Table S16 - IPA canonical pathways of the combined EGA1 and EGA2 super-groups

Canonical Pathways	p-value[a]	Z-score[b]	Activation State	Total DEGs
Insulin Receptor Signaling	2.09E-03	4	Activated	18
NGF Signaling	2.51E-03	3.742	Activated	16
Acute Myeloid Leukemia Signaling	4.27E-04	3.606	Activated	15
PDGF Signaling	7.76E-03	3.464	Activated	12
Mouse Embryonic Stem Cell Pluripotency	2.57E-02	3.464	Activated	12
Glioma Signaling	4.79E-04	3.317	Activated	17
RANK Signaling in Osteoclasts	1.95E-02	3.317	Activated	12
NF-κB Activation by Viruses	3.63E-02	3.162	Activated	10
Non-Small Cell Lung Cancer Signaling	2.09E-03	3.162	Activated	12
Endometrial Cancer Signaling	4.68E-03	3.162	Activated	10
ERK5 Signaling	5.89E-03	3.162	Activated	10
ErbB2-ErbB3 Signaling	8.13E-03	3.162	Activated	10
GM-CSF Signaling	1.20E-02	3.162	Activated	10
VEGF Family Ligand-Receptor Interactions	3.89E-02	3.162	Activated	10
VEGF Signaling	4.07E-05	3.051	Activated	18
IGF-1 Signaling	6.03E-04	3.051	Activated	16
Melanoma Signaling	5.25E-03	3	Activated	9
mTOR Signaling	6.31E-22	2.982	Activated	55
IL-7 Signaling Pathway	1.07E-03	2.887	Activated	14
Telomerase Signaling	6.92E-03	2.887	Activated	14
Pancreatic Adenocarcinoma Signaling	1.32E-02	2.887	Activated	14
SAPK/JNK Signaling	2.24E-02	2.887	Activated	12
IL-2 Signaling	4.68E-03	2.828	Activated	10
Lymphotoxin β Receptor Signaling	1.86E-02	2.828	Activated	9
CNTF Signaling	3.80E-02	2.828	Activated	8
Purine Nucleotides De Novo Biosynthesis II	7.59E-07	2.646	Activated	7
Regulation of eIF4 and p70S6K Signaling	6.31E-27	2.53	Activated	54
FLT3 Signaling in Hematopoietic Progenitor Cells	3.63E-02	2.53	Activated	10
IL-6 Signaling	2.24E-02	2.496	Activated	14
Estrogen-mediated S-phase Entry	3.89E-03	2.449	Activated	6
Growth Hormone Signaling	3.16E-02	2.333	Activated	10
Neurotrophin/TRK Signaling	4.17E-02	2.333	Activated	9
Cell Cycle: G1/S Checkpoint Regulation	1.86E-02	-2.333	Inhibited	9
Role of p14/p19ARF in Tumor Suppression	4.27E-02	-2.236	Inhibited	6
AMPK Signaling	6.17E-04	2.065	Activated	26
eNOS Signaling	3.72E-03	2	Activated	20
Urate Biosynthesis/Inosine 5'-phosphate Degradation	6.03E-03	2	Activated	4
Pyrimidine Deoxyribonucleotides De Novo Biosynthesis I	4.68E-02	2	Activated	4
Purine Nucleotides Degradation II (Aerobic)	2.45E-02	2	Activated	4
Methionine Degradation I (to Homocysteine)	4.07E-02	2	Activated	4
PEDF Signaling	3.63E-02	1.667		10
Huntington's Disease Signaling	5.62E-04	1.213		29

Sumoylation Pathway	2.95E-02	-1	11
Cell Cycle: G2/M DNA Damage Checkpoint Regulation	6.92E-04	0.707	10
Cyclins and Cell Cycle Regulation	9.12E-03	0.378	11
Systemic Lupus Erythematosus Signaling	4.47E-05		30
Hereditary Breast Cancer Signaling	1.07E-03		19
Virus Entry via Endocytic Pathways	9.77E-05		18
Chronic Myeloid Leukemia Signaling	6.03E-04		16
Estrogen Receptor Signaling	4.37E-03		16
Prostate Cancer Signaling	1.38E-02		12
Erythropoietin Signaling	9.12E-03		11
TR/RXR Activation	3.39E-02		11
FAK Signaling	3.63E-02		11
Ephrin A Signaling	9.33E-03		9
Remodeling of Epithelial Adherens Junctions	2.24E-02		9
Docosahexaenoic Acid (DHA) Signaling	1.20E-02		8
DNA Methylation and Transcriptional Repression Signaling	3.63E-03		7
Vitamin-C Transport	2.24E-04		6
RAN Signaling	3.31E-04		6
Telomere Extension by Telomerase	1.05E-02		4
DNA damage-induced 14-3-3σ Signaling	2.45E-02		4
5-aminoimidazole Ribonucleotide Biosynthesis I	2.19E-04		3
Diphthamide Biosynthesis	1.05E-02		2
Hypusine Biosynthesis	1.05E-02		2
Trehalose Degradation II (Trehalase)	3.24E-02		2
Polyamine Regulation in Colon Cancer	8.71E-03		5
Choline Biosynthesis III	3.98E-02		3

a) The p-value: statistical overlap of differentially expressed gene list and gene set

b) Z-score: z>1.96 to be significantly activated or increased, and those with z< −1.96 to be significantly inhibited