Table S23 - IPA canonical pathways of the 8-cell to Morula mega-group

Canonical Pathways	p-value[a]	Z-score[b]	Activation State	Total DEGs
Synaptic Long Term Depression	2.45E-04	-4.017	Inhibited	30
Actin Cytoskeleton Signaling	3.47E-04	-3.656	Inhibited	36
Role of NFAT in Cardiac Hypertrophy	2.69E-02	-3.53	Inhibited	28
G Beta Gamma Signaling	3.98E-02	-3.5	Inhibited	16
Superpathway of Inositol Phosphate Compounds	2.63E-03	-3.43	Inhibited	34
Calcium Signaling	3.72E-02	-3.357	Inhibited	26
Pyridoxal 5'-phosphate Salvage Pathway	2.45E-02	-3.317	Inhibited	11
P2Y Purigenic Receptor Signaling Pathway	4.47E-02	-3.153	Inhibited	18
CREB Signaling in Neurons	1.07E-02	-3.13	Inhibited	29
3-phosphoinositide Biosynthesis	9.33E-03	-3.024	Inhibited	28
Salvage Pathways of Pyrimidine Ribonucleotides	9.77E-03	-3	Inhibited	16
GPCR-Mediated Nutrient Sensing in Enteroendocrine Cells	3.47E-02	-3	Inhibited	16
Endothelin-1 Signaling	2.57E-02	-3	Inhibited	25
D-myo-inositol (1,4,5)-Trisphosphate Biosynthesis	3.24E-04	-3	Inhibited	9
Aldosterone Signaling in Epithelial Cells	6.03E-03	-3	Inhibited	25
Signaling by Rho Family GTPases	2.09E-02	-2.887	Inhibited	32
D-myo-inositol-5-phosphate Metabolism	6.92E-03	-2.858	Inhibited	24
Cardiac Hypertrophy Signaling	3.72E-02	-2.746	Inhibited	29
UVA-Induced MAPK Signaling	1.05E-02	-2.714	Inhibited	17
Huntington's Disease Signaling	3.02E-02	-2.673	Inhibited	31
Leukocyte Extravasation Signaling	4.68E-02	-2.558	Inhibited	26
3-phosphoinositide Degradation	1.86E-02	-2.558	Inhibited	22
Phospholipases	4.17E-02	-2.53	Inhibited	10
Sphingosine-1-phosphate Signaling	1.23E-02	-2.5	Inhibited	19
Notch Signaling	4.68E-03	-2.449	Inhibited	9
Thrombin Signaling	2.00E-02	-2.236	Inhibited	27
p70S6K Signaling	5.25E-03	-2.236	Inhibited	21
14-3-3-mediated Signaling	4.79E-03	-2.183	Inhibited	21
FcγRIIB Signaling in B Lymphocytes	4.07E-02	-2.121	Inhibited	12
ErbB4 Signaling	4.79E-02	-2.121	Inhibited	11
D-myo-inositol (3,4,5,6)-tetrakisphosphate Biosynthesis	4.37E-02	-2.065	Inhibited	19
D-myo-inositol (1,4,5,6)-Tetrakisphosphate Biosynthesis	4.37E-02	-2.065	Inhibited	19
ILK Signaling	3.80E-02	-2.041	Inhibited	25
nNOS Signaling in Neurons	4.90E-02	-2	Inhibited	8
Neuropathic Pain Signaling In Dorsal Horn Neurons	4.27E-02	-2	Inhibited	16
RhoGDI Signaling	6.17E-03	1.964	Activated	26
TGF-β Signaling	3.89E-02	-1.897		13
Leptin Signaling in Obesity	7.24E-03	-1.89		15
Dopamine-DARPP32 Feedback in cAMP Signaling	1.02E-03	-1.706		27
Osteoarthritis Pathway	4.90E-02	-1.633		26
Gα12/13 Signaling	2.63E-02	-1.606		19
CXCR4 Signaling	9.33E-03	-1.528		24
PAK Signaling	2.75E-03	-1.5		18
p38 MAPK Signaling	3.24E-02	-1.5		17
Cardiac β-adrenergic Signaling	1.10E-02	-1.387		21
Superpathway of Citrulline Metabolism	7.24E-03	-1.342		5
ATM Signaling	2.29E-02	-1.069		15
HIPPO signaling	1.29E-03	-1		17
Regulation of Actin-based Motility by Rho	2.40E-02	-0.832		14
p53 Signaling	2.14E-04	0.688		22

Mitotic Roles of Polo-Like Kinase	2.69E-02	0.447	11
Protein Kinase A Signaling	1.78E-06	0.289	64
RhoA Signaling	2.19E-05	-0.209	26
Protein Ubiquitination Pathway	9.12E-04		39
Cellular Effects of Sildenafil (Viagra)	4.79E-03		21
DNA Double-Strand Break Repair by Non-Homologous End Joining	5.25E-03		5
Axonal Guidance Signaling	5.25E-03		56
Arginine Degradation VI (Arginase 2 Pathway)	1.10E-02		3
Gap Junction Signaling	1.15E-02		27
VDR/RXR Activation	1.74E-02		13
Ceramide Degradation	1.78E-02		3
Breast Cancer Regulation by Stathmin1	2.09E-02		27
Hepatic Fibrosis / Hepatic Stellate Cell Activation	2.19E-02		25
Netrin Signaling	2.45E-02		11
Tight Junction Signaling	3.47E-02		22
Telomere Extension by Telomerase	3.63E-02		4
Sphingosine and Sphingosine-1-phosphate Metabolism	3.72E-02		3
Citrulline Biosynthesis	3.72E-02		3
Arginine Degradation I (Arginase Pathway)	4.07E-02		2
Mitochondrial Dysfunction	4.37E-02		22
RAR Activation	4.37E-02		24
Adipogenesis pathway	4.47E-02		18

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