

Supplemental Table 1. Canonical pathways containing a significant number of genes differentially expressed between embryonic disc and extraembryonic membranes.

Pathway <sup>b</sup>	P-value	Genes <sup>a</sup>
Human Embryonic Stem Cell Pluripotency	0.000001	<i>RAC2, NODAL, FGF2, FGFR1, SMAD6, FZD1, LEFTY2, TCF7, SOX2, NANOG, SMO, PDGFRA, BMP6, WNT11, POU5F1, FZD7</i>
Factors Promoting Cardiogenesis in Vertebrates	0.000032	<i>NODAL, CER1, SMO, FZD1, DKK1, BMP6, TCF7, WNT11, PRKD1, FZD7, PRKCB</i>
Coagulation System	0.000105	<i>F10, PROS1, SERPINA5, PROC, A2M, SERPINF2, SERPIND1</i>
Wnt/ $\beta$ -catenin Signaling	0.000141	<i>RAC2, GJA1, SFRP2, FZD1, SOX2, CDH2, DKK3, SMO, DVL3, PPP2R2C, SOX8, SFRP1, DKK1, WNT11, FZD7</i>
Role of Oct4 in Mammalian Embryonic Stem Cell Pluripotency	0.000380	<i>SOX2, TDH, NANOG, SPP1, PHC3, FBXO15, POU5F1</i>
Basal Cell Carcinoma Signaling	0.000741	<i>SMO, DVL3, FZD1, BMP6, GLI1, TCF7, WNT11, FZD7</i>
Role of Osteoblasts, Osteoclasts and Chondrocytes in Rheumatoid Arthritis	0.001738	<i>RAC2, SPP1, SFRP2, SMAD6, FZD1, TCF7, DKK3, NGFR, SMO, SFRP1, DKK1, BMP6, WNT11, TNFRSF11B, FZD7</i>
Hepatic Fibrosis / Hepatic Stellate Cell Activation	0.001778	<i>COL1A2, IGFBP4, CD40, FGF2, NGFR, FGFR1, PDGFRA, EDNRA, MMP2, A2M, TNFRSF11B</i>
Axonal Guidance Signaling	0.001778	<i>DPYSL2, PRKACB, FYN, RAC2, PLXNC1, NRP2, EPHB2, DPYSL5, FZD1, ROBO1, SDC2, CXCL12, NGFR, SMO, RASSF5, BMP6, GLI1, WNT11, PRKD1, FZD7, PRKCB, UNC5C</i>
Role of Macrophages, Fibroblasts and Endothelial Cells in Rheumatoid Arthritis	0.004365	<i>RAC2, SFRP2, FGF2, FZD1, TCF7, ROR2, DKK3, CXCL12, NGFR, SMO, ATF4, SFRP1, DKK1, WNT11, PRKD1, TNFRSF11B, FZD7, PRSS35, PRKCB</i>

Supplemental Table 1 (Continued)

Pathway <sup>b</sup>	P-value	Genes <sup>a</sup>
Pantothenate and CoA Biosynthesis	0.004677	<i>DPYSL2, DPYS, CILP2, ENPP2</i>
Ovarian Cancer Signaling	0.004786	<i>PRKACB, RAC2, GJA1, SMO, EDNRA, MMP2, FZD1, TCF7, WNT11, FZD7</i>
Role of NANOG in Mammalian Embryonic Stem Cell Pluripotency	0.005888	<i>SOX2, RAC2, NANOG, SMO, FZD1, BMP6, WNT11, FZD7, POU5F1</i>
LPS/IL-1 Mediated Inhibition of RXR Function	0.006607	<i>CYP2C9, APOC4, APOC2, FMO5, FABP2, ALDH1A1, UST, NGFR, FABP1, FABP7, ACSL1, MGST3, TNFRSF11B</i>
Leukocyte Extravasation Signaling	0.010965	<i>CLDN10, RAC2, CLDN11, CLDN5, MMP25, CXCL12, MMP2, RASSF5, ITGAL, PRKD1, MMP19, PRKCB</i>
RAR Activation	0.012023	<i>PRKACB, RAC2, ALDH1A1, CRABP2, ADCY3,</i>
Glycerolipid Metabolism	0.014454	<i>SMAD6, NCOR1, CRABP1, PRKD1, ADH4, PRKCB, ADH6, PNLIPRP2, LIPA, ALDH1A1, LPL, DGAT2, APOC2, ADH4</i>
Prolactin Signaling	0.016982	<i>FYN, PRLR, PDK1, TCF7, PRKD1, PRKCB</i>
FXR/RXR Activation	0.017378	<i>RAC2, APOB, PCK2, APOC2, HNF4A, FOXA3, MTPP</i>
LXR/RXR Activation	0.018197	<i>APOC4, NGFR, LPL, NCOR1, APOC2, TNFRSF11B</i>
CTLA4 Signaling in Cytotoxic T Lymphocytes	0.018197	<i>FYN, CD3G, RAC2, LCK, AP1S2, PPP2R2C, CD3D</i>
PXR/RXR Activation	0.020417	<i>PRKACB, RAC2, ALDH1A1, CYP2C9, PCK2, HNF4A</i>
G-Protein Coupled Receptor Signaling	0.021380	<i>GPR161, PRKACB, FYN, RAC2, RASGRP1, RGS10, ADCY3, ATF4, EDNRA, DRD2, PDE4D, PRKCB</i>
HER-2 Signaling in Breast Cancer	0.026303	<i>RAC2, NRG1, MMP2, PARD6G, PRKD1, PRKCB</i>

Supplemental Table 1 (Continued)

Pathway <sup>b</sup>	P-value	Genes <sup>a</sup>
Maturity Onset Diabetes of Young (MODY) Signaling	0.027542	<i>FABP2</i> , <i>FABP1</i> , <i>HNF4A</i>
TGF- $\beta$ Signaling	0.029512	<i>ZNF423</i> , <i>NODAL</i> , <i>INHA</i> , <i>GSC</i> , <i>SMAD6</i> , <i>HNF4A</i>
Acute Phase Response Signaling	0.032359	<i>RAC2</i> , <i>TF</i> , <i>NGFR</i> , <i>APOA2</i> , <i>CRABP2</i> , <i>A2M</i> , <i>SERPINF2</i> , <i>CRABP1</i> , <i>TNFRSF11B</i> , <i>SERPIND1</i>
Calcium-induced T Lymphocyte Apoptosis	0.033113	<i>CD3G</i> , <i>LCK</i> , <i>CD3D</i> , <i>PRKD1</i> , <i>PRKCB</i>
Virus Entry via Endocytic Pathways	0.046774	<i>FYN</i> , <i>RAC2</i> , <i>ITGAL</i> , <i>PRKD1</i> , <i>FOLR1</i> , <i>PRKCB</i>
Molecular Mechanisms of Cancer	0.047863	<i>PRKACB</i> , <i>FYN</i> , <i>RAC2</i> , <i>DIRAS3</i> , <i>ADCY3</i> , <i>SMAD6</i> , <i>FZD1</i> , <i>RASGRP1</i> , <i>SMO</i> , <i>IHH</i> , <i>BMP6</i> , <i>GLI1</i> , <i>PRKD1</i> , <i>BCL2L11</i> , <i>PRKCB</i> , <i>FZD7</i>
Colorectal Cancer Metastasis Signaling	0.047863	<i>PRKACB</i> , <i>RAC2</i> , <i>MMP25</i> , <i>DIRAS3</i> , <i>ADCY3</i> , <i>SMO</i> , <i>MMP2</i> , <i>FZD1</i> , <i>TCF7</i> , <i>WNT11</i> , <i>FZD7</i> , <i>MMP19</i>

<sup>a</sup> Genes symbols in black are overexpressed in embryonic disc and gene symbols in red are overexpressed in extraembryonic membranes.

<sup>b</sup> Pathways are from Ingenuity ([www.ingenuity.com](http://www.ingenuity.com)).