

Gene	Effect Score	Frequency
NPTX2	-0.108179768	1
LMAN2L	-0.08869034	1
IL33	0.088051564	1
DUSP6	0.068245711	1
MYL4	0.061279165	1
PHLDA1	0.054238278	1
EYA2	-0.05240332	1
PHIP	-0.051786225	1
KCNN4	0.048324319	1
HSPB3	-0.047323645	1
SKP1	0.043589364	1
LAMC2	0.040225711	1
HOXB6	0.085131383	0.99
SKAP1	0.077376312	0.99
RNF39	0.049843292	0.99
SLC17A1	-0.0453273	0.99
BANP	-0.041791038	0.99
TBXAS1	0.079946913	0.98
KCNG1	-0.074334211	0.98
TRPV1	-0.053983018	0.98
ZBTB40	-0.050504025	0.98
EDEM2	-0.045742123	0.98
SNX3	-0.045435859	0.98
NINL	-0.042550058	0.98
HDLBP	-0.041489146	0.98
MYBPC1	0.054526844	0.97
S100A6	0.052049184	0.97
SYNJ1	-0.046537355	0.97
GABBR1	0.053158473	0.96
APOBEC1	0.049071321	0.96
FAM60A	0.043233777	0.96
ZBTB48	-0.038884738	0.96
HOXB7	0.050118277	0.95
CLEC10A	0.041520847	0.95
SHB	0.0380573	0.95
SLC4A10	0.10217559	0.94
CD1E	0.097763475	0.94
CRCT1	0.094443102	0.94

ASGR1	0.049493718	0.94
TSPAN31	0.04827791	0.94
SYCP1	-0.047319644	0.94
EREG	-0.045771017	0.94
CDKAL1	-0.038632274	0.94
BNC1	-0.098909666	0.93
MFSD11	-0.039806112	0.93
C10orf68	0.077100155	0.92
KRT81	0.066899131	0.92
LRRC6	0.044238403	0.92
IFNGR2	0.043186485	0.92
KRT24	0.115943626	0.91
STAMBP	-0.04497981	0.91
PRUNE2	0.037801957	0.91
GABRQ	-0.049067108	0.9
TNNI1	-0.042090431	0.9
CAPN9	0.041183017	0.9

STable 1: Top RAS model genes. This tables represents the scoring genes in our model. We performed 100 bootstraps of KFSYSCC data, and computed to statistics for each gene: an "Effect Score" and "Frequency". The "Effect Size" is computed as the average beta coefficient across the 100 bootstraps assigned to a gene, multiplied by the standard deviation of the gene expression value. The frequency is computed as how many of the beta coefficient was non-zero across the 100 bootstraps. A list of 55 genes was a result of selecting all genes that had a frequency of at least 60%, and had an effect score that was greater than 1.5 sd from the distribution of all effect score.

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