Table S18 - IPA canonical pathways unique to EGA4 super-group

Canonical Pathways	p-value[a]	Z-score[b]	Activation State	Total DEGs	Sub-Group
Osteoarthritis Pathway	3.55E-05	1.667		10	EGA4-1
Role of Osteoblasts, Osteoclasts and Chondrocytes in Rheumatoid Arthritis	3.89E-04			9	EGA4-1
Colorectal Cancer Metastasis Signaling	9.55E-03	2.646	Activated	7	EGA4-1
Hepatic Fibrosis / Hepatic Stellate Cell Activation	8.91E-03			6	EGA4-1
Basal Cell Carcinoma Signaling	6.03E-04	2	Activated	5	EGA4-1
LXR/RXR Activation	5.89E-03	0		5	EGA4-1
Atherosclerosis Signaling	7.24E-03			5	EGA4-1
PCP pathway	2.69E-03	2	Activated	4	EGA4-1
Hepatic Fibrosis / Hepatic Stellate Cell Activation	2.29E-02			4	EGA4-2
Role of Wnt/GSK-3β Signaling in the Pathogenesis of Influenza	6.17E-03			4	EGA4-1
Superpathway of Cholesterol Biosynthesis	2.29E-03			3	EGA4-1
Histamine Degradation	5.25E-03			2	EGA4-2
Oxidative Ethanol Degradation III	6.46E-03			2	EGA4-2
Fatty Acid α-oxidation	7.08E-03			2	EGA4-2
Putrescine Degradation III	7.76E-03			2	EGA4-2
Tryptophan Degradation X (Mammalian, via Tryptamine)	9.12E-03			2	EGA4-2
Ethanol Degradation IV	9.12E-03			2	EGA4-2
Dopamine Degradation	1.91E-02			2	EGA4-2
Ethanol Degradation II	1.91E-02			2	EGA4-2
Noradrenaline and Adrenaline Degradation	2.24E-02			2	EGA4-2
Zymosterol Biosynthesis	1.29E-03			2	EGA4-1
Cholesterol Biosynthesis I	6.46E-03			2	EGA4-1
Cholesterol Biosynthesis II (via 24,25-dihydrolanosterol)	6.46E-03			2	EGA4-1
Cholesterol Biosynthesis III (via Desmosterol)	6.46E-03			2	EGA4-1
Chondroitin Sulfate Degradation (Metazoa)	9.77E-03			2	EGA4-1
Dermatan Sulfate Degradation (Metazoa)	1.10E-02			2	EGA4-1
Role of JAK1, JAK2 and TYK2 in Interferon Signaling	2.14E-02			2	EGA4-1
IL-15 Production	2.88E-02			2	EGA4-1

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