

Table S25 - IPA canonical pathways of the Morula to Blast mega-group

Canonical Pathways	p-value ^a	Z-score ^b	Activation State	Total DEGs
Superpathway of Cholesterol Biosynthesis	1.35E-03	2.236	Activated	5
RhoGDI Signaling	4.27E-02	-2.121	Inhibited	10
GP6 Signaling Pathway	2.51E-03	2.111	Activated	11
PPAR α /RXR α Activation	4.68E-02	-1.265		10
Osteoarthritis Pathway	8.13E-05	1.213		18
Hepatic Fibrosis / Hepatic Stellate Cell Activation	1.66E-03			14
Cholesterol Biosynthesis I	6.17E-03			3
Cholesterol Biosynthesis II (via 24,25-dihydrocholesterol)	6.17E-03			3
Cholesterol Biosynthesis III (via Desmosterol)	6.17E-03			3
Glutamate Receptor Signaling	7.24E-03			6
γ -glutamyl Cycle	7.76E-03			3
Zymosterol Biosynthesis	1.26E-02			2
Cardiomyocyte Differentiation via BMP Receptors	2.14E-02			3
Inflammasome pathway	2.14E-02			3
Sphingomyelin Metabolism	2.24E-02			2
Role of Osteoblasts, Osteoclasts and Chondrocytes in Rheumatoid Arthritis	2.51E-02			13
Fatty Acid α -oxidation	2.75E-02			3
Human Embryonic Stem Cell Pluripotency	2.95E-02			9
Thio-molybdenum Cofactor Biosynthesis	3.02E-02			1
UDP-N-acetyl-D-galactosamine Biosynthesis I	3.02E-02			1
CDP-diacylglycerol Biosynthesis I	3.47E-02			3
autophagy	3.89E-02			5
UDP-N-acetyl-D-galactosamine Biosynthesis II	4.17E-02			2
Phosphatidylglycerol Biosynthesis II (Non-plastidic)	4.27E-02			3
Acyl-CoA Hydrolysis	4.90E-02			2

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