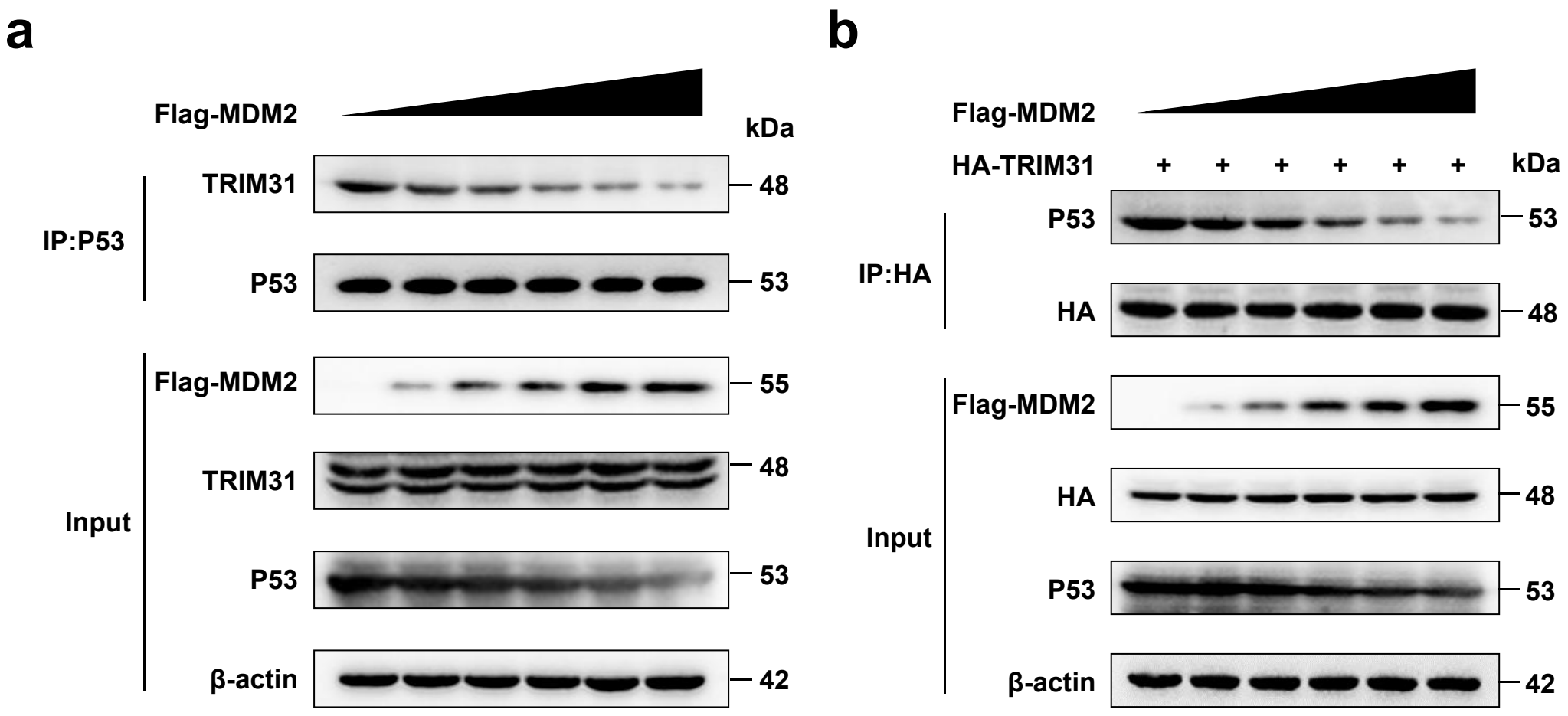
Supplementary Fig. S4



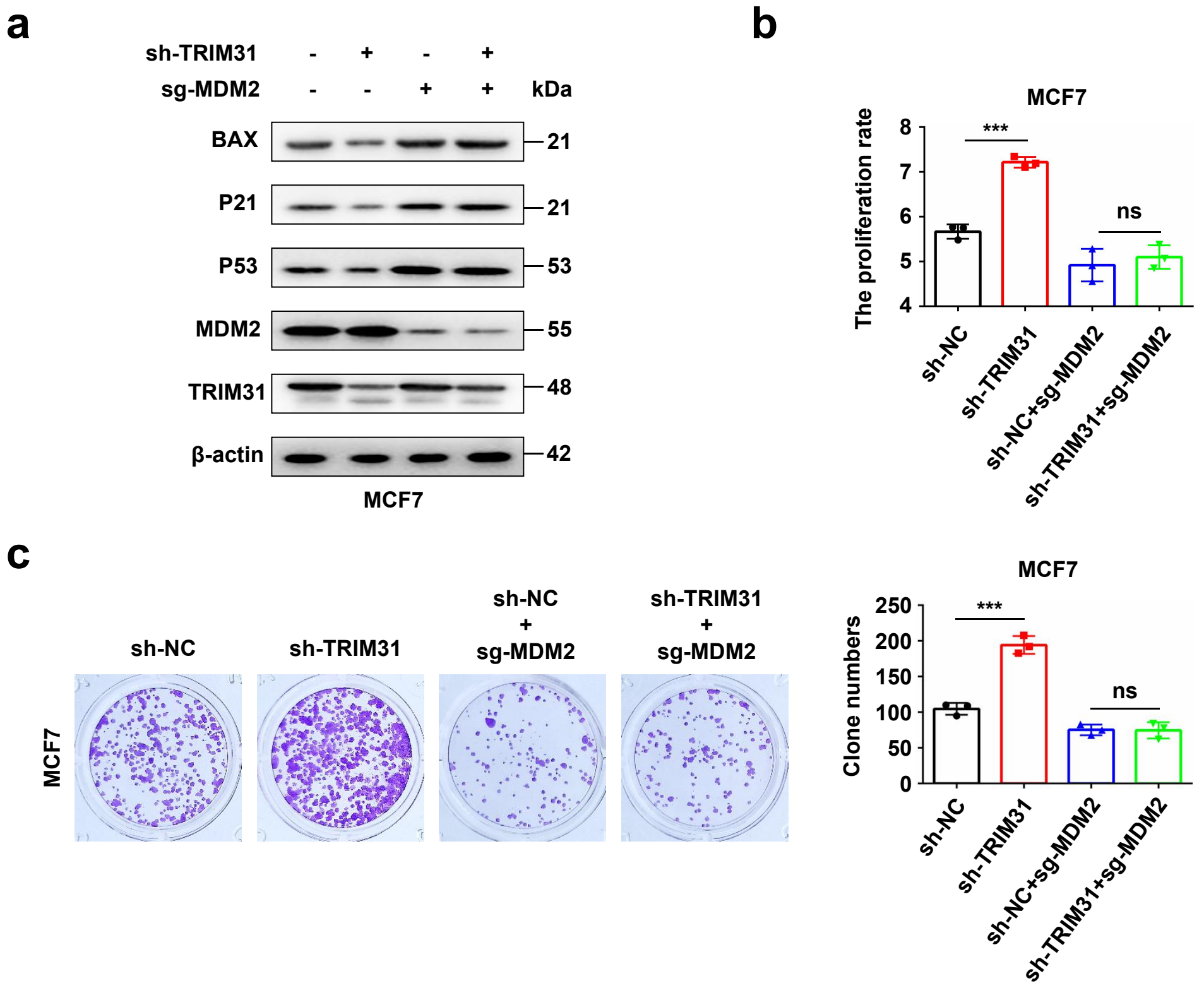
Supplementary Fig. S5



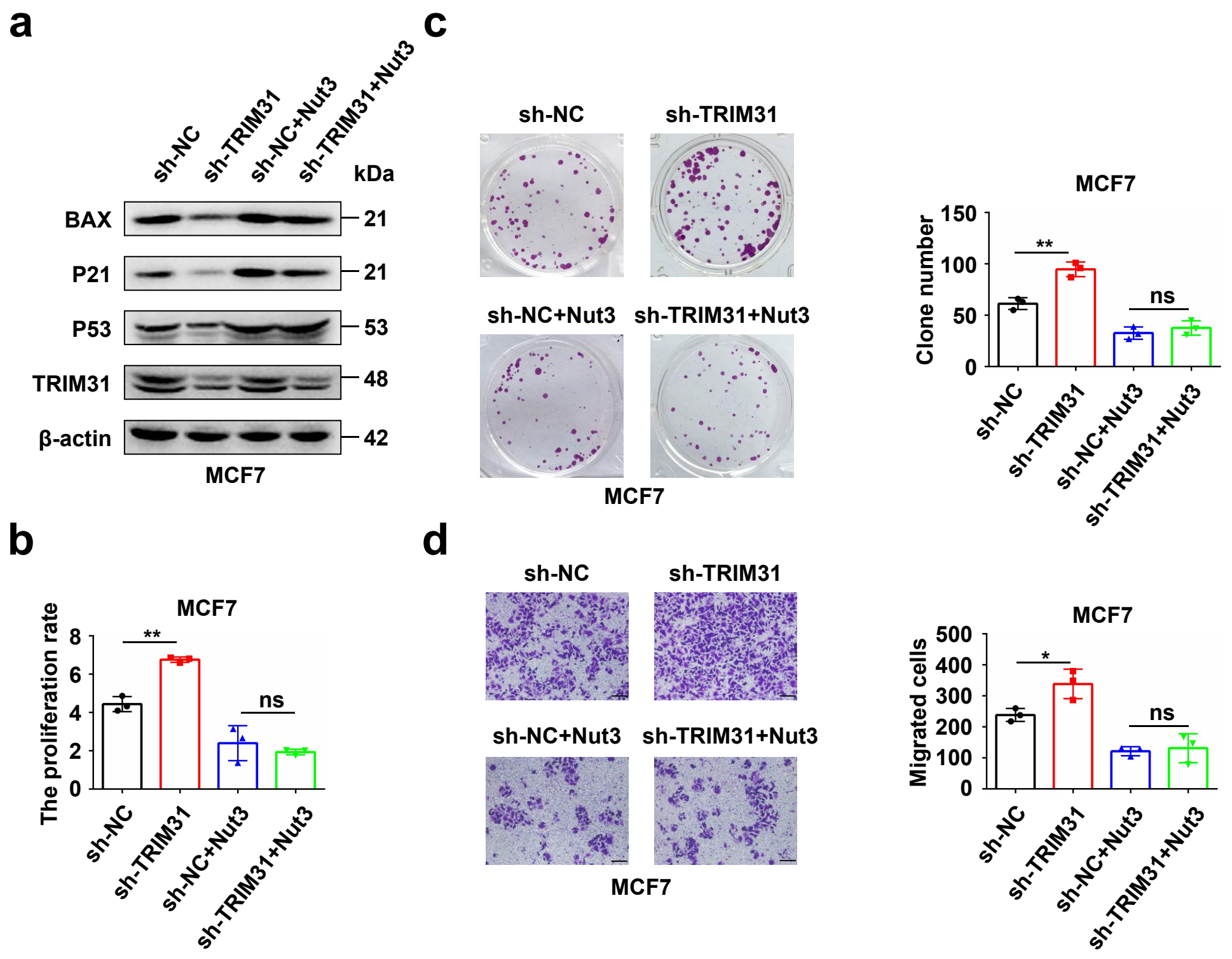
Supplementary Fig. S6



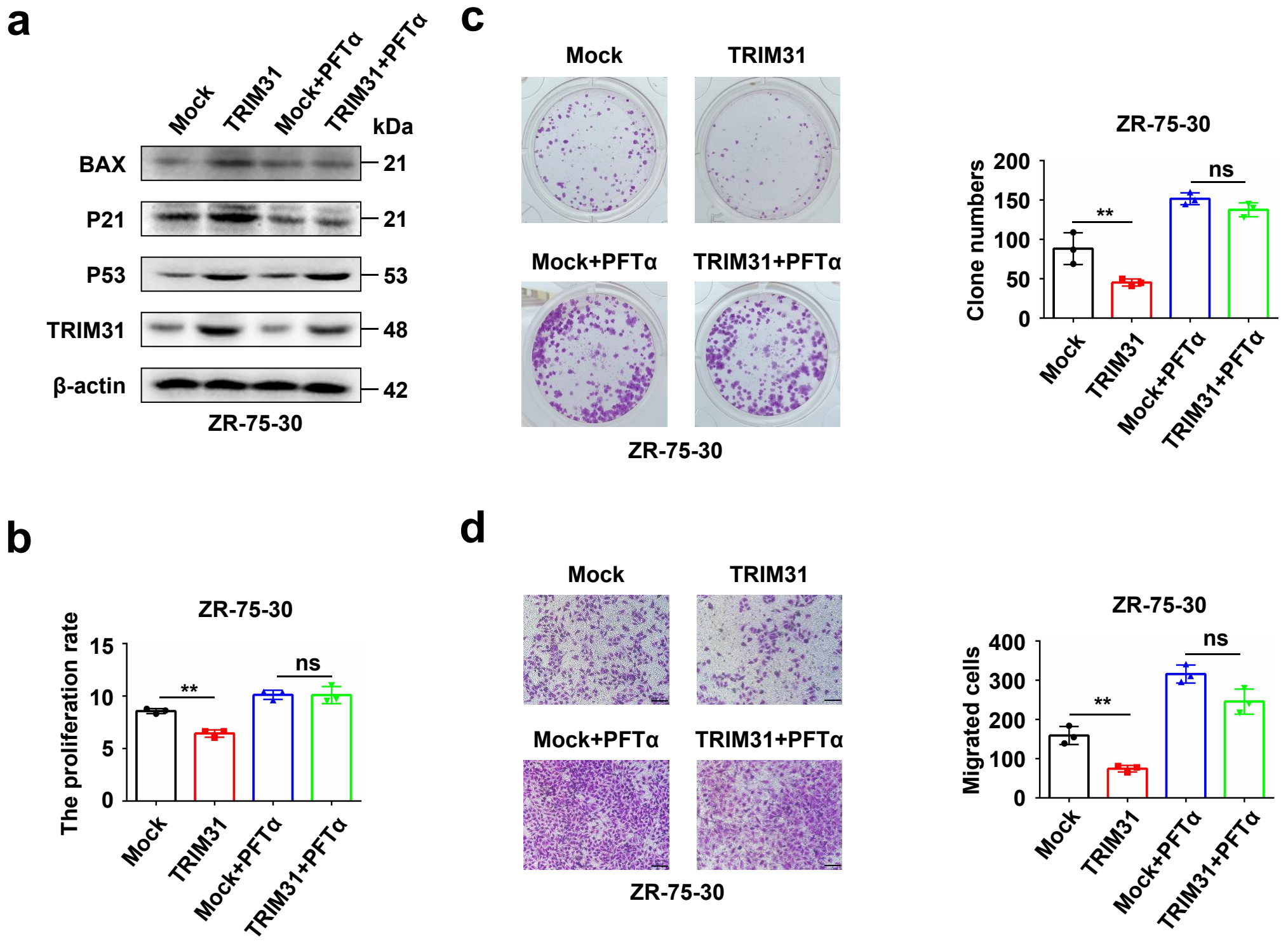
Supplementary Fig. S7



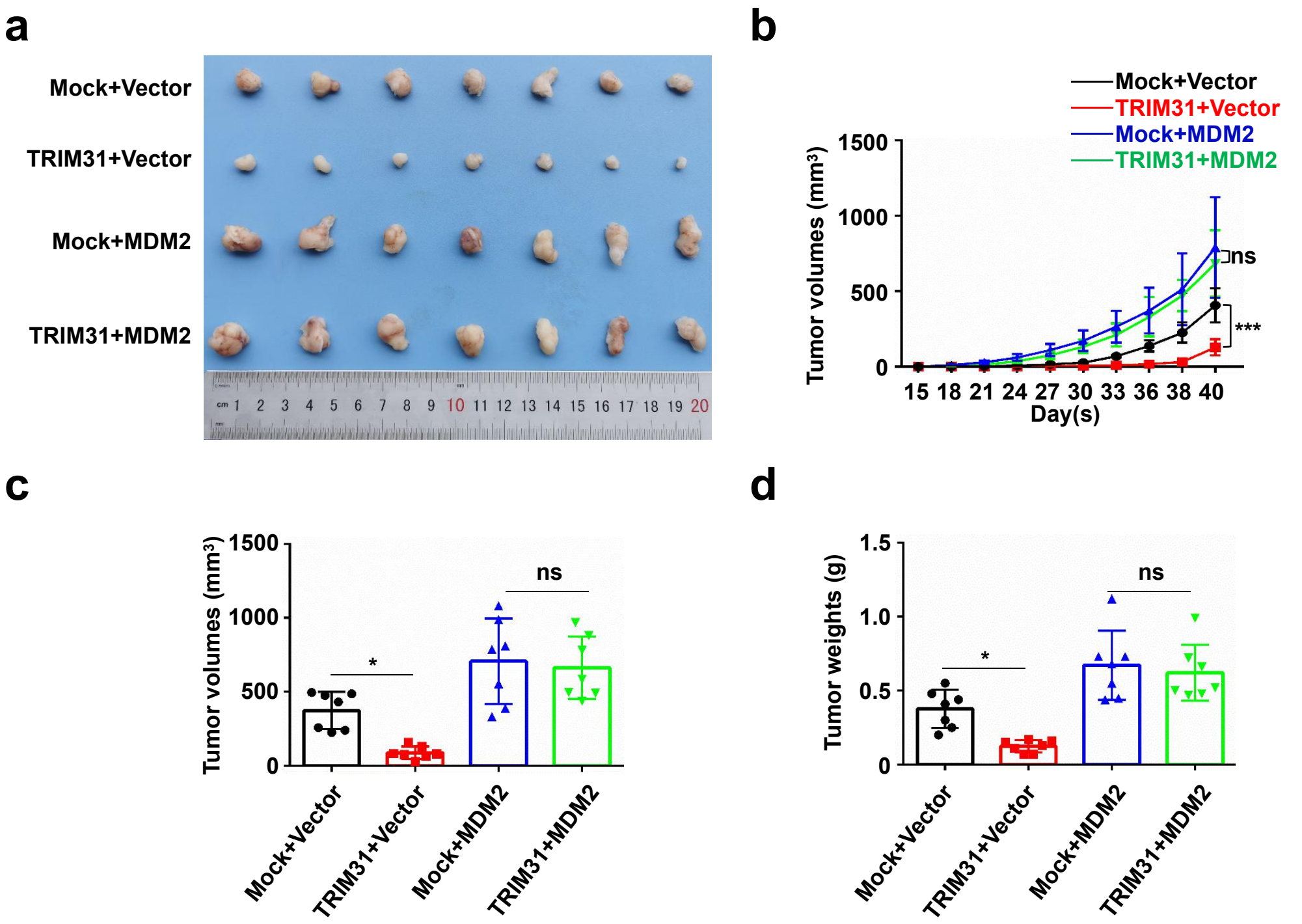
Supplementary Fig. S8



Supplementary Fig. S9



Supplementary Fig. S10



Supplementary Table S1:The up and down-regulated proteins in response to TRIM31 knockdown in MCF7 cells

Gene.name	Number.of	Unique.pe	Sequence.	MS.MS.cou	Q.value	Score	LFQ.intensit	LFQ.intensit	LFQ.intensit	LFQ.intensit	iBAQ	Symbol	Rank	MCF7-1.1	MCF7-NC.1	im..MCF7-	im..MCF7-	MCF7-1	MCF7-NC	fc..MCF7-1--MCF7-NC
PPP6R2	8	2	2.2	2	0.000435	3.4069	0	0	0	499330000	14938000	PPP6R2	841	1870511.94	499330000	TRUE	FALSE	1870511.94	499330000	0.003746
TMSB10	2	2	50	3	0	15.145	0	0	0	798450000	1.24E+09	TMSB10	11	3504422.281	798450000	TRUE	FALSE	3504422.281	798450000	0.004389
RPS24	9	5	40.5	5	0	13.344	90614000	0	0	458280000	98940000	RPS24	230	3281493.782	458280000	TRUE	FALSE	3281493.782	458280000	0.00716
ARFGEF2;A	4	4	2.2	2	0.000472	4.2618	29897000	0	0	319450000	4512400	ARFGEF2	1504	3335263.116	319450000	TRUE	FALSE	3335263.116	319450000	0.010441
SPINT2;IM	8	2	14.4	2	0.000797	2.6703	0	0	0	148880000	20276000	SPINT2	707	1630307.222	148880000	TRUE	FALSE	1630307.222	148880000	0.01095
FAU	3	2	17.3	13	0	5.5918	71237000	70667000	0	246060000	92540000	FAU	244	3113324.751	246060000	TRUE	FALSE	3113324.751	246060000	0.012653
RABGGTA	2	2	4	2	0.001148	2.3356	0	0	0	228920000	4625400	RABGGTA	1479	2944677.72	228920000	TRUE	FALSE	2944677.72	228920000	0.012863
TMED4	4	2	17.5	2	0.000807	2.7901	0	0	0	93645000	7203100	TMED4	1237	2246483.689	93645000	TRUE	FALSE	2246483.689	93645000	0.023989
TRIM31	1	2	27.2	5	0.000469	4.2145	0	0	0	32518000	35901000	NDUFA4	477	1335919.992	32518000	TRUE	FALSE	1335919.992	32518000	0.041082
SYNGR2	6	3	13.4	4	0	4.6909	7974600	0	0	58569000	14331000	SYNGR2	861	2803956.332	58569000	TRUE	FALSE	2803956.332	58569000	0.047874
TUBB8	3	2	24.5	6	0	61.623	85742000	98145000	0	62898000	13568000	TUBB8	893	3038424.98	62898000	TRUE	FALSE	3038424.98	62898000	0.048307
TRANK1	3	2	0.5	2	0.006511	1.5407	0	0	0	160860000	1963400	TRANK1	1974	7894958.145	160860000	TRUE	FALSE	7894958.145	160860000	0.04908
SAP18	4	2	23.7	4	0.004963	1.7604	28670000	26202000	0	37116000	22817000	SAP18	648	1865819.295	37116000	TRUE	FALSE	1865819.295	37116000	0.05027
SEC13	6	5	26.4	8	0	59.784	35216000	39838000	0	33154000	7670900	SEC13	1196	1936689.34	33154000	TRUE	FALSE	1936689.34	33154000	0.058415
SNRPG;SNR	5	2	29.7	8	0	7.6473	110400000	125800000	0	92634000	165640000	SNRPG	148	5431764.415	92634000	TRUE	FALSE	5431764.415	92634000	0.058637
UFM1	2	2	28.4	5	0.000465	4.1298	0	0	0	64013000	27029000	UFM1	583	3912627.004	64013000	TRUE	FALSE	3912627.004	64013000	0.061122
SEC63	1	5	7.2	8	0	10.508	68769000	86865000	0	58577000	5681200	SEC63	1355	3688238.288	58577000	TRUE	FALSE	3688238.288	58577000	0.062964
GPRC5A	3	2	4.5	2	0.003663	1.9788	0	0	0	34526000	13442000	GPRC5A	898	2455790.355	34526000	TRUE	FALSE	2455790.355	34526000	0.071129
HKDC1	3	3	5.8	3	0.000441	3.5184	0	0	0	37898000	581290	HKDC1	2532	2793830.925	37898000	TRUE	FALSE	2793830.925	37898000	0.07372
GUK1	9	3	24.1	3	0.000463	4.0576	0	0	0	29360000	3013900	GUK1	1749	2424555.148	29360000	TRUE	FALSE	2424555.148	29360000	0.08258
UBE2D3;UE	17	2	12.2	2	0.000818	2.8969	54741000	0	0	56740000	41491000	UBE2D3	437	4774745.73	56740000	TRUE	FALSE	4774745.73	56740000	0.084151
PSMF1	5	2	10.3	6	0	6.0217	13351000	14477000	0	26606000	5358000	PSMF1	1380	2272814.416	26606000	TRUE	FALSE	2272814.416	26606000	0.085425
POFUT1	2	8	30.7	13	0	20.555	67984000	101800000	0	35112000	10643000	POFUT1	1013.5	3219208.887	35112000	TRUE	FALSE	3219208.887	35112000	0.091684
RPP30	4	2	11.9	4	0.004945	1.7468	0	0	0	37969000	11434000	RPP30	977	3532253.071	37969000	TRUE	FALSE	3532253.071	37969000	0.09303
UBE2I	4	2	32.9	7	0	9.5079	31538000	29766000	0	59920000	32505000	UBE2I	509	5708025.329	59920000	TRUE	FALSE	5708025.329	59920000	0.095261
GNG5	1	2	27.9	2	0	4.7259	0	0	0	40027000	17880000	GNG5	754	3844380.953	40027000	TRUE	FALSE	3844380.953	40027000	0.096045
ERC1	12	2	3	3	0.000433	3.3705	0	20740000	0	36962000	1819500	ERC1	2013	3658407.888	36962000	TRUE	FALSE	3658407.888	36962000	0.098978
FMR1	18	4	7.3	3	0	4.7469	22233000	23449000	0	23459000	2315700	FMR1	1887	2428592.262	23459000	TRUE	FALSE	2428592.262	23459000	0.103525
RTN1	5	2	8.3	8	0.002216	2.0678	0	0	0	121130000	27498000	RTN1	577	13066881.25	121130000	TRUE	FALSE	13066881.25	121130000	0.107875
DNAJC3	2	5	12.8	4	0	4.7295	25094000	22063000	0	25981000	4201200	DNAJC3	1544	3010009.611	25981000	TRUE	FALSE	3010009.611	25981000	0.115854
ARFGAP1	13	3	8.2	3	0.000448	3.6803	0	0	0	17763000	1901600	ARFGAP1	1987	2132001.163	17763000	TRUE	FALSE	2132001.163	17763000	0.120025
CD9	5	2	10.7	4	0.000436	3.4413	0	24618000	0	31074000	23552000	CD9	631	3822533.712	31074000	TRUE	FALSE	3822533.712	31074000	0.123014
CD63	7	2	13.5	2	0	6.9266	0	0	0	25703000	30951000	CD63	523	3321682.491	25703000	TRUE	FALSE	3321682.491	25703000	0.129233
ARPC5L	1	2	16.3	5	0	5.0136	0	0	0	15289000	4592600	ARPC5L	1489	1988489.929	15289000	TRUE	FALSE	1988489.929	15289000	0.13006
PTCD3	3	3	6	5	0	6.3198	0	0	0	15582000	1507000	PTCD3	2113	2189150.67	15582000	TRUE	FALSE	2189150.67	15582000	0.140492
BAG3	2	8	21	11	0	13.741	25405000	24292000	0	16842000	1955300	BAG3	1975	2385041.977	16842000	TRUE	FALSE	2385041.977	16842000	0.141613
GREB1L	4	2	2.1	1	0.005889	1.6448	0	0	0	15096000	511060	GREB1L	2574	2138561.655	15096000	TRUE	FALSE	2138561.655	15096000	0.141664
CLTB	3	5	19	7	0	5.1822	27068000	19110000	0	14415000	6705800	CLTB	1273	2141460.879	14415000	TRUE	FALSE	2141460.879	14415000	0.148558
HDAC2	11	3	17.5	3	0.000436	3.4435	17626000	14604000	0	18794000	3157400	HDAC2	1722	2794211.708	18794000	TRUE	FALSE	2794211.708	18794000	0.148676
PLXND1;PL	9	2	1	4	0.00523	1.6907	0	0	0	22088000	689680	PLXND1	2469	3300501.487	22088000	TRUE	FALSE	3300501.487	22088000	0.149425
MMAB	5	2	11.6	2	0.0008	2.7227	0	0	0	19695000	1761400	MMAB	2031	2960548.801	19695000	TRUE	FALSE	2960548.801	19695000	0.15032
ARL6IP5	4	3	14.4	4	0	6.5396	22758000	35773000	0	18487000	16378000	ARL6IP5	800	2816423.649	18487000	TRUE	FALSE	2816423.649	18487000	0.152346
TBCD	9	7	7.2	6	0	14.986	31676000	26651000	0	20848000	1440800	TBCD	2139	3219743.445	20848000	TRUE	FALSE	3219743.445	20848000	0.154439
TIMM8A	1	2	22.7	6	0	6.5789	36519000	46539000	0	17051000	20613000	TIMM8A	696.5	2711713.879	17051000	TRUE	FALSE	2711713.879	17051000	0.159035
IGBP1	1	4	17.1	5	0	7.6713	8739000	10222000	0	14897000	1775900	IGBP1	2024	2386204.858	14897000	TRUE	FALSE	2386204.858	14897000	0.16018
SLC22A18	4	3	9.5	2	0.00045	3.756	0	0	0	20069000	2520000	SLC22A18	1827	3240336.106	20069000	TRUE	FALSE	3240336.106	20069000	0.16146
PKP2	3	2	2.3	2	0.00043	3.3067	0	0	0	17001000	252270	PKP2	2760	2767692.866	17001000	TRUE	FALSE	2767692.866	17001000	0.162796
DHFR	3	2	19.3	6	0	7.3323	18504000	16442000	0	17313000	6203200	DHFR	1315	2989244.443	17313000	TRUE	FALSE	2989244.443	17313000	0.172659
EIF2B4	7	4	9.2	6	0	7.1136	9988200	10204000	0	10334000	1454200	EIF2B4	2132	1838011.926	10334000	TRUE	FALSE	1838011.926	10334000	0.177861
SCAMP3	2	6	22.5	11	0	35.146	59207000	38155000	0	19712000	11253000	SCAMP3	984.5	3525801.546	19712000	TRUE	FALSE	3525801.546	19712000	0.178866
SEC62	3	2	24.7	3	0.000433	3.3492	19591000	16711000	0	20939000	9503700	SEC62	1073	3895538.159	20939000	TRUE	FALSE	3895538.159	20939000	0.186042
CSTF3	2	2	3.3	3	0.000463	4.0457	0	0	0	20213000	873940	CSTF3	2364	3899896.784	20213000	TRUE	FALSE	3899896.784	20213000	0.19294
AKAP8	1	2	4.2	4	0.000469	4.2308	6354500	6259800	0	6484000	709970	AKAP8	2457	1268892.198	6484000	TRUE	FALSE	1268892.198	6484000	0.195696
XPNPEP1	7	6	13.2	6	0	9.9242	7489900	7950900	0	2.40E+07	1076800	XPNPEP1	2279	4742629.793	2.40E+07	TRUE	FALSE	4742629.793	2.40E+07	0.19761
RBX1	1	2	24.1	1	0.000461	4.0248	0	0	0	11962000	9971000	RBX1	1047	2373293.121	11962000	TRUE	FALSE	2373293.121	11962000	0.198403
DDX24	6	3	4.5	7	0	7.688	19423000	17220000	0	19025000	1266600	DDX24	2195	3843039.883	19025000	TRUE	FALSE	3843039.883	19025000	0.201999
NUDT2	1	5	38.1	8	0	7.755	25799000	33359000	0	17642000	7649500	NUDT2	1198	3640746.719	17642000	TRUE	FALSE	3640746.719	17642000	0.206368
PPT1	10	2	7.9	2	0	5.72	0	0	0	18331000	2122900	PPT1	1934	3818798.991	18331000	TRUE	FALSE	3818798.991	18331000	0.208325
TGM2	6	23	35.7	42	0	75.459	733480000	29152000	0	9533600	22814000	TGM2	649	2095842.042	9533600	TRUE	FALSE	2095842.042	9533600	0.219837
NXN	4	3	11.7	2	0	6.4226	0	0	0	16165000	870970	NXN	2368	3620747.596	16165000	TRUE	FALSE	3620747.596	16165000	0.223987
MRPS18B	2	3	10.5	3	0.00044	3.5099	11132000	0	0	18863000	3372300	MRPS18B	1680	4242119.039	18863000	TRUE	FALSE	4242119.039	18863000	0.224891
FAR1	2	2	7.8	3	0	4.891	0	0	0	22593000	2127600	FAR1	1932	5170175.909	22593000	TRUE	FALSE	5170175.909	22593000	0.22884
CCDC124	2	5	30	6	0	18.697	30283000	24944000	0	17115000	6386300	CCDC124	1299	3959018.115	17115000	TRUE	FALSE	3959018.115	17115000	0.231319
TPM1	9	2	20	3	0	7.1318	0	0	0	9138100	957020	TPM1	2326	2122684.245	9138100	TRUE	FALSE	2122684.245	9138100	0.232289
XAB2	1	2	2.5	4	0.000433	3.35	0	4761500	0	8117900	285540	XAB2	2735	1917589.677	8117900	TRUE	FALSE	1917589.677	8117900	0.236217
TSPO	2	2	15	0	0.009735	1.3715	0	0	0	38194000	22859000	TSPO	646	9095815.202	38194000	TRUE	FALSE	9095815.202	38194000	0.238148
PPIC	1	2	9.9	6	0.000452	3.8022	0	0	0	20998000	4293000	PPIC	1529.5	5068913.619	20998000	TRUE	FALSE	5068913.619	20998000	0.2414
DNAJB12	4	3	9.3	3	0	6.1336	6865100	5508700	0	5948100	886070	DNAJB12	2360	1443915.581	5948100	TRUE	FALSE	1443915.581	5948100	0.242752
CNN3	4	6	27.6	15	0	22.979	67810000	65239000	0	13395000	10695000	CNN3	1010	3367232.191	13395000	TRUE	FALSE	3367232.191	13395000	0.25138
ENSA	16	3	28.6	10	0	10.106	25387000	22236000	0	14850000	7569700	ENSA	1207	3751760.258	14850000	TRUE	FALSE	3751760.258	14850000	0.252644
LSM8	3	2	29.9	1	0.000428	3.283	0	0	0	10275000	6211100	LSM8	1313	2600301.979	10275000	TRUE	FALSE	2600301.979	10275000	0.253071
GIPC1	4	2	8.7	6	0	8.669	5444500	6158200	0	6431000	1207900	GIPC1	2223.5	1658281.071	6431000	TRUE	FALSE	1658281.071	6431000	0.257857
GTF2F1	4	6	17.6	8	0	13.776	9345600	9214000	0	12697000	1477900	GTF2F1	2122	3299374.71	12697000	TRUE	FALSE	3299374.71	12697000	0.259855
SH3GLB2	8	2	8	3	0	4.3985	9187100	8908700	0	12091000	2162200	SH3GLB2	1924	3145368.041	12091000	TRUE	FALSE	3145368.041	12091000	0.260141
TMA7;hCG_	2	2	29.7	3	0.000805	2.7638	21265000	20297000	0	18289000	31379000	TMA7	518	4900677.388	18289000	TRUE	FALSE	4900677.388	18289000	0.267958
GSTT1;Em:	15	2	11.5	3	0	4.6394	10620000	10295000	0	25589000	5256400	GSTT1	1393	6924439.76	25589000	TRUE	FALSE	6924439.76	25589000	0.270602
NUDCD2	2	3	29.5	6	0	7.2643	11973000	15661000	0	12876000	6425500	NUDCD2	1295	3500070.423	12876000	TRUE	FALSE	3500070.423	12876000	0.271829
LRPAP1	1	3	7	2	0.00045	3.7566	0	0	10424000	38068000	2368700	LRPAP1	1872	10424000	38068000	FALSE	FALSE	10424000	38068000	0.273826
GPX4	10	2	16.8	3	0	5.6111	0	0	0	16553000	5342800	GPX4	1383	4580369.41	16553000	TRUE	FALSE	4580369.41	16553000	0.276709
TMED5	4	2	8.3	3	0	8.9955	0	0	0	14148000	4430000	TMED5	1512	3929098.35	14148000	TRUE	FALSE	3929098.35	14148000	0.277714
FAH	3	2	6.9	3	0.000435	3.4226	3636800	0	0	12733000	844230	FAH	2377	3540570.656	12733000	TRUE	FALSE	3540570.656	12733000	0.278063
STK26;STK	14	2	8.9	5	0	5.0804	0	0	0	12919000	688370	STK26	2471	3617638.011	12919000	TRUE	FALSE	3617638.011	12919000	0.280025
PPP1R12A	11	3	4.7	7	0	10.61	5810200	7801900	0	10362000	525790	PPP1R12A	2561	2909808.847	10362000	TRUE	FALSE	2909808.847	10362000	0.280815
DNTTIP2	3	3	6.2	2	0.000797	2.6898	10425000	0	0	14273000	1933500	DNTTIP2	1980	4022246.143	14273000	TRUE	FALSE	4022246.143	14273000	0.281808
KIAA0368;	3	3	1.7	5	0	4.8249	11457000	15211000	0	17291000	463440	KIAA0368	2608	4934877.435	17291000	TRUE	FALSE	4934877.435	17291000	0.285402
TACO1	1	2	10.1	2	0.000816	2.87	0	9668000	0	13297000	2461200	TACO1	1838	3818867.198	13297000	TRUE	FALSE	3818867.198	13297000	0.287198
MPDU1	14	3	33.7	0	0	4.5591	0	0	0	29204000	27344000	MPDU1	579	8548433.586	29204000	TRUE	FALSE	8548433.586	29204000	0.292714
SDHD	8	2	14.2	5	0.000805	2.7695	17070000	17984000	0	8005400	10858000	SDHD	1001	2396234.793	8005400	TRUE	FALSE	2396234.793	8005400	0.299327
MRPS9	1	2	5.8	1	0	4.3229	0	0	0	12369000	1565800	MRPS9	2096	3755741.903	12369000	TRUE	FALSE	3755741.903	12369000	0.303642
RPRD1B	3	4	13.2	6	0	8.2806	0	0	0	15602000	5044900	RPRD1B	1415	4767089.449	15602000	TRUE	FALSE	4767089.449	15602000	0.305543
COPS6	2	4	14.4	5	0	10.825	20322000	15397000	0	14923000	4594600	COPS6	1488	4595290.367	14923000	TRUE	FALSE	4595290.367	14923000	0.307933
ADCK3	4	2	14.1	1	0.00493	1.7313	0	0	0	7192500	1727700	ADCK3	2041	2221058.338	7192500	TRUE	FALSE	2221058.338	7192500	0.308802
RQCD1	3	2	7.7	5	0.000451	3.7653	6761300	5945400	0	10121000	1662200	RQCD1	2060	3132196.824	10121000	TRUE	FALSE	3132196.824	10121000	0.309475
ATP2B1	29	4	11.1	19	0	32.949	92226000	42205000	7559800	24037000	3184300	ATP2B1	1716	7559800	24037000	FALSE	FALSE	7559800	24037000	0.314507
MRPS34	2	2	6.7	4	0.001154	2.3927	0	13953000	0	6060100	2660600	MRPS34	1801	1910002.549	6060100	TRUE	FALSE	1910002.549	6060100	0.315177
MAP2K3	6	3	13.2	5	0	18.154	12066000	19616000	0	9083700	1900600	MAP2K3	1989	2877469.01	9083700	TRUE	FALSE	2877469.01	9083700	0.316773
NTMT1	4	3	24.8	12	0	14.562	17437000	20063000	0	11771000	9427700	NTMT1	1078	3743892.013	11771000	TRUE	FALSE	3743892.013	11771000	0.318061
MORF4L1;M	9	2	6.6	2	0.001159	2.4201	0	0	0	5761300	592670	MORF4L1	2525	1852091.51	5761300	TRUE	FALSE	1852091.51	5761300	0.321471
USP10	4	2	20	5	0	5.3774	0	0	0	7678200	1749800	USP10	2035	2514078.723	7678200	TRUE	FALSE	2514078.723	7678200	0.327431
HYPK	3	2	21.7	2	0	8.2655	14016000	8917300	0	8027800	5524100	HYPK	1364	2657337.769	8027800	TRUE	FALSE	2657337.769	8027800	0.331017
WDR43	2	2	2.8	2	0.000787	2.5637	0	8199200	0	12609000	934030	WDR43	2335	4505354.249	12609000	TRUE	FALSE	4505354.249	12609000	0.357313
CPSF1	1	3	3	6	0	9.1271	7450600	6016100	0	9085900	272940	CPSF1	2739	3319806.482	9085900	TRUE	FALSE	3319806.482	9085900	0.36538
VAMP8	2	2	18.9	2	0.000457	3.9	0	0	0	12470000	4576100	VAMP8	1492	4563073.051	12470000	TRUE	FALSE	4563073.051	12470000	0.365924
ATP6AP2	20	3	15.7	5	0	15.011	17395000	9103800	0	7122400	3373000	ATP6AP2	1678.5	2625323.153	7122400	TRUE	FALSE	2625323.153	7122400	0.368601
NKRF	2	2	2.8	2	0.004323	1.8797	0	0	0	7683200	366190	NKRF	2673	2841847.606	7683200	TRUE	FALSE	2841847.606	7683200	0.369878
RAVER1	3	2	4.1	3	0	4.5762	0	0	0	9007600	673780	RAVER1	2478	3380308.629	9007600	TRUE	FALSE	3380308.629	9007600	0.375273
UAP1	4	17	41.5	62	0	136.29	336980000	610040000	5278000	14034000	31116000	UAP1	522	5278000	14034000	FALSE	FALSE	5278000	14034000	0.376087
GNB1L	3	3	30.1	3	0.000816	2.8706	0	0	0	11406000	3169600	GNB1L	1720	4298463.331	11406000	TRUE	FALSE	4298463.331	11406000	0.37686
ZFPL1	8	2	21.1	3	0.004324	1.8815	0	0	0	9907000	3212400	ZFPL1	1713	3752034.693	9907000	TRUE	FALSE	3752034.693	9907000	0.378726
TWF1	5	5	20	10	0	37.438	7572200	5938700	10934000	28791000	2036300	TWF1	1954	10934000	28791000	FALSE	FALSE	10934000	28791000	0.379771
MRPL41	1	2	14.6	3	0	5.5413	0	0	0	14027000	5131100	MRPL41	1406	5327868.187	14027000	TRUE	FALSE	5327868.187	14027000	0.379829
PTDSS1	2	2	4.7	4	0.000434	3.3727	7836600	0	0	0	554840	PTDSS1	2546	2249225.235	5890483.835	TRUE	TRUE	2249225.235	5890483.835	0.38184
TP53	19	3	7.9	6	0	4.3755	8055400	8135000	11604000	30332000	3144200	TP53	1723	11604000	30332000	FALSE	FALSE	11604000	30332000	0.382566
APP	15	7	13.3	14	0	19.504	48519000	13887000	0	13106000	2232000	APP	1910	5044034.175	13106000	TRUE	FALSE	5044034.175	13106000	0.384865
C19orf52	1	2	6.5	1	0.004307	1.8656	0	0	0	13290000	2603500	C19orf52	1812	5224295.546	13290000	TRUE	FALSE	5224295.546	13290000	0.3931
TTC1	2	4	15.1	3	0.000466	4.1809	16062000	23517000	0	12116000	3330500	TTC1	1687.5	4767225.427	12116000	TRUE	FALSE	4767225.427	12116000	0.393465
ENAH	6	4	5.5	8	0	11.508	33199000	30077000	11308000	28732000	4004100	ENAH	1564	11308000	28732000	FALSE	FALSE	11308000	28732000	0.393568
ZC3H14	13	2	14.2	4	0.000433	3.3581	5428000	7089300	0	6194600	2248400	ZC3H14	1906	2445609.809	6194600	TRUE	FALSE	2445609.809	6194600	0.394797
NUP107	4	3	3	6	0	4.9408	7247700	6930900	0	8304200	433520	NUP107	2628	3326096.62	8304200	TRUE	FALSE	3326096.62	8304200	0.400532
SLC35A4	1	5	49.5	9	0	10.443	37764000	23301000	0	0	13216000	SLC35A4	909	1615477.249	4022876.896	TRUE	TRUE	1615477.249	4022876.896	0.401573
RRAS	1	2	14.7	1	0.00047	4.243	0	0	0	9837600	2553900	RRAS	1818	4008161.278	9837600	TRUE	FALSE	4008161.278	9837600	0.407433
AHCYL2;AH	7	5	10	8	0	10.907	16777000	18386000	0	11954000	1872500	AHCYL2	1996	4901962.119	11954000	TRUE	FALSE	4901962.119	11954000	0.410069
VPS45	8	2	5.4	5	0	4.321	0	8069000	0	6326200	748110	VPS45	2436	2598197.498	6326200	TRUE	FALSE	2598197.498	6326200	0.410704
MRPS10	1	2	13.4	3	0.000449	3.7265	6051500	6554700	0	7475500	1442700	MRPS10	2137	3088401.018	7475500	TRUE	FALSE	3088401.018	7475500	0.413136
ABCC3	4	2	1.9	2	0	4.7562	0	0	0	7211300	193230	ABCC3	2800	3001561.088	7211300	TRUE	FALSE	3001561.088	7211300	0.41623
HMGCS1	2	7	17.5	17	0	16.718	17929000	14329000	34519000	82373000	3965000	HMGCS1	1569	34519000	82373000	FALSE	FALSE	34519000	82373000	0.419057
MIA3	5	3	2.1	3	0	4.892	3495900	0	0	8449500	84475	MIA3	2895	3546685.038	8449500	TRUE	FALSE	3546685.038	8449500	0.419751
NUTF2	2	2	23.6	3	0	15.595	29666000	32948000	0	17802000	14575000	NUTF2	853	7485885.827	17802000	TRUE	FALSE	7485885.827	17802000	0.420508
ROCK2	4	10	10.4	12	0	17.76	17772000	7871500	22487000	53109000	1087600	ROCK2	2273	22487000	53109000	FALSE	FALSE	22487000	53109000	0.423412
SMARCA4;S	28	2	1.8	3	0.000807	2.7971	6330300	8885800	0	9875400	526790	SMARCA4	2559	4225986.012	9875400	TRUE	FALSE	4225986.012	9875400	0.427931
ATP6V1C1	5	6	14.9	10	0	7.8797	32490000	28802000	0	9055500	2635400	ATP6V1C1	1804	3882390.133	9055500	TRUE	FALSE	3882390.133	9055500	0.428733
CLPTM1	5	3	8.5	2	0	5.5422	0	0	0	7826000	535550	CLPTM1	2553	3383909.968	7826000	TRUE	FALSE	3383909.968	7826000	0.432393
NUP160	6	2	1.9	10	0.000425	3.2203	5721700	6118200	0	7799600	504560	NUP160	2578	3376078.602	7799600	TRUE	FALSE	3376078.602	7799600	0.432853
PPP6R3	12	4	6.6	6	0	7.4166	0	8253300	0	7788500	787010	PPP6R3	2410	3386202.483	7788500	TRUE	FALSE	3386202.483	7788500	0.43477
MRPL46	1	2	9.3	3	0	6.6752	0	0	0	7278000	1242800	MRPL46	2206	3173285.201	7278000	TRUE	FALSE	3173285.201	7278000	0.436011
CGN	1	2	1.8	2	0.000796	2.6622	0	0	0	4470700	58097	CGN	2910	1951940.607	4470700	TRUE	FALSE	1951940.607	4470700	0.436607
CAV1	2	3	51.7	33	0	56.426	645730000	294100000	0	0	94491000	CAV1	241	2392927.397	5405398.678	TRUE	TRUE	2392927.397	5405398.678	0.442692

CALD1	12	16	32.7	29	0	66.315	150100000	168860000	4524800	10200000	13795000	CALD1	884	4524800	10200000	FALSE	FALSE	4524800	10200000	0.443608
CMBL	1	5	19.2	5	0	9.9542	0	9702500	25409000	57262000	4460600	CMBL	1508	25409000	57262000	FALSE	FALSE	25409000	57262000	0.443732
PDLIM7	2	2	5.7	2	0.000825	2.9513	0	0	0	6143500	878440	PDLIM7	2361	2728972.294	6143500	TRUE	FALSE	2728972.294	6143500	0.444205
APOO	4	3	20.8	4	0	4.8205	10856000	0	0	3849600	2225500	APOO	1912	1714632.831	3849600	TRUE	FALSE	1714632.831	3849600	0.445405
HDHD3	1	2	10.8	0	0.00222	2.0892	0	0	0	3396400	395960	HDHD3	2647	1516333.085	3396400	TRUE	FALSE	1516333.085	3396400	0.446453
FAM98A	2	2	9.3	3	0	5.3526	0	0	0	3907900	784280	FAM98A	2413	1747358.046	3907900	TRUE	FALSE	1747358.046	3907900	0.447135
LSM1	3	3	30.1	6	0	5.2371	11661000	15951000	0	7682600	6393000	LSM1	1298	3468484.21	7682600	TRUE	FALSE	3468484.21	7682600	0.451473
CIAO1	1	2	7.4	3	0	5.589	6043500	5533600	6119400	13420000	1588900	CIAO1	2086	6119400	13420000	FALSE	FALSE	6119400	13420000	0.455991
RSU1	2	3	10.3	4	0.000812	2.8293	11909000	0	0	0	1604800	RSU1	2078	2378016.659	5171429.994	TRUE	TRUE	2378016.659	5171429.994	0.459837
MRPS35	3	2	8	6	0	6.8733	9026900	12039000	0	10398000	2247300	MRPS35	1907	4786287.751	10398000	TRUE	FALSE	4786287.751	10398000	0.460308
PXMP4	3	2	9.9	2	0.000804	2.7442	4775600	0	0	0	670610	PXMP4	2482	1499695.913	3222805.671	TRUE	TRUE	1499695.913	3222805.671	0.465339
CCAR1	4	4	3.9	5	0	6.939	14749000	12913000	0	11039000	984560	CCAR1	2316	5203119.365	11039000	TRUE	FALSE	5203119.365	11039000	0.47134
PRPF31	8	2	5.3	2	0	5.6257	0	0	0	3245600	423320	PRPF31	2632	1560715.874	3245600	TRUE	FALSE	1560715.874	3245600	0.480871
GCSH	3	2	30	5	0	13.451	12973000	16574000	0	17146000	17867000	GCSH	755	8265592.738	17146000	TRUE	FALSE	8265592.738	17146000	0.482071
PURB	1	2	7.1	2	0.000455	3.8658	0	0	0	15697000	2446100	PURB	1841.5	7690658.683	15697000	TRUE	FALSE	7690658.683	15697000	0.489944
ITM2B	5	5	25.9	5	0	19.574	56414000	0	0	0	4972900	ITM2B	1425	832092.1134	1688291.144	TRUE	TRUE	832092.1134	1688291.144	0.492861
RRAS2	5	2	14.5	3	0	5.3032	7839100	9452200	0	7823600	2683300	RRAS2	1798	3887360.688	7823600	TRUE	FALSE	3887360.688	7823600	0.496876
GADD45GIP	1	2	10.8	2	0	4.3014	0	0	0	9497400	2452100	GADD45GIP	1839	4795232.652	9497400	TRUE	FALSE	4795232.652	9497400	0.5049
DCTN4	6	2	6	0	0.00045	3.7547	0	0	0	3828400	908250	DCTN4	2348	1944060.444	3828400	TRUE	FALSE	1944060.444	3828400	0.5078
TRAPPC3	5	4	22.3	4	0	7.2578	0	19316000	9701100	18845000	4536500	TRAPPC3	1501.5	9701100	18845000	FALSE	FALSE	9701100	18845000	0.514784
UGT1A10;U	20	2	5.2	2	0	4.5747	0	0	0	6740200	308310	UGT1A10	2715	3492579.208	6740200	TRUE	FALSE	3492579.208	6740200	0.518171
GHITM	1	3	9.6	5	0	5.3608	3873400	2945400	11173000	21378000	2199000	GHITM	1916	11173000	21378000	FALSE	FALSE	11173000	21378000	0.52264
RRP9	1	5	9.7	7	0	8.9049	36967000	40263000	14109000	26898000	4562700	RRP9	1496	14109000	26898000	FALSE	FALSE	14109000	26898000	0.524537
ME1	2	2	5.4	5	0	5.2203	5305700	4221400	0	10861000	890750	ME1	2356	5772091.038	10861000	TRUE	FALSE	5772091.038	10861000	0.531451
GEMIN4	2	2	2.1	4	0.000425	3.2335	7760800	7776000	0	7490100	377070	GEMIN4	2664	3984697.284	7490100	TRUE	FALSE	3984697.284	7490100	0.531995
MGEA5	5	3	3.5	4	0	4.4284	0	0	0	12659000	785060	MGEA5	2412	6741996.842	12659000	TRUE	FALSE	6741996.842	12659000	0.532585
EXOSC2	6	2	9	3	0.004	1.9237	0	0	0	3777500	1218000	EXOSC2	2217	2045092.353	3777500	TRUE	FALSE	2045092.353	3777500	0.541388
CYP51A1	4	3	7.7	6	0.000452	3.7824	4336200	4480600	5364600	9840200	829930	CYP51A1	2384	5364600	9840200	FALSE	FALSE	5364600	9840200	0.545172
NDUFS4	2	2	13.7	6	0.000463	4.0426	12094000	10287000	0	10577000	3949200	NDUFS4	1576	5786973.211	10577000	TRUE	FALSE	5786973.211	10577000	0.547128
TCEB1	4	4	62.9	18	0	24.836	63751000	60923000	39623000	72309000	28979000	TCEB1	554	39623000	72309000	FALSE	FALSE	39623000	72309000	0.547968
ATP6V1G1	1	4	28.8	13	0	21.854	57749000	42610000	17679000	32259000	20216000	ATP6V1G1	710	17679000	32259000	FALSE	FALSE	17679000	32259000	0.548033
WDR82	1	2	10.9	6	0	9.367	6266400	6416000	0	8136900	1036200	WDR82	2294	4516418.823	8136900	TRUE	FALSE	4516418.823	8136900	0.555054
THOC6	3	5	18.5	10	0	12.049	8352600	10191000	8603500	15462000	1944500	THOC6	1977	8603500	15462000	FALSE	FALSE	8603500	15462000	0.556429
ITGA2	4	3	4.2	1	0.000829	2.9941	0	0	0	16161000	908190	ITGA2	2349	9056474.214	16161000	TRUE	FALSE	9056474.214	16161000	0.560391
PIGS	3	2	4.5	3	0	4.4067	8695400	8840000	0	7377800	1164800	PIGS	2241	4143711.509	7377800	TRUE	FALSE	4143711.509	7377800	0.561646
SLC7A5	6	5	10.8	24	0	13.392	42841000	40043000	34845000	61990000	8340100	SLC7A5	1149	34845000	61990000	FALSE	FALSE	34845000	61990000	0.562107
EIF4B	7	8	16.1	37	0	80.864	92345000	89166000	118050000	209180000	15666000	EIF4B	822	118050000	209180000	FALSE	FALSE	118050000	209180000	0.564346
COMT	6	10	60.2	34	0	172.78	16532000	11301000	268160000	468590000	44026000	COMT	418	268160000	468590000	FALSE	FALSE	268160000	468590000	0.57227
GGCT	7	5	31.4	10	0	18.733	0	34524000	69699000	119570000	12946000	GGCT	924	69699000	119570000	FALSE	FALSE	69699000	119570000	0.582914
PGP	2	3	11.8	6	0	6.3029	10902000	10340000	9688100	16618000	2197600	PGP	1917	9688100	16618000	FALSE	FALSE	9688100	16618000	0.582988
SPTLC1	5	4	9.3	8	0	12.315	17692000	13207000	10566000	18106000	2546600	SPTLC1	1822	10566000	18106000	FALSE	FALSE	10566000	18106000	0.583563
SLC16A3	11	6	14	19	0	13.115	128960000	73748000	7887300	13467000	12216000	SLC16A3	947	7887300	13467000	FALSE	FALSE	7887300	13467000	0.585676
FTH1	6	2	15	4	0.000799	2.7064	23914000	12454000	0	0	5419500	FTH1	1374	2197030.903	3731958.578	TRUE	TRUE	2197030.903	3731958.578	0.588707
AP1M1	12	2	10.3	5	0	6.1252	9991100	8921300	0	8483500	1205700	AP1M1	2225	5008857.607	8483500	TRUE	FALSE	5008857.607	8483500	0.590423
DNAJC10	5	4	5.6	7	0	8.4097	9230900	0	11099000	18790000	1056300	DNAJC10	2287	11099000	18790000	FALSE	FALSE	11099000	18790000	0.590687
MT2A;MT1X	8	2	67.2	14	0	25.474	353990000	185480000	6217900	10469000	184350000	MT2A	130	6217900	10469000	FALSE	FALSE	6217900	10469000	0.593934
CCDC6	1	2	4.9	3	0.000819	2.9051	0	15635000	24860000	41625000	2954100	CCDC6	1759	24860000	41625000	FALSE	FALSE	24860000	41625000	0.597237
CASP3	3	2	18.8	2	0.002219	2.0838	0	0	0	13847000	6067200	CASP3	1321	8273245.51	13847000	TRUE	FALSE	8273245.51	13847000	0.597476
KDELR1;KD	5	2	8.6	6	0.000781	2.4999	70766000	55455000	81466000	135910000	27238000	KDELR1	580	81466000	135910000	FALSE	FALSE	81466000	135910000	0.599411
AP2M1	10	9	23.3	16	0	14.87	63222000	59069000	28691000	47797000	6899400	AP2M1	1256	28691000	47797000	FALSE	FALSE	28691000	47797000	0.600268
CRABP2	4	8	45.7	28	0	25.786	0	0	202460000	335550000	56813000	CRABP2	354	202460000	335550000	FALSE	FALSE	202460000	335550000	0.603368
EIF4A3	2	9	25.3	16	0	19.042	57678000	51803000	55247000	91323000	9353800	EIF4A3	1083	55247000	91323000	FALSE	FALSE	55247000	91323000	0.604963
LARP4	13	2	6.9	3	0.000418	3.0799	8250300	6109000	0	5580500	1617900	LARP4	2073	3377730.374	5580500	TRUE	FALSE	3377730.374	5580500	0.605274
CRNKL1	4	2	2.9	2	0	7.1441	0	0	0	4385000	283360	CRNKL1	2736	2667721.536	4385000	TRUE	FALSE	2667721.536	4385000	0.608374
SART3	10	3	4.9	1	0	9.381	0	0	0	5020900	300810	SART3	2723	3060908.901	5020900	TRUE	FALSE	3060908.901	5020900	0.609634
FAM120A	8	4	5.7	7	0	7.8066	8220700	7809900	0	10898000	433630	FAM120A	2627	6660589.223	10898000	TRUE	FALSE	6660589.223	10898000	0.611175
SCRIB	7	2	2.3	1	0	6.2307	0	0	0	5358000	313410	SCRIB	2707	3317619.371	5358000	TRUE	FALSE	3317619.371	5358000	0.61919
ZFR	2	3	3.5	8	0	5.3886	6252300	6845200	5676700	9151400	503230	ZFR	2581	5676700	9151400	FALSE	FALSE	5676700	9151400	0.620309
RPS28	1	3	46.4	18	0	32.173	240830000	213260000	186660000	300140000	272350000	RPS28	81	186660000	300140000	FALSE	FALSE	186660000	300140000	0.62191
S100A16	1	4	44.7	11	0	22.933	0	0	94429000	151830000	28852000	S100A16	558	94429000	151830000	FALSE	FALSE	94429000	151830000	0.621939
TXNDC9	6	2	10.6	3	0.000422	3.1506	12185000	0	0	0	2876600	TXNDC9	1767	1691209.829	2711326.82	TRUE	TRUE	1691209.829	2711326.82	0.623757
NDUFA10	9	4	12.7	8	0	7.3207	10885000	13395000	12464000	19903000	2535300	NDUFA10	1825	12464000	19903000	FALSE	FALSE	12464000	19903000	0.626237
DDX42	3	5	8.8	9	0	8.0222	17565000	15455000	20153000	32147000	1784300	DDX42	2021	20153000	32147000	FALSE	FALSE	20153000	32147000	0.626901
ERAP1	2	2	2.3	2	0.000457	3.9006	9172900	0	0	0	321750	ERAP1	2699	1921469.337	3052627.784	TRUE	TRUE	1921469.337	3052627.784	0.629448
ADSL	15	6	13.5	10	0	13.466	52298000	60167000	23805000	37741000	6284200	ADSL	1306	23805000	37741000	FALSE	FALSE	23805000	37741000	0.630746
TXLNG	2	2	4.8	3	0.003988	1.9126	5131500	4412600	0	6142000	853280	TXLNG	2375	3899871.938	6142000	TRUE	FALSE	3899871.938	6142000	0.634951
RPS7	3	7	31.4	38	0	13.35	400330000	376530000	320700000	502950000	145220000	RPS7	173	320700000	502950000	FALSE	FALSE	320700000	502950000	0.637638
KRR1	2	2	6.5	0	0.009495	1.4319	0	0	0	4964300	995500	KRR1	2314	3165580.566	4964300	TRUE	FALSE	3165580.566	4964300	0.637669
PELO	1	2	6.5	3	0.000461	4.0124	11656000	0	0	0	802490	PELO	2403	1815404.158	2846067.215	TRUE	TRUE	1815404.158	2846067.215	0.637864
CTSB	12	9	31.6	19	0	23.093	96389000	121970000	17811000	27855000	13227000	CTSB	908	17811000	27855000	FALSE	FALSE	17811000	27855000	0.639418
SUCLA2	11	4	9.4	12	0	6.7526	22553000	24013000	25444000	39691000	3913500	SUCLA2	1582	25444000	39691000	FALSE	FALSE	25444000	39691000	0.641052
NAA10	8	5	27.3	15	0	19.361	30107000	30398000	13432000	20945000	5404000	NAA10	1376	13432000	20945000	FALSE	FALSE	13432000	20945000	0.641299
SECTM1	1	2	7.3	2	0.000468	4.2112	34040000	0	0	0	4875400	SECTM1	1439	2013543.092	3136634.253	TRUE	TRUE	2013543.092	3136634.253	0.641944
SLC9A3R2	6	2	5.5	2	0.000422	3.1517	0	0	0	6149600	561780	SLC9A3R2	2542	3958053.016	6149600	TRUE	FALSE	3958053.016	6149600	0.643628
TGOLN2	6	4	13.5	7	0	8.7531	7727700	5121600	6181900	9597000	1430000	TGOLN2	2144.5	6181900	9597000	FALSE	FALSE	6181900	9597000	0.644149
ACOT9	6	10	28	19	0	21.562	72144000	64137000	12468000	19353000	6861300	ACOT9	1260	12468000	19353000	FALSE	FALSE	12468000	19353000	0.644241
HNRNPH3	6	4	13.3	7	0	9.3836	51246000	49192000	40451000	62765000	11512000	HNRNPH3	974	40451000	62765000	FALSE	FALSE	40451000	62765000	0.644483
PSMA1	5	15	61.6	63	0	41.564	273140000	271700000	230320000	355950000	57974000	PSMA1	347	230320000	355950000	FALSE	FALSE	230320000	355950000	0.647057
HIST1H1E	1	4	42.9	80	0	32.448	1.27E+09	1035200000	1844300000	2839900000	666090000	HIST1H1E	32	1844300000	2839900000	FALSE	FALSE	1844300000	2839900000	0.649424
EIF1AX;EI	4	5	33.3	25	0	12.417	105140000	84623000	125880000	193700000	61579000	EIF1AX	336	125880000	193700000	FALSE	FALSE	125880000	193700000	0.649871
DNAJC19	4	2	28.4	1	0	9.1232	0	0	0	3203900	215790	DNAJC19	2785	2082742.928	3203900	TRUE	FALSE	2082742.928	3203900	0.650065
GRSF1	6	3	10.8	5	0.000468	4.2031	0	9824000	0	0	805420	GRSF1	2399	2555404.971	3922931.601	TRUE	TRUE	2555404.971	3922931.601	0.651402
HIST1H1B	1	7	41.2	48	0	22.902	331210000	287590000	508700000	778150000	173030000	HIST1H1B	143	508700000	778150000	FALSE	FALSE	508700000	778150000	0.65373
PLCB3	2	2	2	2	0.001157	2.4139	0	0	0	3721900	115850	PLCB3	2875	2435993.285	3721900	TRUE	FALSE	2435993.285	3721900	0.654503
PFKL	3	6	13.6	5	0	13.887	0	16535000	26706000	40674000	2081500	PFKL	1943	26706000	40674000	FALSE	FALSE	26706000	40674000	0.656587
RPL35A	4	7	52.7	53	0	23.296	573680000	630930000	482040000	733780000	317250000	RPL35A	69	482040000	733780000	FALSE	FALSE	482040000	733780000	0.656927
HNRNPUL1	14	6	10.7	19	0	29.974	39320000	43785000	83492000	55576000	6272400	HNRNPUL1	1309	83492000	55576000	FALSE	FALSE	83492000	55576000	1.502303
ACP1	7	4	63.8	12	0	23.853	9608300	0	38352000	25517000	10535000	ACP1	1019	38352000	25517000	FALSE	FALSE	38352000	25517000	1.502998
DPYSL2	11	26	53.8	145	0	323.31	1110800000	1639100000	279100000	185360000	80412000	DPYSL2	272	279100000	185360000	FALSE	FALSE	279100000	185360000	1.505719
MRPL49	4	2	16.3	8	0	24.006	7946700	10524000	16054000	10658000	3516600	MRPL49	1650	16054000	10658000	FALSE	FALSE	16054000	10658000	1.506286
CEBPZ	1	4	4.6	6	0	6.366	6964700	0	14070000	9331200	702590	CEBPZ	2461	14070000	9331200	FALSE	FALSE	14070000	9331200	1.507845
POLR2B	4	4	5.7	5	0	6.5062	9381500	9819700	13973000	9245900	593440	POLR2B	2524	13973000	9245900	FALSE	FALSE	13973000	9245900	1.511264
EIF3K	6	3	25.5	8	0	7.6615	25954000	3.00E+07	54366000	35944000	17699000	EIF3K	759	54366000	35944000	FALSE	FALSE	54366000	35944000	1.512519
TPP1	7	2	6.8	2	0.000827	2.9805	0	0	7185700	4738200	498530	TPP1	2584	7185700	4738200	FALSE	FALSE	7185700	4738200	1.516546
EHD4	1	5	15.9	11	0	14.501	0	0	47940000	31495000	2062200	EHD4	1949	47940000	31495000	FALSE	FALSE	47940000	31495000	1.522146
MGST3	3	2	16.3	8	0	11.473	0	27003000	0	0	12785000	MGST3	930	6615237.443	4341152.895	TRUE	TRUE	6615237.443	4341152.895	1.523843
PCK2	11	6	11.4	15	0	26.143	10889000	19826000	46790000	30692000	2486500	PCK2	1832	46790000	30692000	FALSE	FALSE	46790000	30692000	1.524501
SCRN1	6	5	15.9	11	0	10.113	29356000	21947000	23794000	15602000	4870900	SCRN1	1440	23794000	15602000	FALSE	FALSE	23794000	15602000	1.525061
OTUB1	7	10	45.2	45	0	66.789	146450000	155440000	167640000	109860000	35741000	OTUB1	479	167640000	109860000	FALSE	FALSE	167640000	109860000	1.525942
RAB3GAP2	1	3	2.7	5	0	5.1258	8442700	4719800	4753600	0	313700	RAB3GAP2	2706	4753600	3107581.502	FALSE	TRUE	4753600	3107581.502	1.529678
C12orf10	3	3	17.8	7	0	15.272	0	0	24088000	15747000	2824600	C12orf10	1780	24088000	15747000	FALSE	FALSE	24088000	15747000	1.529688
RRP12	5	11	11.9	20	0	25.894	33967000	28050000	72866000	47424000	2331100	RRP12	1879	72866000	47424000	FALSE	FALSE	72866000	47424000	1.536479
ATP13A3	3	2	1.5	1	0.009504	1.4473	7298900	0	0	0	184700	ATP13A3	2808	3570066.065	2322833.376	TRUE	TRUE	3570066.065	2322833.376	1.536945
RFC4	9	4	17.4	5	0	16.099	6263900	6442500	13933000	9006100	1589500	RFC4	2084.5	13933000	9006100	FALSE	FALSE	13933000	9006100	1.547063
FASTKD5	1	2	2.4	2	0.000423	3.1542	4895300	0	0	0	305530	FASTKD5	2718	6228202.735	4023496.821	TRUE	TRUE	6228202.735	4023496.821	1.547958
pk;ZAK	5	2	5.9	3	0.000433	3.3551	0	0	4523800	0	1049200	pk	2290	4523800	2912833.047	FALSE	TRUE	4523800	2912833.047	1.553058
DERL1	4	4	26.5	8	0	10.148	47524000	30945000	47860000	30739000	15168000	DERL1	836	47860000	30739000	FALSE	FALSE	47860000	30739000	1.55698
HSPB11	3	3	33.3	7	0	15.629	30645000	24236000	23593000	15081000	16934000	HSPB11	777	23593000	15081000	FALSE	FALSE	23593000	15081000	1.564419
HMOX1	2	3	13.9	3	0	4.6954	16387000	0	0	0	1867300	HMOX1	1999	3406850.505	2175828.033	TRUE	TRUE	3406850.505	2175828.033	1.565772
HEATR1	2	9	5.2	26	0	20.845	27948000	24565000	47991000	30595000	957540	HEATR1	2325	47991000	30595000	FALSE	FALSE	47991000	30595000	1.56859
BUD31	2	3	18.1	6	0.000434	3.3796	10328000	8604600	18176000	11560000	5366900	BUD31	1379	18176000	11560000	FALSE	FALSE	18176000	11560000	1.572318
PKP3	7	5	7.7	8	0	8.2499	0	0	26575000	16900000	765960	PKP3	2420	26575000	16900000	FALSE	FALSE	26575000	16900000	1.572485
CSTF1	3	6	19.3	11	0	16.832	22858000	24537000	29258000	18530000	4824800	CSTF1	1446	29258000	18530000	FALSE	FALSE	29258000	18530000	1.578953
MRPL14	1	2	13.1	4	0.000832	3.0142	0	6187900	11812000	7471600	2818400	MRPL14	1782	11812000	7471600	FALSE	FALSE	11812000	7471600	1.58092
PGRMC2	3	3	19.7	11	0	7.3071	19317000	16579000	9438800	5952900	5252400	PGRMC2	1396	9438800	5952900	FALSE	FALSE	9438800	5952900	1.58558
CHP1	6	2	22	0	0.003652	1.9639	0	10728000	0	0	3052100	CHP1	1743	2261361.163	1424876.25	TRUE	TRUE	2261361.163	1424876.25	1.587058
PRPF38B	3	2	3.5	3	0.004301	1.8603	4793400	0	0	0	591670	PRPF38B	2526	2385155.48	1499139.545	TRUE	TRUE	2385155.48	1499139.545	1.591016
CYFIP1;CY	12	5	6.2	13	0	10.068	24391000	16971000	46332000	29069000	2272900	CYFIP1	1900	46332000	29069000	FALSE	FALSE	46332000	29069000	1.593863
EIF3G	5	6	19.1	17	0	28.423	55047000	55228000	46529000	29108000	9364600	EIF3G	1082	46529000	29108000	FALSE	FALSE	46529000	29108000	1.598495
UBA6	3	6	13.5	12	0	13.771	28591000	31270000	47734000	29846000	3666500	UBA6	1619	47734000	29846000	FALSE	FALSE	47734000	29846000	1.599343
PCBD1	1	2	22.1	3	0	7.2239	0	0	56393000	35227000	12321000	PCBD1	945	56393000	35227000	FALSE	FALSE	56393000	35227000	1.600846
PITPNA	4	2	52	5	0	13.879	6663500	8794600	9280300	0	4686100	PITPNA	1467	9280300	5780914.793	FALSE	TRUE	9280300	5780914.793	1.605334
GMDS	2	5	19	10	0	12.012	12713000	22635000	27980000	17427000	2833500	GMDS	1778	27980000	17427000	FALSE	FALSE	27980000	17427000	1.605555
NELFA	11	2	8.2	3	0.000442	3.5566	0	0	16507000	10274000	1475300	NELFA	2124	16507000	10274000	FALSE	FALSE	16507000	10274000	1.606677
SURF4	5	2	10.2	5	0.000444	3.606	29501000	26380000	23398000	14488000	9332400	SURF4	1085	23398000	14488000	FALSE	FALSE	23398000	14488000	1.614992
SRSF5	6	2	13.4	3	0	7.7839	0	10178000	0	0	4400900	SRSF5	1520	3169997.84	1948888.677	TRUE	TRUE	3169997.84	1948888.677	1.626567
PCYT1A	14	3	19.4	7	0	5.1229	34285000	22690000	30392000	18682000	9226900	PCYT1A	1091	30392000	18682000	FALSE	FALSE	30392000	18682000	1.626807
WDR75	1	2	3	5	0.000778	2.4816	3500000	2392500	7089100	4355100	337730	WDR75	2692	7089100	4355100	FALSE	FALSE	7089100	4355100	1.62777
RRAGC;RRA	3	5	13	6	0	9.5185	26724000	16600000	0	0	2426900	RRAGC	1847	7409809.984	4540176.776	TRUE	TRUE	7409809.984	4540176.776	1.632053
PROCR	2	3	15.1	8	0	9.0508	14242000	7037700	26853000	16441000	5371800	PROCR	1378	26853000	16441000	FALSE	FALSE	26853000	16441000	1.633295
MRPL47	3	6	26.5	11	0	10.56	18024000	18717000	24572000	14969000	5061300	MRPL47	1413	24572000	14969000	FALSE	FALSE	24572000	14969000	1.641526
TNKS1BP1	3	5	3.4	7	0	10.158	17131000	14089000	38214000	23263000	855400	TNKS1BP1	2374	38214000	23263000	FALSE	FALSE	38214000	23263000	1.642694
MTX2	4	2	11.1	4	0.000443	3.5729	0	8088200	0	0	2110100	MTX2	1937	7287016.55	4410949.09	TRUE	TRUE	7287016.55	4410949.09	1.652029
WDR61	7	4	25.9	8	0	19.355	9406900	11479000	20497000	12375000	3236500	WDR61	1707	20497000	12375000	FALSE	FALSE	20497000	12375000	1.656323
GDA	4	5	13.2	8	0	15.629	0	0	22738000	13692000	1151400	GDA	2247	22738000	13692000	FALSE	FALSE	22738000	13692000	1.660678
ERO1L	7	11	32.1	35	0	62.356	106880000	108360000	83516000	50289000	13150000	ERO1L	916	83516000	50289000	FALSE	FALSE	83516000	50289000	1.660721
MYO18A	6	6	3.4	6	0	8.258	0	10100000	23859000	14353000	414670	MYO18A	2637	23859000	14353000	FALSE	FALSE	23859000	14353000	1.662301
EIF3M	6	6	38.7	18	0	54.875	48211000	51488000	77274000	46464000	19769000	EIF3M	716	77274000	46464000	FALSE	FALSE	77274000	46464000	1.663094
PPP2R5D;F	13	2	4.8	6	0	5.3568	7847700	8721500	11735000	7047700	1291800	PPP2R5D	2184	11735000	7047700	FALSE	FALSE	11735000	7047700	1.665082
ANXA10	1	3	11.4	4	0	58.45	0	0	45318000	27043000	3287300	ANXA10	1694	45318000	27043000	FALSE	FALSE	45318000	27043000	1.675776

PSMG1	3	4	17.6	6	0	14.532	15989000	16285000	34515000	20551000	5089400	PSMG1	1409	34515000	20551000	FALSE	FALSE	34515000	20551000	1.67948
HCFC1	6	6	3.5	8	0	13.359	0	6791900	17041000	10109000	508140	HCFC1	2576	17041000	10109000	FALSE	FALSE	17041000	10109000	1.685726
MRPS23	2	3	21.1	7	0	7.056	16877000	18875000	25901000	15327000	7558600	MRPS23	1209	25901000	15327000	FALSE	FALSE	25901000	15327000	1.689894
CTBP2	6	3	8.6	8	0	6.0065	51747000	46014000	75162000	44381000	8563400	CTBP2	1134	75162000	44381000	FALSE	FALSE	75162000	44381000	1.693563
BCKDHA	4	2	9.1	4	0	7.158	0	0	12366000	7301300	1110500	BCKDHA	2261	12366000	7301300	FALSE	FALSE	12366000	7301300	1.693671
SMC3	1	7	8.4	8	0	13.455	0	7952500	31803000	18739000	752380	SMC3	2429	31803000	18739000	FALSE	FALSE	31803000	18739000	1.697156
MT-ND4	1	2	4.8	1	0.004633	1.8117	7439000	0	0	0	1450600	MT-ND4	2134	3364686.193	1976177.952	TRUE	TRUE	3364686.193	1976177.952	1.702623
PPP6C	3	3	10.6	6	0	6.2633	7546600	9422400	8093100	0	1726600	PPP6C	2042	8093100	4731869.889	FALSE	TRUE	8093100	4731869.889	1.710339
ITGA3	3	6	5.5	7	0	10.963	22327000	45507000	0	0	1762100	ITGA3	2030	2643294.08	1544539.906	TRUE	TRUE	2643294.08	1544539.906	1.71138
GFPT2	2	2	6.2	1	0.000786	2.55	9227400	0	0	0	317000	GFPT2	2702	4139524.098	2403000.141	TRUE	TRUE	4139524.098	2403000.141	1.722648
HIST1H1C	2	3	44.1	3	0	6.2664	536660000	160800000	230970000	133990000	95794000	HIST1H1C	239	230970000	133990000	FALSE	FALSE	230970000	133990000	1.723785
PCCB	11	3	10.9	3	0	5.5025	0	0	7665400	0	471700	PCCB	2602	7665400	4442426.307	FALSE	TRUE	7665400	4442426.307	1.725499
CYB5B	5	5	59.3	21	0	38.113	40074000	50646000	78195000	45120000	30797000	CYB5B	526	78195000	45120000	FALSE	FALSE	78195000	45120000	1.733045
TUBG1;TUE	4	4	20	11	0	18.878	9114100	9078900	21720000	12511000	4546700	TUBG1	1499	21720000	12511000	FALSE	FALSE	21720000	12511000	1.736072
ALG3	7	3	9.9	10	0	9.0567	17014000	10455000	20986000	11873000	3658400	ALG3	1621	20986000	11873000	FALSE	FALSE	20986000	11873000	1.76754
AP3D1	8	5	6.4	5	0	7.6658	17996000	15346000	29041000	16356000	1430000	AP3D1	2144.5	29041000	16356000	FALSE	FALSE	29041000	16356000	1.775556
RPL38	4	4	39.1	34	0	18.54	150930000	146610000	272880000	153380000	206760000	RPL38	112	272880000	153380000	FALSE	FALSE	272880000	153380000	1.779111
MOGS	6	3	7.5	5	0	8.4508	26483000	22035000	45164000	25335000	3541500	MOGS	1645	45164000	25335000	FALSE	FALSE	45164000	25335000	1.782672
LTA4H	5	17	38.8	40	0	69.916	32667000	44729000	294580000	165150000	11773000	LTA4H	963	294580000	165150000	FALSE	FALSE	294580000	165150000	1.783712
CISD2	4	3	30.4	1	0	5.5626	0	16134000	0	0	7775000	CISD2	1187	5785969.108	3243048.707	TRUE	TRUE	5785969.108	3243048.707	1.784114
UBE2K	4	6	39	13	0	9.4026	24464000	26331000	52330000	29127000	9168900	UBE2K	1094	52330000	29127000	FALSE	FALSE	52330000	29127000	1.796615
ACAD8	3	2	8.3	3	0	5.5333	0	0	13677000	7591600	809390	ACAD8	2398	13677000	7591600	FALSE	FALSE	13677000	7591600	1.801597
NELFB	2	2	4	1	0.001491	2.1706	0	0	7197400	0	342640	NELFB	2690	7197400	3972561.24	FALSE	TRUE	7197400	3972561.24	1.811778
GCA	3	2	13	4	0.000801	2.7326	0	0	14461000	7961000	1901400	GCA	1988	14461000	7961000	FALSE	FALSE	14461000	7961000	1.81648
RCN3	3	4	14.9	4	0	13.753	0	10862000	0	0	975070	RCN3	2322	6569196.746	3598670.984	TRUE	TRUE	6569196.746	3598670.984	1.825451
MRPS31	1	4	13.4	9	0	15.587	7424100	11224000	13366000	7315800	1521800	MRPS31	2109.5	13366000	7315800	FALSE	FALSE	13366000	7315800	1.827005
GALE	6	4	23.8	5	0	17.37	0	6477700	21702000	11856000	2815800	GALE	1784	21702000	11856000	FALSE	FALSE	21702000	11856000	1.830466
SEC16A	10	2	3.1	1	0.00257	2.0041	0	3403900	0	0	337540	SEC16A	2693	6779668.112	3702154.203	TRUE	TRUE	6779668.112	3702154.203	1.831277
CLDN1	1	3	19	6	0	33.659	16318000	24972000	0	0	5294800	CLDN1	1388	3781022.635	2064255.165	TRUE	TRUE	3781022.635	2064255.165	1.831664
RND3;ARHE	3	2	9.8	4	0	4.5354	4409800	6875900	0	0	757450	RND3	2422	5618419.948	3065615.803	TRUE	TRUE	5618419.948	3065615.803	1.832721
HEXA	6	4	8.1	3	0.000455	3.8622	0	0	32990000	17877000	2277500	HEXA	1898	32990000	17877000	FALSE	FALSE	32990000	17877000	1.845388
RANBP3	10	4	9.3	4	0	9.4666	10905000	0	0	0	1009000	RANBP3	2305	2295496.822	1241375.781	TRUE	TRUE	2295496.822	1241375.781	1.849155
RPS29	5	2	20.7	9	0	5.839	74246000	62982000	67927000	36639000	53649000	RPS29	368	67927000	36639000	FALSE	FALSE	67927000	36639000	1.853953
PTK2	16	5	4.9	6	0	15.771	10367000	9333200	23495000	12666000	818840	PTK2	2391	23495000	12666000	FALSE	FALSE	23495000	12666000	1.854966
UTP6	3	3	4.7	6	0	4.3662	3487900	0	10539000	5629300	454140	UTP6	2614	10539000	5629300	FALSE	FALSE	10539000	5629300	1.872169
ARHGEF1	10	6	8.5	8	0	14.015	11467000	0	37711000	20091000	1198900	ARHGEF1	2229	37711000	20091000	FALSE	FALSE	37711000	20091000	1.87701
CYP1B1	3	5	10.1	7	0	10.294	19449000	10464000	0	0	1000600	CYP1B1	2311	3780585.875	1986970.243	TRUE	TRUE	3780585.875	1986970.243	1.902689
PLD3	11	9	25.3	18	0	41.23	203840000	87646000	5656700	2947600	16632000	PLD3	789	5656700	2947600	FALSE	FALSE	5656700	2947600	1.919087
TRA2A	4	3	26.5	3	0.000467	4.1828	11088000	10325000	25373000	13219000	8178400	TRA2A	1159	25373000	13219000	FALSE	FALSE	25373000	13219000	1.919434
JMJD6	6	2	8.1	2	0	4.8269	8557900	0	5922000	0	1456500	JMJD6	2131	5922000	3054445.726	FALSE	TRUE	5922000	3054445.726	1.938813
LY6K	4	2	13.3	4	0.000469	4.2219	8454100	0	0	0	1047200	LY6K	2291	3667739.673	1888702.965	TRUE	TRUE	3667739.673	1888702.965	1.941936
NRBP1	2	2	4.8	6	0	5.1516	6736500	8930800	15354000	7866800	1853500	NRBP1	2005	15354000	7866800	FALSE	FALSE	15354000	7866800	1.951747
NDUFAF3	1	2	13.6	5	0	5.3955	0	10243000	0	0	1937000	NDUFAF3	1979	6761561.672	3462764.3	TRUE	TRUE	6761561.672	3462764.3	1.952649
CCDC80	3	2	15.3	2	0.008191	1.498	0	16781000	0	0	1940700	CCDC80	1978	3845732.982	1959957.583	TRUE	TRUE	3845732.982	1959957.583	1.962151
CPT2	6	7	10.9	9	0	13.413	15714000	14315000	44269000	22557000	2238200	CPT2	1909	44269000	22557000	FALSE	FALSE	44269000	22557000	1.962539
OSGEP	2	3	12.5	5	0	7.2051	8089500	12178000	0	0	1156100	OSGEP	2246	6217408.877	3166266.749	TRUE	TRUE	6217408.877	3166266.749	1.96364
ITPA	3	5	36.1	18	0	15.601	73874000	80442000	133080000	67601000	30580000	ITPA	530	133080000	67601000	FALSE	FALSE	133080000	67601000	1.96861
UFL1	3	3	6.7	4	0	4.2791	0	7885000	0	0	670800	UFL1	2481	4543517.397	2291811.206	TRUE	TRUE	4543517.397	2291811.206	1.982501
AKR1B1	3	15	56	74	0	87.26	2806600000	976170000	0	0	210910000	AKR1B1	111	3807045.845	1913130.933	TRUE	TRUE	3807045.845	1913130.933	1.989956
CHI3L1	2	3	23.7	3	0	4.9475	12022000	0	0	0	1335700	CHI3L1	2175	1915076.379	958777.4917	TRUE	TRUE	1915076.379	958777.4917	1.997415
AURKA;AUR	19	2	5.5	1	0.000449	3.7271	8821700	0	0	0	383550	AURKA	2657	5812344.175	2889833.735	TRUE	TRUE	5812344.175	2889833.735	2.011307
TBRG4	5	4	8.1	5	0	7.7808	21591000	21991000	46521000	23127000	3052400	TBRG4	1742	46521000	23127000	FALSE	FALSE	46521000	23127000	2.011545
UFC1	1	3	18	7	0	6.0391	26018000	16148000	0	0	5500800	UFC1	1369	6210422.993	3056435.061	TRUE	TRUE	6210422.993	3056435.061	2.031917
COPS3	6	2	9.6	2	0	11.23	9905800	0	0	0	813190	COPS3	2394	4380812.367	2132453.39	TRUE	TRUE	4380812.367	2132453.39	2.054353
PDCD10	8	2	11.8	7	0	5.3673	6480400	8738300	43866000	21301000	5019700	PDCD10	1419	43866000	21301000	FALSE	FALSE	43866000	21301000	2.05934
FITM2	1	2	8.4	2	0.004961	1.7548	6916100	0	0	0	1531700	FITM2	2105	5662342.344	2731666.348	TRUE	TRUE	5662342.344	2731666.348	2.072853
VAMP5	1	2	12.1	1	0.004911	1.7177	0	0	5324100	0	1464700	VAMP5	2126	5324100	2567878.237	FALSE	TRUE	5324100	2567878.237	2.073346
AAR2	2	2	5.5	3	0	4.8652	8214000	4277300	0	3615300	812790	AAR2	2395	7500087.131	3615300	TRUE	FALSE	7500087.131	3615300	2.074541
MCMBP	3	3	5.8	4	0	4.4019	5700400	5515800	19411000	9252800	1355300	MCMBP	2169	19411000	9252800	FALSE	FALSE	19411000	9252800	2.097851
MRPL4	7	2	27.6	5	0	8.0408	12113000	0	0	0	2335900	MRPL4	1878	3495993.571	1647384.592	TRUE	TRUE	3495993.571	1647384.592	2.122148
NDUFB4	4	2	23.3	3	0	5.6414	9618200	0	0	0	4890900	NDUFB4	1433	2817925.003	1326130.714	TRUE	TRUE	2817925.003	1326130.714	2.124923
CRK	3	4	21.6	8	0	10.091	23769000	22241000	19631000	9208700	4590700	CRK	1490	19631000	9208700	FALSE	FALSE	19631000	9208700	2.131788
ABHD10	3	5	20.9	9	0	17.663	10703000	13405000	24091000	11071000	2724200	ABHD10	1793	24091000	11071000	FALSE	FALSE	24091000	11071000	2.176046
PPAN;PPAN	7	2	11.5	4	0	5.4885	3635600	0	0	0	520030	PPAN	2565	3890656.456	1771624.049	TRUE	TRUE	3890656.456	1771624.049	2.196096
CASP6	4	2	14.7	3	0	5.3127	0	0	10989000	4956200	1528400	CASP6	2107	10989000	4956200	FALSE	FALSE	10989000	4956200	2.217223
CSK;MATK	9	2	20.9	4	0.000781	2.5	4605800	5212700	13423000	5965700	4045900	CSK	1558	13423000	5965700	FALSE	FALSE	13423000	5965700	2.250029
DRG2	8	3	10.5	2	0	7.3695	0	5163100	0	0	1022900	DRG2	2299	2928436.964	1301011.873	TRUE	TRUE	2928436.964	1301011.873	2.250892
APRT	6	6	54.5	12	0	32.103	27734000	21866000	99598000	44234000	15085000	APRT	839	99598000	44234000	FALSE	FALSE	99598000	44234000	2.251616
SDF2L1	1	2	14.9	2	0.000443	3.5854	15885000	0	0	0	2428500	SDF2L1	1845	3965714.176	1760296.777	TRUE	TRUE	3965714.176	1760296.777	2.252867
ATP6AP1	4	3	6.4	3	0.000803	2.7392	21842000	12971000	0	0	2030000	ATP6AP1	1958	2769169.405	1226771.663	TRUE	TRUE	2769169.405	1226771.663	2.257282
CFL2	3	3	38.3	4	0	14.613	15885000	24386000	0	0	4262300	CFL2	1538	3605306.894	1594906.599	TRUE	TRUE	3605306.894	1594906.599	2.260513
IL6ST	5	2	2.8	2	0.001141	2.2986	6839200	0	0	0	208550	IL6ST	2791	5107084.299	2258537.96	TRUE	TRUE	5107084.299	2258537.96	2.261235
SERINC1	1	4	10.8	7	0	10.275	49130000	30562000	0	0	4996500	SERINC1	1422	3438669.047	1471385.358	TRUE	TRUE	3438669.047	1471385.358	2.337028
RRAGB;RRA	4	2	11.9	4	0	5.5907	15997000	10929000	6307200	0	3091800	RRAGB	1733	6307200	2696541.295	FALSE	TRUE	6307200	2696541.295	2.338996
CMSS1	4	2	8.9	3	0.005567	1.6669	32067000	0	0	0	3512400	CMSS1	1653	4980316.355	2073802.304	TRUE	TRUE	4980316.355	2073802.304	2.401539
EHD2	2	5	12.2	12	0	16.386	45440000	29539000	0	0	2641200	EHD2	1802	2972141.234	1235705.894	TRUE	TRUE	2972141.234	1235705.894	2.405217
POLR2E	5	2	17.2	2	0.001136	2.2736	0	21172000	0	0	4798100	POLR2E	1450	4245694.656	1757698.584	TRUE	TRUE	4245694.656	1757698.584	2.415485
GINM1	2	2	9.1	2	0.003984	1.9103	6575000	0	0	0	657130	GINM1	2488	4225375.235	1744683.136	TRUE	TRUE	4225375.235	1744683.136	2.421858
NDRG3	6	2	6.8	3	0.004287	1.8458	0	0	2876000	0	638800	NDRG3	2497	2876000	1182955.422	FALSE	TRUE	2876000	1182955.422	2.431199
ABLIM1	14	2	16.9	2	0.000429	3.2901	0	0	5173200	0	480810	ABLIM1	2595	5173200	2094395.485	FALSE	TRUE	5173200	2094395.485	2.470021
CHMP1A	4	3	13.8	2	0.000799	2.7147	12075000	0	0	0	4010200	CHMP1A	1562	4187293.202	1695072.668	TRUE	TRUE	4187293.202	1695072.668	2.470274
TST	2	5	23.2	9	0	22.974	0	17065000	124510000	50311000	9126100	TST	1097	124510000	50311000	FALSE	FALSE	124510000	50311000	2.474807
ARMT1	2	2	4.8	1	0.000828	2.9836	0	0	6889000	0	1244800	ARMT1	2205	6889000	2773953.594	FALSE	TRUE	6889000	2773953.594	2.483459
GMFB	2	3	29.3	4	0	5.7733	15571000	0	0	0	3822100	GMFB	1597	5397569.396	2147001.208	TRUE	TRUE	5397569.396	2147001.208	2.514004
PARP4	1	3	1.8	3	0	5.1999	0	9794000	0	0	218560	PARP4	2781	5607210.837	2213483.551	TRUE	TRUE	5607210.837	2213483.551	2.533206
MAPK1	2	4	15.5	5	0	8.7507	0	7640900	20287000	7943200	1915200	MAPK1	1982	20287000	7943200	FALSE	FALSE	20287000	7943200	2.554008
PTTG1IP	3	2	23.4	4	0	5.2244	23549000	0	0	0	4418200	PTTG1IP	1517	5266001.765	2053565.977	TRUE	TRUE	5266001.765	2053565.977	2.564321
TMED1	3	2	9.7	3	0	4.9461	14522000	8821800	0	0	4287800	TMED1	1533	4083961.258	1589988.617	TRUE	TRUE	4083961.258	1589988.617	2.568547
HMGCL	3	3	10.8	3	0.000446	3.6492	10897000	0	0	0	1511900	HMGCL	2112	4480411.97	1717423.589	TRUE	TRUE	4480411.97	1717423.589	2.608798
OSMR	3	2	1.5	4	0.001126	2.2183	0	8634000	0	0	400790	OSMR	2642	2200211.398	837150.69	TRUE	TRUE	2200211.398	837150.69	2.628214
BCAR1	16	2	3.9	2	0.000435	3.3868	0	13816000	0	0	658980	BCAR1	2486	6173970.511	2315513.423	TRUE	TRUE	6173970.511	2315513.423	2.666351
TMX2	2	2	13.6	1	0.001158	2.4162	0	4520600	0	0	802770	TMX2	2402	2990903.181	1119862.048	TRUE	TRUE	2990903.181	1119862.048	2.670778
CPSF7	7	2	5.3	2	0.00113	2.2404	0	0	7432100	0	902090	CPSF7	2351	7432100	2773447.393	FALSE	TRUE	7432100	2773447.393	2.679734
ACAP2	5	2	3.2	3	0.000436	3.4352	3718900	5819600	0	0	302100	ACAP2	2721	4903910.855	1822424.241	TRUE	TRUE	4903910.855	1822424.241	2.690872
PEA15	3	2	22.3	5	0.00047	4.2397	9335700	8743200	5794600	0	3471900	PEA15	1661	5794600	2152349.196	FALSE	TRUE	5794600	2152349.196	2.692221
MACF1	12	6	2.1	12	0	16.297	14927000	14946000	12529000	0	163890	MACF1	2826	12529000	4591929.817	FALSE	TRUE	12529000	4591929.817	2.728482
CLPTM1L	3	2	6	4	0.000454	3.8471	6250700	3935700	0	0	689720	CLPTM1L	2468	4239694.304	1548370.831	TRUE	TRUE	4239694.304	1548370.831	2.738165
ALDH1A1	4	12	34.1	19	0	55.205	0	35786000	188010000	68620000	9822400	ALDH1A1	1055	188010000	68620000	FALSE	FALSE	188010000	68620000	2.739872
RHOG	1	2	22.5	4	0	9.48	0	0	8491400	0	901650	RHOG	2352	8491400	3088971.706	FALSE	TRUE	8491400	3088971.706	2.748941
UBE2H	5	2	48.4	4	0.000427	3.2602	0	0	3428100	0	8047000	UBE2H	1167	3428100	1240283.036	FALSE	TRUE	3428100	1240283.036	2.763966
DNAAF5	5	2	2.7	4	0.000471	4.2525	6025000	0	0	0	473740	DNAAF5	2600	3405591.896	1229384.73	TRUE	TRUE	3405591.896	1229384.73	2.77016
NOL6	5	2	3.1	3	0.004958	1.7514	8328900	4999600	0	0	416970	NOL6	2636	5037415.062	1811755.582	TRUE	TRUE	5037415.062	1811755.582	2.780405
TMEM59	5	6	20.4	9	0	14.579	71200000	35618000	0	0	7886000	TMEM59	1175	3275425.026	1157990.365	TRUE	TRUE	3275425.026	1157990.365	2.828543
CUL1	2	4	6.8	4	0	6.2575	5741100	0	0	0	584060	CUL1	2529	2600528.624	916323.5955	TRUE	TRUE	2600528.624	916323.5955	2.838002
PPP4R1	7	3	3	5	0.000451	3.772	15281000	9048600	103030000	35692000	3220200	PPP4R1	1710	103030000	35692000	FALSE	FALSE	103030000	35692000	2.886641
TTI1	1	2	1.9	3	0.00081	2.819	0	8471900	0	0	568090	TTI1	2538	5224683.514	1809264.67	TRUE	TRUE	5224683.514	1809264.67	2.887739
KIF5C	3	2	11.6	2	0	4.8325	2417800	5954300	0	0	162240	KIF5C	2830	6785801.569	2344062.565	TRUE	TRUE	6785801.569	2344062.565	2.894889
DHODH	5	3	8.4	2	0.000457	3.9005	0	4775500	0	0	1504000	DHODH	2114	7204728.917	2450780.322	TRUE	TRUE	7204728.917	2450780.322	2.939769
RAB32	4	6	33.8	9	0	20.201	22930000	36707000	0	0	4575100	RAB32	1494.5	5440763.719	1833469.762	TRUE	TRUE	5440763.719	1833469.762	2.967468
NCDN	4	2	3.4	0	0.000429	3.2959	0	7186900	0	0	535020	NCDN	2554	2897606.458	972985.0431	TRUE	TRUE	2897606.458	972985.0431	2.978059
AP3S1	2	2	13.5	3	0	4.5675	8390700	0	0	0	2244400	AP3S1	1908	3281793.419	1089080.692	TRUE	TRUE	3281793.419	1089080.692	3.013361
UBE2A	6	2	22.7	7	0	6.8202	15990000	13299000	9444700	0	9912100	UBE2A	1051	9444700	3134152.783	FALSE	TRUE	9444700	3134152.783	3.013478
ADPRHL2	1	3	10.7	8	0	8.8945	9183700	7276900	8909900	0	1762700	ADPRHL2	2029	8909900	2938596.626	FALSE	TRUE	8909900	2938596.626	3.032026
MRPS7	5	4	13.3	7	0	10.767	18384000	19708000	22556000	0	5514600	MRPS7	1366	22556000	7404923.526	FALSE	TRUE	22556000	7404923.526	3.046081
QTRTD1	4	2	6.8	3	0.000445	3.6313	0	0	8878000	0	1129700	QTRTD1	2256	8878000	2910751.101	FALSE	TRUE	8878000	2910751.101	3.050072
CDC45	3	2	4	2	0.000824	2.9503	0	0	7929300	0	269040	CDC45	2741	7929300	2555690.635	FALSE	TRUE	7929300	2555690.635	3.102606
LAS1L	4	4	8.5	7	0	8.9421	13136000	15760000	11792000	0	1085700	LAS1L	2274	11792000	3712076.896	FALSE	TRUE	11792000	3712076.896	3.176658
NDUFAF4	1	2	10.9	3	0	10.519	0	9495300	0	0	1098500	NDUFAF4	2271	3416771.356	1073008.732	TRUE	TRUE	3416771.356	1073008.732	3.18429
MAP1B	5	15	8.6	16	0	54.799	43964000	14274000	0	0	577540	MAP1B	2535	7910095.79	2472494.17	TRUE	TRUE	7910095.79	2472494.17	3.199237
H1FX	1	2	11.7	3	0.000455	3.8647	0	13324000	0	0	3899000	H1FX	1584	5243400.903	1631278.792	TRUE	TRUE	5243400.903	1631278.792	3.214289
PTGR1	3	2	10.3	4	0	7.5292	0	0	7145700	0	1278500	PTGR1	2190	7145700	2221815.966	FALSE	TRUE	7145700	2221815.966	3.216153
DST	13	3	0.7	2	0.000417	3.0622	0	11861000	0	0	78590	DST	2897	4796847.286	1491281.736	TRUE	TRUE	4796847.286	1491281.736	3.216594
NT5C3A	7	3	10.9	3	0	5.1478	0	0	8680600	0	555010	NT5C3A	2545	8680600	2684618.815	FALSE	TRUE	8680600	2684618.815	3.233457
GTF2F2	1	2	11.2	3	0.002226	2.1193	0	0	4252000	0	613820	GTF2F2	2509	4252000	1308654.642	FALSE	TRUE	4252000	1308654.642	3.249138
C11orf68	3	3	12.4	3	0.000432	3.3469	0	0	3686700	0	1031200	C11orf68	2296	3686700	1128982.946	FALSE	TRUE	3686700	1128982.946	3.265505
PLP2	2	2	18.4	9	0	16.867	54606000	33696000	0	0	25699000	PLP2	601	2706722.76	828434.3114	TRUE	TRUE	2706722.76	828434.3114	3.267275
SCCPDH	1	2	6.8	3	0.000466	4.1572	6716200	0	0	0	580700	SCCPDH	2533	7187862.797	2184715.393	TRUE	TRUE	7187862.797	2184715.393	3.290068
NAGK	8	3	44.7	7	0	5.7887	10881000	9343000	7239300	0	5400000	NAGK	1377	7239300	2194911.125	FALSE	TRUE	7239300	2194911.125	3.29822
GNE	5	2	3.5	4	0	5.142	0	7596200	0	0	391650	GNE	2650	2672087.532	809622.6781	TRUE	TRUE	2672087.532	809622.6781	3.300411
CHMP5	2	2	13.5	5	0.000447	3.6684	19324000	0	0	0	3938200	CHMP5	1578	6393485.686	1901431.785	TRUE	TRUE	6393485.686	1901431.785	3.362459
CDC123	4	3	25.5	1	0	5.4395	4815200	0	0	0	1458200	CDC123	2130	3510725.694	1043981.167	TRUE	TRUE	3510725.694	1043981.167	3.362825
KIF15	6	2	2.2	1	0.000819	2.9004	6750000	0	0	0	248210	KIF15	2762	3945138.882	1154423.97	TRUE	TRUE	3945138.882	1154423.97	3.417409
SLC30A1	1	2	6.1	2	0	7.2398	13287000	0	0	0	1006800	SLC30A1	2307	3058476.481	880324.7277	TRUE	TRUE	3058476.481	880324.7277	3.474259
SMC4	3	7	5.8	9	0	11.522	25014000	24251000	16834000	0	966880	SMC4	2324	16834000	4844013.841	FALSE	TRUE	16834000	4844013.841	3.475217
SNX6	4	5	15.6	5	0	7.5481	18870000	31593000	0	0	2518700	SNX6	1828	3678268.176	1057507.527	TRUE	TRUE	3678268.176	1057507.527	3.478243
PICALM;SN	20	4	7.2	7	0	8.8606	9204200	12083000	14782000	0	1757100	PICALM	2032	14782000	4217962.648	FALSE	TRUE	14782000	4217962.648	3.504536
CCDC51	3	3	15.2	2	0.000467	4.1841	0	8463100	0	0	895690	CCDC51	2354	4852224.516	1382741.897	TRUE	TRUE	4852224.516	1382741.897	3.509132
RPL7L1	3	2	12.1	4	0	7.2335	0	0	7351800	0	1751800	RPL7L1	2034	7351800	2079304.251	FALSE	TRUE	7351800	2079304.251	3.535702
HGS	3	2	8	2	0.000424	3.1877	0	7005700	0	0	1233400	HGS	2209	4677633.634	1296646.239	TRUE	TRUE	4677633.634	1296646.239	3.607486
PEF1	1	2	8.5	3	0	4.4063	6590900	6621800	7439400	0	2437900	PEF1	1844	7439400	2034022.609	FALSE	TRUE	7439400	2034022.609	3.657481

ECHDC1	14	2	31.6	3	0.000426	3.2353	8541100	8679600	7318700	0	6315500	ECHDC1	1304	7318700	1972174.738	FALSE	TRUE	7318700	1972174.738	3.710979
GPS1	17	3	6.6	3	0.000811	2.8223	11418000	12151000	7327100	0	1902300	GPS1	1986	7327100	1923808.576	FALSE	TRUE	7327100	1923808.576	3.808643
DNAJA3	3	2	7.3	3	0	4.5075	10247000	0	0	0	975790	DNAJA3	2321	6706484.506	1760381.832	TRUE	TRUE	6706484.506	1760381.832	3.809676
HSDL2	2	4	14.2	2	0	17.146	0	25158000	0	0	3697300	HSDL2	1612	6034400.953	1582821.406	TRUE	TRUE	6034400.953	1582821.406	3.812433
RBM47	22	3	19.8	3	0	4.8831	0	0	6767000	0	510770	RBM47	2575	6767000	1774871.81	FALSE	TRUE	6767000	1774871.81	3.81267
CD97	3	2	3.5	3	0	6.3207	7183200	0	0	0	447420	CD97	2618	3153879.487	813092.117	TRUE	TRUE	3153879.487	813092.117	3.878871
CD3EAP	2	2	6.7	3	0.003662	1.9766	6109000	7162600	6485400	0	1139900	CD3EAP	2251	6485400	1668912.941	FALSE	TRUE	6485400	1668912.941	3.886003
PAWR	3	2	8.8	4	0	6.5532	4177800	7212600	0	0	1381500	PAWR	2165	5884252.539	1500453.815	TRUE	TRUE	5884252.539	1500453.815	3.921649
DLG1;DLG4	35	2	4.9	2	0.000793	2.646	0	0	6367400	0	1305200	DLG1	2178	6367400	1620725.033	FALSE	TRUE	6367400	1620725.033	3.928736
ARL1	6	3	17.5	6	0	6.3129	15425000	15146000	33273000	8361700	6790900	ARL1	1267	33273000	8361700	FALSE	FALSE	33273000	8361700	3.979215
Clorf123	1	2	25	5	0	5.0947	0	0	22467000	0	3079800	Clorf123	1738	22467000	5602994.209	FALSE	TRUE	22467000	5602994.209	4.00982
WDR77	3	2	6.8	4	0.005552	1.6514	0	16908000	0	0	6047600	WDR77	1325	3970662.603	944197.7839	TRUE	TRUE	3970662.603	944197.7839	4.205329
TM9SF4	4	3	7.2	8	0	12.719	27951000	23937000	11512000	0	2972300	TM9SF4	1757	11512000	2726732.427	FALSE	TRUE	11512000	2726732.427	4.221903
EXOSC3	2	3	18.2	5	0	12.024	7930400	9335600	9835200	0	2040700	EXOSC3	1953	9835200	2317415.614	FALSE	TRUE	9835200	2317415.614	4.244038
NPLOC4	3	3	5.3	1	0	5.1085	0	17072000	0	0	1406300	NPLOC4	2157	4829439.012	1126971.11	TRUE	TRUE	4829439.012	1126971.11	4.285326
TTC37	2	2	4.1	1	0.002932	1.9891	0	0	4660100	0	218080	TTC37	2783	4660100	1086610.918	FALSE	TRUE	4660100	1086610.918	4.288656
ARMCX3	2	4	11.9	2	0	7.5087	0	15568000	0	0	2282000	ARMCX3	1896	5468862.734	1264064.133	TRUE	TRUE	5468862.734	1264064.133	4.326412
YBX3	4	3	27.8	4	0	5.8656	13620000	23159000	11867000	0	5590300	YBX3	1362	11867000	2710046.658	FALSE	TRUE	11867000	2710046.658	4.378891
FAM134C	6	2	30	1	0.000452	3.7793	4479100	0	0	0	1415600	FAM134C	2152	3729683.731	848107.1991	TRUE	TRUE	3729683.731	848107.1991	4.397656
ABHD14A-A	9	2	4.6	2	0.000802	2.7361	0	0	8384600	0	309220	ABHD14A-A	2713	8384600	1871379.637	FALSE	TRUE	8384600	1871379.637	4.480438
IFNGR1	7	6	16.5	16	0	16.703	121390000	72275000	0	0	11478000	IFNGR1	976	4414361.368	983929.1527	TRUE	TRUE	4414361.368	983929.1527	4.486463
MXRA7	5	2	12.4	2	0	6.0075	11805000	7027900	0	0	3571900	MXRA7	1639	4278350.067	945950.8875	TRUE	TRUE	4278350.067	945950.8875	4.522804
TIMM9	5	2	29.2	11	0	11.766	22441000	31366000	21498000	0	12635000	TIMM9	936	21498000	4731134.926	FALSE	TRUE	21498000	4731134.926	4.543941
UBE2S	2	2	13.2	3	0.000457	3.8966	8243700	4949300	0	0	1103900	UBE2S	2268	5119759.924	1105235.546	TRUE	TRUE	5119759.924	1105235.546	4.632279
STXBP2	6	2	6.9	4	0	6.9946	0	0	12426000	0	649180	STXBP2	2492	12426000	2661393.921	FALSE	TRUE	12426000	2661393.921	4.668982
RMDN1	11	2	6.9	1	0.001163	2.4525	0	0	5685300	0	940250	RMDN1	2333	5685300	1213877.035	FALSE	TRUE	5685300	1213877.035	4.683588
RBM27;RBM	8	2	2.2	3	0.000451	3.7596	3500700	0	0	0	212600	RBM27	2787	12508300.41	2654957.42	TRUE	TRUE	12508300.41	2654957.42	4.7113
ASMTL	3	2	5.3	3	0	5.0054	5784100	9545900	0	0	737630	ASMTL	2442	8955568.398	1858272.466	TRUE	TRUE	8955568.398	1858272.466	4.819298
STUB1	5	2	10.8	2	0.006226	1.6294	0	0	9390300	0	1521200	STUB1	2111	9390300	1940956.383	FALSE	TRUE	9390300	1940956.383	4.837976
SKIV2L	2	2	1.8	2	0.002209	2.0316	0	0	4591300	0	63843	SKIV2L	2905	4591300	945638.8276	FALSE	TRUE	4591300	945638.8276	4.855236
QSOX2	2	3	11.6	3	0	5.4671	0	12857000	9307300	0	1683500	QSOX2	2055	9307300	1898484.204	FALSE	TRUE	9307300	1898484.204	4.90249
MTOR	1	2	1	4	0	4.7243	5125500	3821000	5740500	0	114790	MTOR	2878	5740500	1159447.375	FALSE	TRUE	5740500	1159447.375	4.951066
IL13RA2	1	2	4.2	3	0.006201	1.5764	6915800	0	0	0	384210	IL13RA2	2656	3068020.334	617371.484	TRUE	TRUE	3068020.334	617371.484	4.969488
GATAD2B;G	6	2	8	6	0	5.6357	6307000	5972800	6758500	0	1822100	GATAD2B	2011	6758500	1359402.112	FALSE	TRUE	6758500	1359402.112	4.971671
MAP7	8	4	7.2	3	0	6.0057	0	0	16574000	0	863210	MAP7	2372	16574000	3270788.489	FALSE	TRUE	16574000	3270788.489	5.06728
CWF19L1	3	2	6.5	1	0.00046	3.992	0	0	6706500	0	467430	CWF19L1	2606	6706500	1318466.555	FALSE	TRUE	6706500	1318466.555	5.086591
GPD2	3	3	6.5	3	0	6.5555	0	0	9652500	0	650910	GPD2	2490	9652500	1879996.516	FALSE	TRUE	9652500	1879996.516	5.134318
ZC3H15	2	2	6.8	3	0.000803	2.7438	0	0	14715000	0	953720	ZC3H15	2330	14715000	2832335.76	FALSE	TRUE	14715000	2832335.76	5.195359
MTCH1	3	2	5.8	2	0.002575	2.0218	16041000	0	13234000	0	1768800	MTCH1	2026	13234000	2519230.799	FALSE	TRUE	13234000	2519230.799	5.253191
RNPS1	8	2	12.8	5	0	10.676	9991100	9354700	10815000	0	3427200	RNPS1	1669	10815000	2050691.471	FALSE	TRUE	10815000	2050691.471	5.273831
HINT2	1	3	28.2	5	0	19.198	0	35439000	0	0	5691600	HINT2	1354	4186456.689	778789.045	TRUE	TRUE	4186456.689	778789.045	5.375598
BAZ1B	2	2	1.6	3	0.001136	2.2782	0	0	7871700	0	240540	BAZ1B	2768	7871700	1419241.735	FALSE	TRUE	7871700	1419241.735	5.546412
DDAH2	5	2	9.8	3	0.000453	3.8099	9704300	7962000	12901000	0	2093800	DDAH2	1940	12901000	2323767.549	FALSE	TRUE	12901000	2323767.549	5.55176
COX6C	1	2	20	4	0.001156	2.4046	0	69477000	0	0	34459000	COX6C	491	4911986.14	882334.5321	TRUE	TRUE	4911986.14	882334.5321	5.567034
NQO2	4	3	19.7	3	0	6.9395	0	12397000	0	0	2572800	NQO2	1814	6906889.634	1239933.003	TRUE	TRUE	6906889.634	1239933.003	5.570373
LAD1	5	14	33.1	26	0	48.947	11090000	11149000	281110000	50419000	8528400	LAD1	1137	281110000	50419000	FALSE	FALSE	281110000	50419000	5.575477
SMARCC2	5	2	4.5	3	0.000464	4.0972	6568400	5310800	17386000	0	731190	SMARCC2	2445	17386000	3109331.496	FALSE	TRUE	17386000	3109331.496	5.591556
NDUFB1	2	2	34.5	3	0	5.6042	0	6804300	8852000	0	7775800	NDUFB1	1186	8852000	1566134.378	FALSE	TRUE	8852000	1566134.378	5.652133
HDGFRP2	7	2	15.7	3	0.00082	2.9105	0	10851000	0	0	3283800	HDGFRP2	1695	9885235.147	1746313.326	TRUE	TRUE	9885235.147	1746313.326	5.660631
WTAP	1	2	5.8	2	0	6.4456	0	10759000	0	0	921590	WTAP	2340	8097597.693	1422117.471	TRUE	TRUE	8097597.693	1422117.471	5.694043
AP2A2	14	2	12.6	2	0.000444	3.598	6286400	7607200	9625900	0	639450	AP2A2	2496	9625900	1685268.691	FALSE	TRUE	9625900	1685268.691	5.711789
LPCAT1	3	3	6.6	4	0	6.4188	14105000	18857000	8361400	0	2166200	LPCAT1	1921	8361400	1455189.295	FALSE	TRUE	8361400	1455189.295	5.745919
RAP1A	2	2	42.9	2	0.00047	4.2344	0	5925900	0	0	1222600	RAP1A	2212	3767477.685	653295.8877	TRUE	TRUE	3767477.685	653295.8877	5.766878
TRIM25	2	6	11.6	5	0	13.716	0	0	21290000	0	1784200	TRIM25	2022	21290000	3683836.041	FALSE	TRUE	21290000	3683836.041	5.779302
NEDD4;NED	24	2	1.8	2	0.004919	1.7245	8501700	0	0	0	218250	NEDD4	2782	5439671.056	939799.8009	TRUE	TRUE	5439671.056	939799.8009	5.788117
DRAP1	5	3	13.7	5	0	5.0917	21433000	15898000	14586000	0	6089000	DRAP1	1318	14586000	2429167.408	FALSE	TRUE	14586000	2429167.408	6.004526
MRRF	9	2	12.4	3	0.00046	3.9902	7875500	0	8731600	0	2021600	MRRF	1960	8731600	1444354.509	FALSE	TRUE	8731600	1444354.509	6.04533
AHCTF1	3	3	1.5	4	0	4.8331	6547200	8194900	11529000	0	248000	AHCTF1	2763	11529000	1906351.905	FALSE	TRUE	11529000	1906351.905	6.047677
SH3GL1	6	4	12.5	5	0	8.8118	11824000	17417000	7689900	0	2265400	SH3GL1	1903	7689900	1263151.883	FALSE	TRUE	7689900	1263151.883	6.087866
NDUFA2	2	2	25	2	0.003647	1.9461	0	0	7097700	0	7002900	NDUFA2	1251	7097700	1164857.245	FALSE	TRUE	7097700	1164857.245	6.093193
SAMM50	1	3	9	9	0	11.334	13410000	9124900	12976000	0	1228400	SAMM50	2211	12976000	2114188.046	FALSE	TRUE	12976000	2114188.046	6.137581
HTATSF1	3	4	5.7	6	0	9.1407	27204000	24820000	14755000	0	1441700	HTATSF1	2138	14755000	2395355.199	FALSE	TRUE	14755000	2395355.199	6.159838
CFAP20	1	2	10.9	4	0.000457	3.8951	0	0	10775000	0	1697400	CFAP20	2049	10775000	1743304.195	FALSE	TRUE	10775000	1743304.195	6.180792
NUP98	9	3	1.8	4	0	4.7495	0	0	6094900	0	137350	NUP98	2859	6094900	982884.6765	FALSE	TRUE	6094900	982884.6765	6.201033
TRNT1	11	2	6	4	0	5.2244	8996000	8897700	12005000	0	930130	TRNT1	2337	12005000	1933688.507	FALSE	TRUE	12005000	1933688.507	6.208342
COA7	1	2	10	3	0	4.487	0	0	13293000	0	2415700	COA7	1854	13293000	2109509.841	FALSE	TRUE	13293000	2109509.841	6.301464
FDX1	1	2	9.2	1	0.004631	1.8044	0	12697000	0	0	1785400	FDX1	2020	5343151.404	845434.9043	TRUE	TRUE	5343151.404	845434.9043	6.320003
OSTF1	1	3	24.8	6	0	14.631	23498000	16766000	16175000	0	4575100	OSTF1	1494.5	16175000	2525306.074	FALSE	TRUE	16175000	2525306.074	6.405164
STXBP3	1	2	2.7	4	0.00113	2.2385	8902900	7661700	6926300	0	838340	STXBP3	2380	6926300	1041564.239	FALSE	TRUE	6926300	1041564.239	6.649902
MRPL44	1	2	8.7	3	0	11.729	0	0	12143000	0	1492800	MRPL44	2120	12143000	1779855.479	FALSE	TRUE	12143000	1779855.479	6.822464
TATDN1	11	4	14.3	5	0	5.1813	0	16900000	0	0	2327700	TATDN1	1881	8023832.376	1170691.652	TRUE	TRUE	8023832.376	1170691.652	6.853925
NUFIP2	1	4	7.1	6	0	7.056	11376000	0	0	0	1001800	NUFIP2	2310	8622840.605	1235694.162	TRUE	TRUE	8622840.605	1235694.162	6.978135
NAA50	10	5	44.2	5	0	9.1374	20375000	24293000	24701000	0	8572200	NAA50	1132	24701000	3511896.572	FALSE	TRUE	24701000	3511896.572	7.033521
SCARB1	7	2	5.2	2	0.000421	3.1208	0	0	14877000	0	835750	SCARB1	2382	14877000	2071576.165	FALSE	TRUE	14877000	2071576.165	7.181488
AP3M1	4	4	14.1	6	0	5.3114	13045000	11713000	16498000	0	1984700	AP3M1	1971	16498000	2230153.567	FALSE	TRUE	16498000	2230153.567	7.397697
AMPD2	8	2	18.4	2	0.003655	1.9702	0	0	6966800	0	3699800	AMPD2	1611	6966800	935411.7451	FALSE	TRUE	6966800	935411.7451	7.447843
PAPSS2	2	3	5.7	2	0	5.692	0	0	13850000	0	627750	PAPSS2	2500	13850000	1843409.852	FALSE	TRUE	13850000	1843409.852	7.513251
NOL9	1	4	7	5	0	8.186	12751000	14913000	11308000	0	1559900	NOL9	2098	11308000	1483435.763	FALSE	TRUE	11308000	1483435.763	7.622844
S100A8	1	3	31.2	5	0	7.3706	61224000	0	0	0	7818500	S100A8	1181	7397907.569	970422.1353	TRUE	TRUE	7397907.569	970422.1353	7.623391
TSPAN6	3	2	8.6	3	0.000443	3.5978	0	11582000	10402000	0	3415900	TSPAN6	1673	10402000	1358051.235	FALSE	TRUE	10402000	1358051.235	7.659505
MRPS21	1	2	29.9	6	0	15.918	6786600	11683000	0	0	5488900	MRPS21	1371	6544605.664	846526.7626	TRUE	TRUE	6544605.664	846526.7626	7.731127
ADAM10	2	2	3.9	3	0	4.6737	0	0	11282000	0	371840	ADAM10	2669	11282000	1429910.14	FALSE	TRUE	11282000	1429910.14	7.890006
CSTF2;CST	5	3	9.6	2	0	6.5931	0	0	13559000	0	909080	CSTF2	2347	13559000	1686867.976	FALSE	TRUE	13559000	1686867.976	8.037973
EXOSC5	3	3	23.4	3	0	11.161	0	16843000	0	0	3022500	EXOSC5	1747	9334489.731	1154804.558	TRUE	TRUE	9334489.731	1154804.558	8.083177
ADNP	3	2	2.5	2	0	5.8616	0	0	7630500	0	136960	ADNP	2861	7630500	943654.7818	FALSE	TRUE	7630500	943654.7818	8.086114
NF1	6	2	1.6	1	0	5.151	0	0	9652700	0	119340	NF1	2873	9652700	1177618.11	FALSE	TRUE	9652700	1177618.11	8.1968
F11R	2	2	6.4	3	0.000427	3.268	0	0	30818000	0	2327200	F11R	1882.5	30818000	3651948.858	FALSE	TRUE	30818000	3651948.858	8.438782
PELP1	7	4	3.2	6	0.000428	3.2814	12398000	15344000	20299000	0	1239000	PELP1	2207	20299000	2263131.726	FALSE	TRUE	20299000	2263131.726	8.969429
PRPF4	2	3	7.9	6	0	7.6584	14281000	14093000	15055000	0	1489700	PRPF4	2121	15055000	1655156.776	FALSE	TRUE	15055000	1655156.776	9.095815
MRPS36	1	2	30.1	5	0	6.2755	8834000	7982600	8687200	0	5505900	MRPS36	1368	8687200	928320.05	FALSE	TRUE	8687200	928320.05	9.35798
SQLE	3	2	6.5	1	0.000456	3.8895	0	0	19754000	0	1473700	SQLE	2125	19754000	2031653.425	FALSE	TRUE	19754000	2031653.425	9.723115
POLDIP2	2	2	6.9	4	0	5.1234	0	0	14629000	0	1573800	POLDIP2	2090	14629000	1490486.155	FALSE	TRUE	14629000	1490486.155	9.814918
AK4	2	3	17.5	5	0	5.0297	7857100	8474900	17012000	0	2399300	AK4	1860	17012000	1660978.715	FALSE	TRUE	17012000	1660978.715	10.24215
CDK5RAP3	10	2	5.7	5	0.002228	2.1246	6812200	5506500	8149000	0	1386400	CDK5RAP3	2164	8149000	775038.4701	FALSE	TRUE	8149000	775038.4701	10.51432
NDC80	1	2	3.7	2	0.006218	1.5967	0	0	26238000	0	610560	NDC80	2512	26238000	2486942.374	FALSE	TRUE	26238000	2486942.374	10.5503
SNRPA	7	3	16	9	0	15.993	58336000	50152000	39241000	0	12998000	SNRPA	921	39241000	3489094.83	FALSE	TRUE	39241000	3489094.83	11.24676
TBCB	8	6	22.3	12	0	14.879	72795000	69144000	35099000	0	9867400	TBCB	1053	35099000	3039249.314	FALSE	TRUE	35099000	3039249.314	11.54858
DNMT1	7	3	2.5	2	0	5.2665	9893800	10896000	10070000	0	397140	DNMT1	2644	10070000	859417.5798	FALSE	TRUE	10070000	859417.5798	11.71724
DDX47	3	6	18	5	0	8.9	0	0	24544000	0	2777000	DDX47	1788	24544000	2049919.868	FALSE	TRUE	24544000	2049919.868	11.97315
NUBP2	7	2	8.4	2	0.001146	2.3186	0	0	14049000	0	1445400	NUBP2	2136	14049000	1158341.615	FALSE	TRUE	14049000	1158341.615	12.12855
IPO9	1	5	5.9	3	0	7.3746	37282000	45228000	36177000	0	3215400	IPO9	1711	36177000	2950956.87	FALSE	TRUE	36177000	2950956.87	12.25941
CECR5	2	3	12.2	4	0	20.885	8551200	0	20595000	0	2269600	CECR5	1902	20595000	1678861.423	FALSE	TRUE	20595000	1678861.423	12.26724
ALDOC	7	4	28	19	0	40.681	35899000	33817000	40961000	0	5248000	ALDOC	1397	40961000	3336062.39	FALSE	TRUE	40961000	3336062.39	12.27825
NDRG1	14	9	37.8	23	0	38.27	211280000	72006000	22301000	0	25535000	NDRG1	604	22301000	1809946.33	FALSE	TRUE	22301000	1809946.33	12.32136
IGF2BP2	7	5	12.7	6	0	25.148	0	20794000	41217000	0	2396400	IGF2BP2	1862	41217000	3289105.831	FALSE	TRUE	41217000	3289105.831	12.53137
GRN	8	2	4.9	5	0	5.9789	0	0	21469000	0	1064600	GRN	2282	21469000	1673797.171	FALSE	TRUE	21469000	1673797.171	12.82652
TESC	2	2	13.4	3	0.00042	3.1117	0	0	19447000	0	2219500	TESC	1913	19447000	1504908.054	FALSE	TRUE	19447000	1504908.054	12.92238
EIF2B1	4	2	11.2	5	0.004965	1.7629	8964700	14170000	15533000	0	4859500	EIF2B1	1442	15533000	1195457.892	FALSE	TRUE	15533000	1195457.892	12.99335
ATP5J2-PT	7	2	44.4	6	0	6.8325	18894000	15899000	17626000	0	13256000	ATP5J2-PT	905	17626000	1353918.956	FALSE	TRUE	17626000	1353918.956	13.0185
PPIF	4	2	21.3	5	0	10.981	28500000	20337000	23038000	0	7126000	PPIF	1243	23038000	1764837.332	FALSE	TRUE	23038000	1764837.332	13.05389
FKBP9	5	6	11.4	6	0	6.2266	25338000	24794000	28292000	0	3373000	FKBP9	1678.5	28292000	2117360.653	FALSE	TRUE	28292000	2117360.653	13.36192
TMEM43	2	8	27	15	0	39.377	1.07E+08	106380000	38509000	0	11088000	TMEM43	993	38509000	2851110.158	FALSE	TRUE	38509000	2851110.158	13.50667
SLC25A22;	15	2	8.9	6	0	6.1505	0	7792400	14287000	0	1419000	SLC25A22	2149	14287000	1001730.388	FALSE	TRUE	14287000	1001730.388	14.26232
YY2;YY1;Z	4	2	4.6	2	0.000811	2.8238	0	0	16625000	0	2412800	YY2	1857	16625000	1079470.59	FALSE	TRUE	16625000	1079470.59	15.40107
SEC22B	1	4	21.9	17	0	11.329	24449000	17372000	14743000	0	4291900	SEC22B	1532	14743000	939611.7922	FALSE	TRUE	14743000	939611.7922	15.69052
ATP6V0D1	4	2	10.8	5	0	6.5098	16140000	10604000	26634000	0	4084700	ATP6V0D1	1553	26634000	1673883.889	FALSE	TRUE	26634000	1673883.889	15.9115
MACROD1	1	3	10.8	4	0	6.0614	0	0	40880000	0	3177200	MACROD1	1718	40880000	2370110.284	FALSE	TRUE	40880000	2370110.284	17.24814
GPX1	3	2	17.8	3	0.000798	2.7055	0	0	16497000	0	2864200	GPX1	1770	16497000	927601.4786	FALSE	TRUE	16497000	927601.4786	17.78458
CCDC58	3	3	27.7	5	0	9.8394	0	0	19818000	0	10481000	CCDC58	1022	19818000	1085945.1	FALSE	TRUE	19818000	1085945.1	18.24954
LYPLA2	5	3	20.7	8	0.000442	3.566	19317000	16187000	22330000	0	6957000	LYPLA2	1254	22330000	1128499.128	FALSE	TRUE	22330000	1128499.128	19.78734
USMG5	1	2	43.1	15	0	31.434	37819000	32874000	34569000	0	36916000	USMG5	470	34569000	1741667.842	FALSE	TRUE	34569000	1741667.842	19.84822
SLK	2	6	5.4	9	0	9.332	15902000	0	31039000	0	1314700	SLK	2177	31039000	1557560.688	FALSE	TRUE	31039000	1557560.688	19.92796
PSIP1	3	7	15.5	13	0	18.33	44835000	64043000	28491000	0	5256300	PSIP1	1394	28491000	1332309.58	FALSE	TRUE	28491000	1332309.58	21.38467
EPB41L2	19	6	8.2	7	0	13.044	31052000	33741000	28508000	0	1854100	EPB41L2	2004	28508000	1257544.149	FALSE	TRUE	28508000	1257544.149	22.66958
LIG1	9	4	5.8	6	0	6.2163	14697000	15995000	36411000	0	1595600	LIG1	2082	36411000	1589379.534	FALSE	TRUE	36411000	1589379.534	22.90894
CTSL	6	8	31.2	31	0	49.923	252250000	539970000	50267000	0	78451000	CTSL	277	50267000	1871336.354	FALSE	TRUE	50267000	1871336.354	26.86155
IST1	12	3	12.1	2	0	4.4263	0	11432000	12597000	0	3830400	IST1	1596	12597000	460352.9759	FALSE	TRUE	12597000	460352.9759	27.36379
HMGCS2	3	2	5.8	4	0.001494	2.1823	0	0	18004000	0	832650	HMGCS2	2383	18004000	634840.2594	FALSE	TRUE	18004000	634840.2594	28.35989
NDUFS8	6	3	20.7	5	0	10.402	42866000	38067000	81371000	0	13283000	NDUFS8	904	81371000	1400500.429	FALSE	TRUE	81371000	1400500.429	58.10137
TLN2	4	2	3.8	7	0.004956	1.7491	123760000	123130000	130170000	0	4248300	TLN2	1540	130170000	1466775.171	FALSE	TRUE	130170000	1466775.171	88.74571
GOLGB1	6	6	2	6	0	6.5436	0	0	288830000	0	2260800	GOLGB1	1905	288830000	2406020.544	FALSE	TRUE	288830000	2406020.544	120.0447

Supplementary Table S2: The proteins interacted with TRIM31 were identified by CO-IP and mass spectrometry (MS)

Gene name	Peptides	Unique pe	Peptides	Peptides V	Unique pe	Unique pe	Sequence c	Mol. weig	Sequence	Q-value	Score	Sequence	Sequence	intensity 31	intensity VECTOR	FC (31/vector)
TRIM31	29	29	29	0	29	0	69.9	48.243	425	0	323.31	69.9	0	778710000	0	#DIV/0!
RPS27A	3	1	3	0	1	0	24.4	17.965	156	0	63.115	24.4	0	8261100	0	#DIV/0!
WDR87	1	1	1	0	1	0	0.4	337.83	2912	0.0023866	6.4195	0.4	0	7774400	0	#DIV/0!
RPS10	2	2	2	1	2	1	19.8	14.294	121	0	12.772	19.8	7.4	3495700	0	#DIV/0!
LMNB1	6	6	5	2	5	2	15.4	66.408	586	0	56.906	13.5	7	3471800	0	#DIV/0!
COL1A1	2	2	1	1	1	1	1.6	138.94	1464	0	11.253	0.6	1	3194000	0	#DIV/0!
TP53	2	2	2	0	2	0	11.2	43.66	393	0.0023126	6.2582	11.2	0	3023211	0	#DIV/0!
PHB2	2	2	2	0	2	0	12.2	23.615	213	0	12.877	12.2	0	2893200	0	#DIV/0!
PHB	3	3	3	0	3	0	16.4	22.27	201	0	22.181	16.4	0	2749000	0	#DIV/0!
PCMT1	2	2	2	1	2	1	10	26.626	250	0	13.05	10	4.4	2702100	0	#DIV/0!
TARDBP	3	3	3	1	3	1	16	26.743	243	0	36.452	16	7.4	2160800	0	#DIV/0!
NUFIP2	2	2	2	1	2	1	4.9	76.12	695	0	21.526	4.9	1.9	1976800	0	#DIV/0!
RPS12	2	2	2	0	2	0	25	14.515	132	0	13.893	25	0	1948500	0	#DIV/0!
SNRPN	2	2	2	1	2	1	8.9	17.546	169	0	13.044	8.9	4.7	1729800	0	#DIV/0!
CPSF7	3	3	2	2	2	2	14.6	24.387	219	0	18.11	11	9.6	1666500	0	#DIV/0!
SNRNP200	2	2	2	1	2	1	1	244.5	2136	0	11.801	1	0.7	1623900	0	#DIV/0!
RPN1	2	2	2	0	2	0	4.6	49.921	435	0	12.23	4.6	0	1531800	0	#DIV/0!
HLA-B	2	2	2	1	2	1	10.3	25.744	224	0	20.621	10.3	4	1397800	0	#DIV/0!
TMA16	2	2	2	1	2	1	16	17.155	144	0	11.413	16	5.6	1377500	0	#DIV/0!
MYBBP1A	4	4	4	1	4	1	5.2	140.13	1252	0	33.709	5.2	0.9	1348500	0	#DIV/0!
EPRS	2	2	2	0	2	0	2.4	170.59	1512	0	13.179	2.4	0	1345100	0	#DIV/0!
RAB6B	1	1	1	1	1	1	22.4	5.8575	49	0.0024631	6.5802	22.4	22.4	1320800	0	#DIV/0!
MRPS34	3	3	3	1	3	1	18.7	26.332	225	0	17.48	18.7	3.6	1304600	0	#DIV/0!
U2SURP	2	2	2	0	2	0	2.5	118.29	1029	0	11.767	2.5	0	1257400	0	#DIV/0!
ATP5O	2	2	2	1	2	1	10.3	23.277	213	0	13.215	10.3	4.7	1249200	0	#DIV/0!
USO1	2	2	2	1	2	1	1.7	107.89	962	0	53.829	1.7	1.6	1227100	0	#DIV/0!
EIF5B	2	2	2	1	2	1	3.3	138.68	1220	0	17.112	3.3	1.7	1213300	0	#DIV/0!
CPSF6	3	3	2	2	2	2	11.5	52.269	478	0	35.04	8.2	6.3	1153700	0	#DIV/0!
NBPF19	1	1	1	0	1	0	7.2	26.705	235	0	7.283	7.2	0	1078600	0	#DIV/0!
PCNA	3	3	2	1	2	1	15.3	28.768	261	0	17.913	12.3	3.1	1006700	0	#DIV/0!
VDAC1	1	1	1	0	1	0	6	20.274	183	0.0024691	6.5978	6	0	983570	0	#DIV/0!
HOXA10	1	1	1	0	1	0	3.2	42.414	410	0	7.1316	3.2	0	952240	0	#DIV/0!
HGF	1	1	1	0	1	0	3.9	23.584	205	0.002439	6.5551	3.9	0	940820	0	#DIV/0!
MCM3	3	3	2	2	2	2	5	91.929	818	0	16.875	3.4	4	926290	0	#DIV/0!
ATP1A1	2	2	2	0	2	0	2.7	112.89	1023	0	14.24	2.7	0	908650	0	#DIV/0!
SMN1	1	1	1	0	1	0	3.5	30.415	282	0	7.9403	3.5	0	853110	0	#DIV/0!
PGRMC1	1	1	1	0	1	0	7.2	21.671	195	0	8.9196	7.2	0	830280	0	#DIV/0!
SLC16A1	1	1	1	0	1	0	4.1	31.689	296	0.0046838	6.1963	4.1	0	806580	0	#DIV/0!
BANF1	1	1	1	0	1	0	27	10.058	89	0	7.0826	27	0	782090	0	#DIV/0!
CCT4	2	2	2	0	2	0	7.8	57.924	539	0	13.988	7.8	0	756570	0	#DIV/0!
EEF1G	2	2	2	0	2	0	4.6	50.118	437	0	10.836	4.6	0	729470	0	#DIV/0!
HSPA5	3	2	3	1	2	0	4.9	72.332	654	0	22.782	4.9	2.4	662010	0	#DIV/0!
FUBP1	4	1	4	2	1	0	5.3	68.903	655	0.0025253	6.8228	5.3	2.1	613930	0	#DIV/0!
ATP5B	2	2	2	0	2	0	7.2	38.138	362	0	11.254	7.2	0	605320	0	#DIV/0!
BSG	1	1	1	0	1	0	9.5	20.542	189	0.0046404	6.1646	9.5	0	594850	0	#DIV/0!
NDUFA4	1	1	1	0	1	0	14.8	9.3697	81	0.0025641	6.9554	14.8	0	571840	0	#DIV/0!
PTRH2	1	1	1	0	1	0	8.3	19.325	180	0.0045872	6.0827	8.3	0	560900	0	#DIV/0!
SS18L1	1	1	1	0	1	0	5.7	23.41	211	0.004662	6.1812	5.7	0	557370	0	#DIV/0!
RPS21	1	1	1	0	1	0	12.3	8.85	81	0.0068337	6.0451	12.3	0	509200	0	#DIV/0!
MSI2	1	1	1	0	1	0	3.7	28.776	267	0.0024752	6.6291	3.7	0	491670	0	#DIV/0!
PHF6	1	1	1	1	1	1	4.3	36.43	324	0.004717	6.2433	4.3	4.3	469050	0	#DIV/0!
NOB1	2	2	2	1	2	1	6.3	46.674	412	0	11.987	6.3	2.2	440870	0	#DIV/0!
FTSJ3	1	1	1	0	1	0	2.6	96.557	847	0.0024814	6.6506	2.6	0	412600	0	#DIV/0!
RBBP7	1	1	1	0	1	0	5.6	31.503	285	0.0045662	6.0732	5.6	0	397270	0	#DIV/0!
TSR1	1	1	1	0	1	0	1.4	91.809	804	0.0046083	6.1241	1.4	0	362690	0	#DIV/0!
SSR4	1	1	1	0	1	0	12.8	16.245	148	0.0024213	6.5054	12.8	0	338590	0	#DIV/0!
ATP5J2-PT	1	1	1	0	1	0	20.4	5.9149	54	0.0045767	6.0811	20.4	0	316150	0	#DIV/0!
RBM14	2	2	2	0	2	0	3	69.491	669	0	14.649	3	0	306100	0	#DIV/0!
ASPH	1	1	1	0	1	0	2.6	85.862	758	0.0024038	6.4599	2.6	0	287370	0	#DIV/0!
SS18	1	1	1	0	1	0	3.5	43.519	395	0	16.632	3.5	0	285870	0	#DIV/0!
DICER1	1	1	1	0	1	0	0.5	218.68	1922	0.0025773	6.9632	0.5	0	279000	0	#DIV/0!
HSP90AB2P	4	1	4	2	1	0	11.8	44.348	381	0	7.5868	11.8	5.5	278990	0	#DIV/0!
FAM199X	1	1	1	0	1	0	3.9	42.801	388	0.0047506	6.2953	3.9	0	236760	0	#DIV/0!
PRPS1	3	3	2	1	2	1	11.6	31.392	285	0	17.63	7.4	4.2	213950	0	#DIV/0!
CAD	2	2	2	0	2	0	1.2	236.02	2162	0	10.928	1.2	0	207650	0	#DIV/0!
RPN2	1	1	1	0	1	0	7.4	17.808	162	0	16.086	7.4	0	168460	0	#DIV/0!
RRP12	1	1	1	0	1	0	1.8	143.7	1297	0	7.7261	1.8	0	146250	0	#DIV/0!
CNP	1	1	1	0	1	0	19.2	13.647	120	0	7.2111	19.2	0	103200	0	#DIV/0!
EIF2AK2	1	1	1	0	1	0	2.2	62.094	551	0	11.539	2.2	0	74065	0	#DIV/0!
KHDRBS1	14	12	13	13	11	11	30.9	48.227	443	0	210.11	30.9	30.9	1227800000	1292400000	0.950015
HNRNPF	17	15	17	13	15	11	65.8	45.671	415	0	323.31	65.8	58.1	933100000	643490000	1.450061
ALB	6	6	5	6	5	6	8.6	69.226	604	0	53.313	7.1	8.6	569670000	734380000	0.775716
TUBB4B	23	1	23	21	1	1	62	49.83	445	0	323.31	62	59.8	540150000	372090000	1.451665
HNRNPH1	15	10	15	14	10	9	47.9	51.229	472	0	310.42	47.9	47.9	361740000	463810000	0.779931
TRIM21	24	24	23	21	23	21	54.5	54.169	475	0	323.31	52.6	49.3	341180000	202830000	1.682098
TUBA1B	20	1	18	16	1	1	54.8	50.151	451	0	279.99	51.4	46.3	226460000	124080000	1.825113
ZNF326	14	14	11	13	11	13	26.5	65.653	582	0	149.54	24.9	24.2	179600000	144800000	1.240331
TUBB	22	4	22	21	4	4	64.3	47.766	426	0	161.93	64.3	62.4	178710000	163830000	1.090826
DDX3X	28	27	26	26	25	25	54.2	69.047	622	0	321.94	52.4	52.4	151330000	119850000	1.262662
HNRNPH3	10	10	9	9	9	9	48.6	36.926	346	0	177.89	42.5	46	148340000	98149000	1.511376
HNRNPUL1	23	23	23	17	23	17	43.3	85.939	766	0	323.31	43.3	35.1	103590000	83548000	1.239886
HNRNPK	18	18	18	17	18	17	50.5	50.976	463	0	210.86	50.5	48.2	102940000	120330000	0.855481
PABPC1	20	12	19	19	12	12	44.1	58.535	522	0	253.66	42	42.3	95143000	120610000	0.788848
ILF3	28	26	20	26	19	24	43	95.337	894	0	239.38	31.4	42.6	93893000	114050000	0.823262
TAF15	12	10	12	11	10	10	26.2	61.829	592	0	162.71	26.2	26.2	83096000	59577000	1.394766
ACTB	20	9	10	20	4	9	69.1	41.736	375	0	230.5	41.1	69.1	80289000	445670000	0.180153
SEC16A	31	31	29	28	29	28	19	249.48	2334	0	263.73	17.7	18	79233000	82120000	0.964844
EEF1A1P5	9	9	9	6	9	6	34.2	50.184	462	0	69.257	34.2	22.3	78013000	54224000	1.438717
KHSRP	21	18	18	18	15	16	36.4	73.027	711	0	201.3	32.2	33.9	76290000	65374000	1.166978
AKAP8	20	20	19	16	19	16	38	76.107	692	0	236.39	36.8	31.8	76269000	63154000	1.207667
RPS2	11	11	10	10	10	10	41.3	31.324	293	0	95.009	34.8	38.6	72922000	75696000	0.963353
HNRNPU	22	22	19	21	19	21	35.3	88.317	804	0	257.72	32.1	31.6	69716000	70236000	0.992596
HNRNPA2B1	11	10	11	9	10	8	36	37.429	353	0	111.68	36	32.6	64029000	57973000	1.104462
RPS18	8	8	7	7	7	7	45.4	17.718	152	0	51.45	40.8	37.5	63426000	27596000	2.298377
PCBP1	14	11	13	8	11	6	67.7	37.497	356	0	153.87	65.4	32.6	62842000	46134000	1.362162
DDX5	25	19	24	21	18	16	41.7	69.086	614	0	199.33	41.2	38.6	60991000	84042000	0.72572
IGF2BP1	16	14	13	15	11	13	33.6	63.48	577	0	142.33	27	32.2	60586000	73104000	0.828764
RPL6	14	14	12	12	12	12	38.2	32.728	288	0	140.69	34.7	35.1	58020000	60120000	0.96507
EMD	9	9	9	7	9	7	41.7	28.994	254	0	150.84	41.7	34.6	54699000	38764000	1.411077
RPL4	15	15	12	14	12	14	39.6	47.697	427	0	137.66	34.4	38.2	54466000	72541000	0.750831
HNRNPH2	11	7	11	10	7	6	38.3	49.263	449	0	129.51	38.3	34.1	53046000	54231000	0.978149
RPL3	15	15	12	14	12	14	36	46.108	403	0	111.63	33.5	36	52295000	48736000	1.073026
BAG4	12	12	12	11	12	11	46.4	49.593	457	0	234.52	46.4	46.4	51322000	31955000	1.606071
AKAP8L	10	10	10	10	10	10	20.7	71.648	646	0	122.14	20.7	20.7	51190000	52086000	0.982798
RPS9	10	10	8	10	8	10	41.2	22.591	194	0	70.906	33	41.2	49418000	58267000	0.84813
RPS4X	16	16	12	15	12	15	55.5	29.597	263	0	181.27	44.5	52.5	49032000	61113000	0.802317

NPM1	9	9	8	8	8	8	42.2	32.575	294	0	132.76	42.2	39.8	47535000	48346000	0.983225
RPS17	8	8	8	8	8	8	13.2	64.532	584	0	85.394	13.2	13.2	47468000	58042000	0.817822
RPS8	10	10	10	9	10	9	49	24.205	208	0	137.42	49	45.7	45866000	59768000	0.767401
RPS14	8	8	6	7	6	7	40.7	16.159	150	0	63.613	39.3	39.3	45638000	48204000	0.946768
RPL10	9	2	7	9	1	2	42	22.975	200	0	78.073	40.5	42	45425000	39359000	1.15412
RPL13	5	5	5	5	5	5	24.2	24.261	211	0	54.845	24.2	24.2	44762000	49726000	0.900173
RPL7		13	11	12	11	12	48	29.225	248	0	92.598	45.2	47.6	42367000	46253000	0.915984
RPS16	8	8	7	8	7	8	51.4	16.445	146	0	52.978	45.9	51.4	42285000	28288000	1.494803
SERBP1	12	12	11	9	11	9	35.5	44.965	408	0	193.05	32.4	23.5	42248000	22465000	1.880614
RPS3	14	14	14	6	14	6	60.9	26.688	243	0	107.74	60.9	32.5	42050000	24873000	1.690588
RPL15	10	10	9	9	9	9	43.6	24.146	204	0	85.021	43.6	43.1	40982000	55993000	0.731913
HSPA8	16	14	15	9	13	7	28.6	70.897	646	0	136.33	26.9	17.8	40660000	19242000	2.113086
HSPA1B	15	8	15	11	8	5	28	70.108	642	0	143.42	28	23.4	40011000	30440000	1.314422
DDX1	20	20	18	15	18	15	35	82.431	740	0	158.06	33.6	26.8	36241000	25059000	1.446227
YLPM1	20	20	17	20	17	20	11.4	241.64	2146	0	148.35	11	11.4	34450000	36474000	0.944508
RPL27A	7	7	6	6	6	6	35.1	16.561	148	0	58.38	28.4	29.7	34108000	40960000	0.832715
RPS3A	7	7	7	7	7	7	36.8	25.608	223	0	71.211	36.8	36.8	34094000	35168000	0.969461
HNRNPL	13	13	12	12	12	12	38.9	58.362	530	0	156.96	37	36.4	33902000	52186000	0.649638
RTCB	17	17	15	11	15	11	43.4	55.21	505	0	169.02	38.8	32.5	32535000	25051000	1.298751
RPS6	6	6	4	5	4	5	21.7	28.68	249	0	83.38	18.5	18.5	32120000	42990000	0.747151
RPS19	9	9	9	3	9	3	49	16.06	145	0	61.249	49	19.3	31965000	8870700	3.603436
HIST1H4A	8	8	8	6	8	6	59.2	11.367	103	0	69.538	59.2	57.3	30989000	36335000	0.852869
RPL34	5	5	4	5	4	5	30.8	13.293	117	0	32.528	30.8	30.8	30790000	27025000	1.139315
RPL19	5	5	2	5	2	5	19.2	23.134	193	0	53.564	13.5	19.2	29256000	35041000	0.834908
DHX9	23	23	20	19	20	19	24.3	140.96	1270	0	217.69	21.3	20.5	29080000	40533000	0.71744
TUBB8	11	2	11	10	2	2	24.5	49.775	444	0	28.348	24.5	22.7	28881000	20778000	1.38998
RPL7A	10	10	8	8	8	8	34.6	29.995	266	0	71.741	30.8	34.2	28586000	28947000	0.987529
ILF2	7	7	6	7	6	7	26.7	38.91	352	0	90.085	23.6	26.7	28547000	26944000	1.059494
SLC25A5	9	4	8	5	4	2	27.2	32.852	298	0	87.621	24.5	16.8	27803000	11181000	2.486629
PRDX1	8	8	8	7	8	7	44.7	22.11	199	0	63.261	44.7	39.2	27701000	13575000	2.040589
RPL12	5	5	5	4	5	4	45.5	17.818	165	0	110.53	45.5	35.8	26941000	22337000	1.206115
HIST1H1C	5	5	4	5	4	5	15	21.364	213	0	36.067	10.8	15	26828000	39664000	0.676382
RPSA	8	8	8	4	8	4	51.3	29.404	263	0	107.19	51.3	27.8	25891000	14349000	1.804377
RPS11	7	7	7	6	7	6	43	18.431	158	0	66.812	43	36.7	24350000	26080000	0.933666
RPS25	3	3	2	3	2	3	24	13.742	125	0	19.715	16	24	23872000	15390000	1.551137
FUS	8	6	7	7	5	6	21.7	53.425	526	0	60.994	21.5	21.7	23623000	12272000	1.924951
DDX17	20	14	19	16	13	11	35.1	80.253	729	0	125.44	33.2	30	23269000	28620000	0.813033
HNRNPDL	10	9	8	9	7	8	22.3	40.04	363	0	136.18	22	22.3	23233000	33961000	0.684108
RPL8	8	8	6	7	6	7	34.2	28.024	257	0	73.97	28.4	31.1	23055000	25181000	0.915571
LARP1	19	19	13	17	13	17	32.7	123.51	1096	0	194.17	20.3	27.8	22922000	32347000	0.708628
RPL27	4	4	4	4	4	4	36	15.798	136	0	29.945	36	36	22581000	18387000	1.228096
MOV10	21	21	14	21	14	21	30.1	107.21	947	0	241.13	17.8	30.1	21779000	26083000	0.834988
RPLP0	6	6	6	6	6	6	30.3	34.273	317	0	43.519	30.3	30.3	21040000	23989000	0.877069
CP	8	8	8	6	8	6	7.9	122.2	1065	0	72.576	7.9	5.9	21032000	19930000	1.055294
RPL24	5	5	3	4	3	4	39.7	14.369	121	0	41.999	25.6	31.4	20917000	29614000	0.706321
GNB2L1	10	10	10	5	10	5	47.3	35.076	317	0	82.278	47.3	19.9	20827000	7581900	2.746937
RPL11	6	6	6	4	6	4	33.1	20.252	178	0	64.107	33.1	24.2	20774000	24321000	0.854159
DDX21	17	17	13	16	13	16	29.5	87.343	783	0	186.21	23.4	27.2	20769000	33245000	0.624726
RPL36A	5	2	3	5	1	2	25	13.228	112	0	32.367	17	25	20742000	28946000	0.716576
YBX1	7	4	6	7	3	4	29.3	35.924	324	0	105.51	22.2	29.3	20360000	23726000	0.85813
PTBP1	10	10	8	9	8	9	26.2	62.463	588	0	99.78	20.6	24	20332000	35221000	0.577269
GPRASP2	9	9	9	3	9	3	13	93.772	838	0	81.907	13	4.2	20064000	10947000	1.832831
RPL28	5	5	5	3	5	3	22.9	19.072	170	0	35.484	22.9	17.6	19966000	21962000	0.909116
MATR3	18	15	15	17	12	14	28.3	94.622	847	0	162.42	22	28.3	19886000	26035000	0.763818
RCN2	9	9	8	8	8	8	33.4	36.876	317	0	132.34	30.9	28.4	19845000	21968000	0.903359
CTTN	12	12	11	8	11	8	21.6	61.585	550	0	94.956	18.9	15.3	19594000	15383000	1.273744
HIST1H2BN	5	5	3	5	3	5	31.3	18.804	166	0	54.257	21.7	31.3	19551000	18586000	1.051921
RPL14	4	4	4	4	4	4	36.3	14.558	124	0	44.35	36.3	36.3	19396000	16539000	1.172743
HNRNPD	9	8	6	9	5	8	38.6	23.811	210	0	81.765	32.4	38.6	19370000	31295000	0.618949
RPS20	4	4	4	3	4	3	28.6	13.373	119	0	28.74	28.6	22.7	19283000	17954000	1.074023
KHDRBS3	8	6	7	6	5	4	21.7	38.799	346	0	38.999	19.4	16.2	19271000	18337000	1.050935
RBMX	12	6	9	9	4	5	28.4	42.331	391	0	99.881	24.3	21	19212000	19351000	0.992817
RPL18	5	5	4	4	4	4	28	18.756	164	0	48.436	22	27.4	19108000	17068000	1.119522
PABPC4	17	9	14	15	7	8	33.3	67.97	615	0	66.323	27.2	30.1	18257000	27932000	0.653623
NCL	11	11	10	9	10	9	18.9	76.613	710	0	120.7	17.7	17.7	17897000	17870000	1.001511
HIST1H2AJ	2	2	2	2	2	2	16.6	18.481	169	0	19.56	16.6	16.6	17613000	45579000	0.386428
RPL10A	7	7	6	3	6	3	35	24.831	217	0	40.995	31.3	17.1	17491000	13757000	1.271425
FGG	4	4	4	4	4	4	12.1	50.322	445	0	136.7	12.1	12.1	17487000	16455000	1.062716
HNRNPR	17	10	8	15	5	8	29.2	70.942	633	0	119.87	16.6	24.8	17424000	23580000	0.738931
SRSF1	10	9	7	10	6	9	37.9	28.329	253	0	80.847	28.1	37.9	17413000	22368000	0.778478
RPL5	8	8	7	5	7	5	33.6	27.045	238	0	54.506	33.6	22.7	17058000	12724000	1.340616
PRCC	8	8	7	8	7	8	27.1	52.417	491	0	103.89	24.8	27.1	16307000	17070000	0.955302
RPL31	3	3	3	2	3	2	26.4	14.463	125	0	37.514	26.4	18.4	15652000	30812000	0.507984
SRSF7	6	5	6	6	5	5	43.1	15.763	137	0	42.074	43.1	43.1	15507000	25121000	0.617292
CTNND1	6	6	6	6	6	6	9.3	104.85	938	0	47.322	9.3	9.3	15318000	12128000	1.263028
RPL21	5	5	3	5	3	5	30.6	18.565	160	0	46.958	25	30.6	15198000	21566000	0.70472
KRT1	15	11	7	14	5	10	25.2	66.038	644	0	202.18	13.8	22.5	14902000	56639000	0.263105
SRSF6	4	4	3	4	3	4	11.9	39.586	344	0	31.268	8.7	11.9	14643000	13928000	1.051335
FGB	8	8	8	5	8	5	29	31.18	272	0	94.432	29	22.4	14624000	11488000	1.272981
SF1	6	5	5	6	4	5	15.6	68.329	639	0	56.555	14.1	15.6	14529000	14245000	1.019937
RPS26	4	4	4	4	4	4	37.4	13.015	115	0	34.776	37.4	37.4	14193000	19012000	0.746529
RPS5	6	6	5	5	5	5	36.5	22.391	200	0	76.538	32	31.5	13894000	7867900	1.76591
RPS15A	4	4	4	4	4	4	38	11.477	100	0	39.38	38	38	13741000	12481000	1.100953
RPL18A	8	8	5	8	5	8	39.2	20.762	176	0	62.763	26.1	39.2	13608000	10958000	1.241832
CALU	10	10	9	8	9	8	36.2	37.106	315	0	109.27	36.2	30.5	13397000	13261000	1.010256
RPL17	4	4	4	4	4	4	24.3	19.586	169	0	44.536	24.3	24.3	13387000	12719000	1.05252
RPL23A	6	6	5	5	5	5	28.5	17.692	158	0	54.487	27.2	20.3	12715000	22184000	0.573161
DHX30	18	18	14	14	14	14	20.8	130.55	1166	0	173.94	16	17.2	12615000	13991000	0.901651
RPS24	4	4	4	4	4	4	29.8	15.197	131	0	42.189	29.8	29.8	12593000	13049000	0.965055
RPS7	6	6	5	5	5	5	47.4	22.127	194	0	51.775	43.3	42.8	12168000	14442000	0.842543
HSPD1	10	10	10	5	10	5	21.1	61.054	573	0	78.379	21.1	9.9	12100000	5720000	2.115385
RPL23	3	3	3	2	3	2	47.3	9.6694	91	0	26.641	47.3	38.5	11852000	19018000	0.623199
HNRNPA3	5	5	4	5	4	5	19.6	39.594	378	0	64.994	15.6	19.6	11740000	12009000	0.9776
RPL26	4	4	2	4	2	4	25.2	12.63	107	0	25.912	16.8	25.2	11515000	10368000	1.110629
H3F3B	3	3	3	3	3	3	25	10.334	92	0	17.348	25	25	11485000	9623900	1.193383
RPL35A	2	2	2	2	2	2	22.3	10.645	94	0	20.098	22.3	22.3	11235000	14436000	0.778263
U2AF2	7	7	6	6	6	6	24.4	53.5	475	0	94.595	22.5	22.1	11062000	18201000	0.607769
ELAVL1	5	5	4	5	4	5	24.2	36.091	326	0	64.393	16.6	24.2	10965000	14798000	0.740979
HSP90AB1	11	8	11	6	8	4	18.5	83.263	724	0	186.68	18.5	9.7	10789000	6568000	1.642661
RPS13	5	5	4	4	4	4	33.8	16.733	148	0	44.862	27	25.7	10778000	12790000	0.84269
SRSF3	4	3	4	3	3	2	40	10.32	95	0	18.631	40	31.6	10740000	18920000	0.567653
UPF1	14	14	6	14	6	14	17	124.34	1129	0	141.24	8	17	10626000	12812000	0.829379
TUBB2A	20	1	20	18	1	1	60.2	49.906	445	0	38.704	60.2	55.1	10488000	11491000	0.912714
HNRNPM	8	8	6	6	6	6	14.5	77.569	730	0	56.914	11.5	11.1	10215000	7978500	1.280316
FAM98A	8	8	8	6	8	6	22.5	55.4	519	0	125.18	22.5	18.3	10212000	9934400	1.027943
TIAL1	6	4	6	6	4	4	22.9	41.59	375	0	63.112	22.9	22.9	10080000	9358700	1.077073
SFPQ	10	9	5	9	5	8	18.8	76.149	707	0	90.166	7.9	18.7	9860600	13377000	0.737131
HNRNPAB	4	4	4	4	4	4	15.4	30.302	280	0	66.891	15.4	15.4	9782500	17996000	0.543593
HNRNPA1	9	8	8	8	7	7	28	33.155	307	0	72.358	25.4	28	9668200	16309000	0.592814

RPL32	4	4	4	2	4	2	33.1	15.616	133	0	55.496	33.1	20.3	9459800	10478000	0.902825
SF1	4	1	4	3	1	1	28.3	18.639	180	0	43.985	28.3	23.9	9445600	9158400	1.031359
C14orf166	7	7	7	5	7	5	35.2	28.068	244	0	78.859	35.2	27.9	9413600	6594700	1.427449
RPS23	6	6	5	6	5	6	42	15.807	143	0	43.895	42	42	9322100	18076000	0.515717
SYNCRIP	16	9	10	16	7	9	28.4	69.602	623	0	155.98	20.7	28.4	9234000	18414000	0.501466
CNN2	5	5	5	5	5	5	26.8	32.616	298	0	66.069	26.8	26.8	9229800	4255200	2.169064
EEF2	13	13	12	6	12	6	19.2	95.337	858	0	104.87	18.1	10	8900900	7456800	1.193662
CNN3	5	5	5	3	5	3	19.1	36.413	329	0	37.612	19.1	10	8750600	5210700	1.679352
EIF4A3	7	5	6	4	4	2	19.2	46.871	411	0	61.398	16.1	11.7	8479200	7969000	1.064023
RPL13A	3	3	3	3	3	3	14.8	24.104	210	0	19.525	14.8	14.8	8407400	6647000	1.264841
RCC2	8	8	7	6	7	6	19.3	56.084	522	0	58.77	18	13.8	8300200	6451000	1.286653
RPL30	2	2	2	2	2	2	68.6	5.5553	51	0	70.347	68.6	68.6	7815600	12272000	0.636864
SRSF2	5	5	5	2	5	2	45.1	15.371	133	0	32.09	45.1	14.3	7696900	8502900	0.905209
NONO	8	7	6	6	6	5	35	28.09	234	0	50.325	31.6	31.6	7498500	9107200	0.82336
XRCC6	8	8	7	5	7	5	19.5	64.283	559	0	46.44	16.6	12.5	7187500	5527100	1.300411
ACTA1	12	1	7	12	1	1	30.2	42.051	377	0	17.538	21.5	30.2	7019100	26634000	0.263539
HNRNPA0	5	5	5	4	5	4	20.7	30.84	305	0	39.87	20.7	18.4	6721100	9872900	0.680762
HNRNPUL2	5	5	2	5	2	5	7.4	85.104	747	0	32.778	2.9	7.4	6644900	7088800	0.93738
PHGDH	6	6	6	2	6	2	13.3	55.938	526	0	72.914	13.3	4.6	6559600	1983400	3.30725
SLC25A3	4	4	4	2	4	2	18.8	36.161	324	0	26.055	18.8	8	6473600	2179700	2.96995
TCF25	4	4	4	2	4	2	7.5	76.666	676	0	29.959	7.5	4.7	6350800	1817600	3.494058
IGKV A18	2	2	2	2	2	2	16.7	13.085	120	0	56.493	16.7	16.7	6322900	7521800	0.84061
PCBP2	7	4	5	5	3	3	35.1	38.58	365	0	26.739	29	21.1	6151400	3171900	1.939342
U2AF1	7	7	5	6	5	6	31.7	27.872	240	0	89.898	22.1	30.8	6085600	8654700	0.703156
TUFM	8	8	8	6	8	6	27	49.541	452	0	61.472	27	21.2	6082200	5297800	1.148061
PLG	2	2	2	2	2	2	2.2	90.568	810	0	12.65	2.2	2.2	5920900	3316000	1.785555
RPS27	4	4	2	4	2	4	40.5	9.461	84	0	24.017	29.8	40.5	5816100	4562700	1.274706
LRRC59	6	6	4	4	4	4	30.6	34.93	307	0	37.592	22.1	19.2	5757300	2079100	2.769131
RPL22	2	2	2	2	2	2	28.9	14.787	128	0	24.911	28.9	28.9	5659300	13173000	0.429614
KRT9	10	10	3	9	3	9	25.2	62.064	623	0	142.17	6.1	23.1	5593100	18815000	0.297268
RPL37A	3	3	3	2	3	2	38.9	8.0627	72	0	20.325	38.9	29.2	5533300	6709200	0.824733
HNRNPC	5	5	4	5	4	5	19	25.256	231	0	32.684	18.6	19	5491300	5925400	0.926739
RPS29	3	3	2	3	2	3	46.4	6.6767	56	0	18.564	26.8	46.4	5392500	3410900	1.580961
ECM1	2	2	2	2	2	2	4.8	60.673	540	0	30.982	4.8	4.8	5203800	2996700	1.73651
DHX15	8	8	6	7	6	7	11.9	90.932	795	0	63.996	8.8	10.6	5203000	5551500	0.937224
EYA4	5	5	5	2	5	2	13.5	61.993	570	0	45.006	13.5	5.4	5127300	4613900	1.111272
IGF2BP3	10	8	8	9	6	7	24.5	63.704	579	0	87.133	19.9	22.3	5000800	5727200	0.873167
IGF2	2	2	2	2	2	2	13.9	20.14	180	0	45.217	13.9	13.9	4932500	4094100	1.204782
FXR1	7	6	4	5	3	5	23.1	50.99	454	0	48.276	13	18.3	4710300	10990000	0.428599
KPNA2	5	5	5	4	5	4	15.3	57.861	529	0	103.26	15.3	13.2	4527600	6485100	0.698154
ZCCHC3	9	9	4	8	4	8	27.7	43.618	404	0	151.48	12.9	25.5	4493100	4776500	0.940668
EWSR1	3	3	3	3	3	3	7.2	61.414	584	0	61.398	7.2	7.2	4426800	4905200	0.902471
ATP5A1	5	5	4	3	4	3	12.7	59.75	553	0	35.828	8.9	8.5	4321500	4284000	1.008754
HSPA9	7	7	7	3	7	3	13.7	73.68	679	0	45.311	13.7	6.3	4318000	2949100	1.464176
SNX9	6	6	6	4	6	4	15.8	66.591	595	0	163.38	15.8	10.4	4291300	2994400	1.433108
RPS15	4	4	4	4	4	4	39.3	12.99	112	0	28.123	39.3	39.3	4156400	4902500	0.847812
PGAM5	4	4	3	3	3	3	17.6	32.004	289	0	25.39	14.5	13.5	4107100	6462800	0.635499
N4BP2L2	3	3	3	2	3	2	5.6	82.367	709	0	33.381	5.6	3.7	4098000	3475600	1.179077
EIF4A2	5	3	5	5	3	3	15.2	41.29	362	0	29.391	15.2	15.2	4021600	3452300	1.164905
GNL3	5	5	4	4	4	4	13.5	61.992	549	0	32.353	11.7	11.5	3634900	3748500	0.969695
CNBP	6	6	4	5	4	5	41.8	19.463	177	0	71.382	25.4	33.3	3560500	3857200	0.923079
IGFBP3	3	3	3	3	3	3	13.9	21.844	194	0	18.466	13.9	13.9	3558900	3147400	1.130743
LUC7L2	4	4	3	4	3	4	10.3	54.223	458	0	27.143	8.5	10.3	3492000	3523300	0.991116
SRRM2	7	7	5	5	5	5	4.5	299.61	2752	0	47.006	3.2	3.4	3433300	3887000	0.883278
NCBP1	5	5	3	5	3	5	9.2	91.838	790	0	41.076	6.3	9.2	3304800	4148800	0.796568
XRCC5	7	7	6	4	6	4	15.4	82.704	732	0	54.107	12.4	9	3223600	2907400	1.108757
COL3A1	3	3	3	2	3	2	2.5	138.56	1466	0	23.207	2.5	1.6	3111100	2401300	1.29559
SEC13	3	3	3	3	3	3	19.9	35.54	322	0	24.287	19.9	19.9	3017800	2873500	1.050218
DAZAP1	3	3	3	2	3	2	14.4	35.02	327	0	18.624	14.4	9.5	2810200	3092200	0.908803
FAM168A	2	2	2	2	2	2	15.2	26.184	244	0	12.818	15.2	15.2	2696700	3357200	0.803259
SNRPD3	2	2	2	2	2	2	15.1	13.916	126	0	12.099	15.1	15.1	2609400	2228100	1.171132
RPL10	8	1	7	8	1	1	44.8	18.565	163	0	60.182	44.2	44.8	2600800	2129800	1.221148
YTHDF2	5	4	4	3	3	2	8.8	62.333	579	0	39.302	7.6	4.8	2571600	5170300	0.497379
NUDT21	4	4	4	2	4	2	15.9	26.227	227	0	23.23	15.9	7.5	2451300	2655100	0.923242
H1FX	4	4	3	3	3	3	22.5	22.487	213	0	30.52	16.9	17.4	2340400	3415600	0.685209
FUBP3	6	5	4	4	3	4	19.1	61.64	572	0	35.887	14.9	13.5	2337400	2388300	0.978688
SNRPC	3	3	2	3	2	3	21.7	19.687	180	0	18.398	11.7	21.7	2232400	2620300	0.851964
ATAD3A	5	5	4	3	4	3	11.7	64.243	572	0	31.682	9.1	6.1	2201300	1284500	1.713741
SSB	3	3	3	3	3	3	9.3	46.836	408	0	26.74	9.3	9.3	2080000	2734300	0.760707
RBM25	3	3	2	3	2	3	5.8	100.18	843	0	27.819	3.8	5.8	2078200	2081300	0.998511
RAI1	3	3	2	3	2	3	5.2	101.43	942	0	21.619	3.9	5.2	1729300	2046100	0.845169
RBM4	3	3	3	3	3	3	9.3	40.313	364	0	76.061	9.3	9.3	1718600	1089300	1.57771
SNRPD2	2	2	2	2	2	2	16.9	13.527	118	0	13.521	16.9	16.9	1618200	1715200	0.943447
PRPF38B	3	3	2	3	2	3	4.9	64.467	546	0	22.166	3.3	4.9	1575400	1889500	0.833766
KRT10	14	12	2	14	2	12	34.1	58.826	584	0	173.64	3.9	34.1	1571800	32322000	0.048629
ZNF207	3	3	3	2	3	2	7.7	52.541	493	0	18.74	7.7	5.3	1567300	1922700	0.815156
HNRNPDL	1	1	1	1	1	1	31.6	6.7215	57	0	32.167	31.6	31.6	1546400	1305100	1.18489
YWHAQ	5	5	5	2	5	2	23.3	27.764	245	0	70.55	23.3	9	1475800	1399400	1.054595
EIF2S3	2	2	2	2	2	2	9.1	51.109	472	0	14.682	9.1	9.1	1353700	1480800	0.914168
MRPS27	2	2	2	2	2	2	6.4	34.458	299	0	12.883	6.4	6.4	972540	677460	1.435568
LUC7L3	3	3	3	2	3	2	8.8	58.22	489	0	55.693	8.8	5.9	868360	1029700	0.843314
TUBB4A	20	1	20	19	1	1	58.3	49.585	444	0	28.432	58.3	57.9	668760	1126800	0.593504
GRWD1	2	2	2	2	2	2	14	25.477	228	0	20.809	14	14	633130	706840	0.895719
RBM7	1	1	1	1	1	1	7.5	17.223	146	0	7.3515	7.5	7.5	514810	854560	0.602427
PPP1CC	4	4	2	4	2	4	20.7	30.987	270	0	42.616	13	20.7	485850	597240	0.813492
MTHFD1	1	1	1	0	1	0	1.2	110.61	1020	0	20.392	1.2	0	0	0	#DIV/0!
FUSIP1	1	1	0	1	0	1	23.2	8.3294	69	0	7.7189	0	23.2	0	0	#DIV/0!
AGO2	1	1	1	0	1	0	1.7	97.207	859	0.0025707	6.9616	1.7	0	0	0	#DIV/0!
ZNFX1	1	1	0	1	0	1	2.4	81.151	707	0.0047619	6.3189	0	2.4	0	0	#DIV/0!
MYH10	64	49	0	64	0	49	37.5	229	1976	0	323.31	0	37.5	0	132780000	0
MYH9	96	78	0	96	0	78	51.5	226.53	1960	0	323.31	0	51.5	0	473250000	0
MYO6	21	21	0	21	0	21	20.7	145.01	1253	0	264.06	0	20.7	0	21239000	0
MYL12A	6	6	0	6	0	6	44.1	20.457	177	0	138.87	0	44.1	0	64895000	0
NAF1	3	3	0	3	0	3	7.1	53.716	494	0	111.19	0	7.1	0	761200	0
MYH14	16	10	0	16	0	10	9.5	227.87	1995	0	104.02	0	9.5	0	24842000	0
MYL6	7	7	0	7	0	7	52.4	16.29	145	0	93.248	0	52.4	0	42356000	0
MYO1D	11	11	0	11	0	11	16	116.2	1006	0	79.938	0	16	0	10848000	0
RPL9	4	4	2	4	2	4	28.1	21.863	192	0	67.489	17.2	28.1	0	5515500	0
MYO1C	10	10	0	10	0	10	11.6	118.99	1039	0	66.368	0	11.6	0	9461900	0
KRT2	9	5	3	9	0	5	19.9	65.432	639	0	55.779	5	19.9	0	6784000	0
PKM	6	6	2	4	2	4	18.1	57.936	531	0	47.401	6.2	11.9	0	5982200	0
SNRNP70	3	3	1	2	1	2	8.7	51.556	437	0	43.826	3	5.7	0	524970	0
DHX36	3	3	1	3	1	3	5.5	91.43	797	0	43.339	1.8	5.5	0	964320	0
MYO1B	4	4	0	4	0	4	4.6	128.48	1107	0	42.602	0	4.6	0	2016000	0
GNB1	5	2	0	5	0	2	16.8	37.377	340	0	39.62	0	16.8	0	8636800	0
TRIM41	3	3	2	3	2	3	6.2	71.669	630	0	39.153	4.3	6.2	0	3158200	0
RSL1D1	5	5	2	4	2	4	15.3	48.208	430	0	38.361	8.1	11.9	0	2661100	0
YBX3	4	1	4	4	1	1	11.3	40.089	372	0	35.181	11.3	11.3	0	1302300	0
LYAR	3	3	1	3	1	3	13.7	43.614	379	0	33.893	3.7	13.7	0	1250500	0

SRSF9	4	3	1	4	0	3	18.1	25.542	221	0	32.027	3.2	18.1	0	3614900	0
RPL35	3	3	2	3	2	3	16.3	14.551	123	0	30.884	16.3	16.3	0	9918800	0
NAT10	3	3	1	2	1	2	4.8	93.533	834	0	29.749	1.2	3.6	0	1302500	0
TOP1	4	4	0	4	0	4	7.6	90.725	765	0	29.2	0	7.6	0	3905700	0
PRPF19	4	4	2	3	2	3	14.7	55.18	504	0	27.463	7.9	9.5	0	3420400	0
EIF2S2	4	4	1	4	1	4	11.4	38.388	333	0	26.971	3	11.4	0	2110000	0
FXR2	5	3	3	3	1	2	11.1	74.222	673	0	25.838	6.1	7.9	0	2134200	0
EIF2S1	2	2	1	2	1	2	7.9	36.112	315	0	25.595	3.8	7.9	0	1114500	0
NOP56	4	4	0	4	0	4	7.9	66.049	594	0	24.335	0	7.9	0	2333800	0
SNRPD1	2	2	1	2	1	2	44	8.3926	75	0	23.957	17.3	44	0	3065900	0
CFL1	3	3	2	2	2	2	32.1	17.777	159	0	23.719	25.2	24.5	0	1537800	0
FMR1	4	3	2	4	1	3	12.9	47.897	419	0	21.483	6.4	12.9	0	1922800	0
CD59	3	3	0	3	0	3	29.6	11.985	108	0	20.872	0	29.6	0	2952600	0
KRT5	5	3	1	5	0	3	9.3	62.378	590	0	20.622	2	9.3	0	1488200	0
CFI	1	1	1	1	1	1	3.4	42.519	378	0	20.39	3.4	3.4	0	1334700	0
TUBA1C	19	0	17	15	0	0	43	57.73	519	0	19.662	40.1	35.6	0	1400800	0
OTX1	1	1	1	1	1	1	3.4	37.327	354	0	19.325	3.4	3.4	0	100120	0
UBTF	3	3	1	2	1	2	5	87.435	745	0	19.249	1.5	3.5	0	1615900	0
IGHV1-45	1	1	1	1	1	1	9.4	13.508	117	0	18.731	9.4	9.4	0	1511600	0
DRG1	3	3	0	3	0	3	11.2	40.542	367	0	18.367	0	11.2	0	1205700	0
PURA	2	2	1	2	1	2	16.1	34.91	322	0	18.116	9	16.1	0	646830	0
MRPS22	3	3	1	2	1	2	16.6	36.805	319	0	18.078	3.4	13.2	0	452550	0
NAP1L1	3	3	1	3	1	3	22	20.966	177	0	17.61	10.2	22	0	2379000	0
CDC5L	3	3	1	2	1	2	4.2	92.25	802	0	17.52	1.2	3	0	2863000	0
NACA	1	1	0	1	0	1	21.1	7.813	71	0	17.284	0	21.1	0	473990	0
C4B	1	1	1	1	1	1	0.8	187.67	1698	0	16.92	0.8	0.8	0	2627000	0
TRA2A	1	1	1	1	1	1	5	32.688	282	0	16.563	5	5	0	771070	0
SF3B1	2	2	1	2	1	2	2.4	145.83	1304	0	16.022	1.2	2.4	0	940570	0
GIGYF2	2	2	1	2	1	2	3.9	96.24	836	0	15.67	2	3.9	0	1222200	0
DDX6	1	1	0	1	0	1	12.8	20.426	187	0	15.308	0	12.8	0	199550	0
CAPRIN1	2	2	1	2	1	2	12.9	20.236	186	0	15.224	5.9	12.9	0	767340	0
FLOT1	2	2	1	1	1	1	12.9	20.491	186	0	13.703	7	5.9	0	846110	0
RBPMS	1	1	0	1	0	1	8	24.997	224	0	13.64	0	8	0	482150	0
RPL36	2	2	0	2	0	2	21	12.254	105	0	13.127	0	21	0	808560	0
DSG2	1	1	0	1	0	1	1.2	122.29	1118	0	12.672	0	1.2	0	441180	0
KRT14	3	1	0	3	0	1	6.1	51.561	472	0	12.672	0	6.1	0	341310	0
SNRPA	2	2	1	2	1	2	20.7	10.083	87	0	12.227	11.5	20.7	0	1811800	0
PRPF40A	2	2	1	2	1	2	2.7	108.8	957	0	12.173	1.7	2.7	0	1368500	0
STAU1	2	2	1	2	1	2	3.7	54.945	493	0	12.101	2	3.7	0	1710100	0
FN1	2	2	1	2	1	2	0.9	262.62	2386	0	12.077	0.3	0.9	0	2527100	0
THRAP3	2	2	0	2	0	2	4.1	108.66	955	0	12.024	0	4.1	0	615390	0
SEC61B	1	1	1	1	1	1	15.6	9.9743	96	0	11.993	15.6	15.6	0	1577400	0
RPL29	1	1	1	1	1	1	9.4	17.752	159	0	11.907	9.4	9.4	0	8460700	0
TIA1	3	1	3	3	1	1	9.4	42.835	385	0	11.868	9.4	9.4	0	409840	0
TMF1	2	2	1	2	1	2	1.7	122.84	1093	0	11.763	0.9	1.7	0	90287000	0
MAGOHB	2	2	1	2	1	2	33.3	10.715	90	0	11.646	22.2	33.3	0	1391200	0
AP2B1	2	2	1	2	1	2	7.4	70.916	639	0	11.565	3.3	7.4	0	140180	0
	1	1	1	1	1	1	9.4	12.822	117	0	11.562	9.4	9.4	0	838170	0
TUBB2B	20	1	20	18	1	1	60.2	49.953	445	0	11.543	60.2	55.1	0	2714800	0
ADH7	2	2	1	1	1	1	4.7	41.481	386	0	11.402	2.6	4.4	0	350330	0
MYL1	2	2	0	2	0	2	8.2	21.145	194	0	11.263	0	8.2	0	1805500	0
GTPBP1	2	2	0	2	0	2	4.2	72.453	669	0	11.176	0	4.2	0	867780	0
TRA2B	2	2	1	1	1	1	18.7	12.548	107	0	11.071	9.3	9.3	0	508180	0
GNAI3	2	2	0	2	0	2	5.4	40.532	354	0	10.869	0	5.4	0	1880000	0
USP47	2	2	1	1	1	1	1.9	157.31	1375	0	10.843	0.6	1.3	0	510140	0
C2orf47	2	2	0	2	0	2	12.4	25.006	225	0	10.828	0	12.4	0	329390	0
STRBP	4	2	1	4	0	2	5.8	73.652	672	0	10.803	2.1	5.8	0	941160	0
NSUN2	1	1	1	1	1	1	1.4	86.47	767	0	10.395	1.4	1.4	0	645000	0
HSPA6	5	1	5	5	1	1	10.6	71.027	643	0	10.016	10.6	10.6	0	7283700	0
NOLC1	1	1	1	1	1	1	21.7	5.0538	46	0	9.9855	21.7	21.7	0	1633200	0
UBA52	3	1	2	1	0	1	27.3	14.728	128	0	9.718	19.5	7.8	0	114310	0
MRPS9	1	1	1	1	1	1	3	45.834	396	0	9.2056	3	3	0	426210	0
RBPMS2	1	1	0	1	0	1	14.4	22.496	209	0	9.1805	0	14.4	0	563620	0
RC3H2	1	1	0	1	0	1	2.4	56.823	506	0	9.1752	0	2.4	0	250860	0
MRPS17	1	1	1	1	1	1	22.5	14.374	129	0	9.1652	22.5	22.5	0	2820300	0
BUB3	1	1	0	1	0	1	9	16.28	145	0	9.1228	0	9	0	526790	0
RAP1B	1	1	0	1	0	1	11.7	11.916	103	0	8.7407	0	11.7	0	221960	0
TRIM25	1	1	1	1	1	1	2.1	70.973	630	0	8.7137	2.1	2.1	0	9383800	0
RPL38	1	1	1	1	1	1	61.9	2.559	21	0	8.6767	61.9	61.9	0	3387900	0
IGHV1OR15	1	1	1	1	1	1	9.4	13.012	117	0	8.56	9.4	9.4	0	527970	0
GAPDH	1	1	0	1	0	1	5.4	27.87	260	0	8.5582	0	5.4	0	462180	0
SETD2	1	1	0	1	0	1	0.9	145.46	1290	0	8.527	0	0.9	0	327580	0
RPLP2	1	1	1	1	1	1	13	8.9857	92	0	8.4537	13	13	0	1986400	0
SMPDL3B	1	1	0	1	0	1	2.5	45.314	407	0	8.041	0	2.5	0	1209400	0
AIFM1	1	1	1	1	1	1	4	29.938	274	0	8.001	4	4	0	595960	0
MAZ	1	1	1	1	1	1	8.4	22.187	202	0	7.775	8.4	8.4	0	1207300	0
SNRPE	1	1	1	1	1	1	12	10.803	92	0	7.7649	12	12	0	540090	0
NUDT16L1	1	1	0	1	0	1	5.8	18.944	171	0	7.6917	0	5.8	0	404090	0
AHSA1	1	1	1	1	1	1	24.4	10.031	90	0	7.6321	24.4	24.4	0	479700	0
NXPE4	1	1	0	1	0	1	2	62.262	544	0	7.403	0	2	0	3608600	0
TRAJ56	1	1	1	1	1	1	38.1	2.1104	21	0	7.3424	38.1	38.1	0	253080000	0
MMTAG2	1	1	0	1	0	1	5.3	29.411	263	0	7.3241	0	5.3	0	292900	0
RPL36AL	4	1	2	4	0	1	26.4	12.469	106	0	7.2792	8.5	26.4	0	1476700	0
FAM120A	1	1	1	1	1	1	2.6	54.06	495	0	7.1787	2.6	2.6	0	473530	0
F2	1	1	1	1	1	1	2.8	35.931	324	0	7.0486	2.8	2.8	0	854650	0
JUP	1	1	0	1	0	1	2.7	81.744	745	0	6.9956	0	2.7	0	854640	0
TUBAL3	4	1	4	3	1	1	9.4	49.908	446	0	6.995	9.4	7.8	0	2390300	0
KRT72	1	1	0	1	0	1	6.2	21.653	192	0.0025575	6.9213	0	6.2	0	719170	0
SLC39A7	1	1	1	1	1	1	3	50.117	469	0.002551	6.9185	3	3	0	5283400	0
G3BP2	1	1	0	1	0	1	3.5	54.12	482	0.0025445	6.918	0	3.5	0	322160	0
IGF2BP2	2	1	1	2	0	1	4.1	66.785	605	0.0025381	6.8919	2.1	4.1	0	1005200	0
ZNF346	1	1	0	1	0	1	11	12.817	118	0.0025316	6.8347	0	11	0	224900	0
ALYREF	1	1	1	1	1	1	4.2	27.557	264	0.0025189	6.8083	4.2	4.2	0	1189000	0
UBAP2L	1	1	1	1	1	1	5.2	40.109	383	0.0025126	6.8029	5.2	5.2	0	278270	0
DDX18	1	1	0	1	0	1	1.5	75.406	670	0.0025063	6.7924	0	1.5	0	874780	0
GNG12	1	1	0	1	0	1	15.3	8.0061	72	0.0025	6.7532	0	15.3	0	919090	0
LARP4	1	1	1	1	1	1	10.4	14.143	125	0.0024938	6.7494	10.4	10.4	0	323690	0
RPLP1	1	1	1	1	1	1	14	11.514	114	0.0024876	6.6698	14	14	0	2918300	0
FBL	1	1	1	1	1	1	5.7	16.164	157	0.002457	6.5759	5.7	5.7	0	3584100	0
COPA	1	1	0	1	0	1	1.8	138.34	1224	0.002451	6.5675	0	1.8	0	69394	0
RRP1B	1	1	0	1	0	1	2.8	84.427	758	0.002445	6.5559	0	2.8	0	1381400	0
RNMTL1	1	1	0	1	0	1	10	12.597	110	0.0024331	6.5234	0	10	0	209040	0
PRPF8	1	1	1	1	1	1	2.1	119.7	1012	0.0024272	6.5134	2.1	2.1	0	304520	0
TGM2	1	1	1	1	1	1	1.9	77.328	687	0.0024155	6.4961	1.9	1.9	0	197530	0
IGKV4-1	1	1	1	1	1	1	7.4	13.38	121	0.0024096	6.4647	7.4	7.4	0	1154300	0
RRP1	1	1	1	1	1	1	20	5.203	45	0.0023981	6.4428	20	20	0	524680	0
YTHDF1	2	1	1	2	0	1	8.1	60.873	559	0.0023923	6.4272	1.6	8.1	0	353570	0
DARS	1	1	0	1	0	1	11.4	19.868	175	0.0047393	6.2871	0	11.4	0	1127000	0
GNB2	4	1	0	4	0	1	14.5	32.408	296	0.0047281	6.2437	0	14.5	0	739930	0

RBMXL1	7	1	6	5	1	1	16.7	42.141	390	0.0047059	6.2076	16.7	11.8	0	1192500	0
RAN	1	1	0	1	0	1	10.2	14.731	128	0.0046948	6.2011	0	10.2	0	678110	0
IGLL5	1	1	1	1	1	1	3.7	23.15	215	0.0046729	6.1897	3.7	3.7	0	1794500	0
SH2D4A	1	1	0	1	0	1	6.3	22.649	189	0.0046512	6.1668	0	6.3	0	784930	0
ARFGAP1	1	1	1	1	1	1	5.7	26.555	244	0.0046296	6.1491	5.7	5.7	0	102890	0
ERH	1	1	0	1	0	1	15.5	8.2033	71	0.0046189	6.1339	0	15.5	0	486480	0
PFN2	1	1	0	1	0	1	15.4	9.7982	91	0.0045977	6.0861	0	15.4	0	692560	0
GSPT2	1	1	1	1	1	1	2.7	68.882	628	0.0068182	6.0292	2.7	2.7	0	191610	0
KCTD19	1	1	0	1	0	1	2.7	104.94	926	1	-2	0	2.7	0	145630	0
DNAJC13	1	1	1	1	1	1	0.8	254.41	2243	1	-2	0.8	0.8	0	789320	0
TUBB3	13	0	13	13	0	0	15.9	88.381	797	1	-2	15.9	15.9	0	206880	0

Supplementary Table S3:

The correlation of TRIM31 expression and TP53 status of breast cancer patients (OS)

Parameters	Cases	TRIM31 expression		*P* values
		Low	High	
	327	163	164	
TP53 status				0.964
Wide type	197	98	99	
Mutant	130	65	65	

The correlation of TRIM31 expression and TP53 status of breast cancer patients (RFS)

Parameters	Cases	TRIM31 expression		*P* values
		Low	High	
	461	234	227	
TP53 status				0.626
Wide type	273	136	137	
Mutant	188	98	90	