

**Supplementary Table SII Enriched Kyoto Encyclopedia of Genes and Genomes (KEGG) pathways (false discovery rate (FDR) < 0.05) from over-representation analysis of 2447 genes in the hypernetwork connected to endometrial epithelium-interacting mural trophectoderm genes.**

Gene set	Description	Size	Ratio	FDR
hsa04740	Olfactory transduction	448	6.861	<1.00E-16
hsa04060	Cytokine–cytokine receptor interaction	294	2.815	8.31E-11
hsa00980	Metabolism of xenobiotics by cytochrome P450	76	3.695	4.70E-05
hsa00053	Ascorbate and aldarate metabolism	27	6.021	4.79E-05
hsa05320	Autoimmune thyroid disease	53	4.183	7.61E-05
hsa00140	Steroid hormone biosynthesis	60	3.941	7.61E-05
hsa04650	Natural killer cell-mediated cytotoxicity	131	2.820	8.07E-05
hsa00982	Drug metabolism	72	3.489	1.68E-04
hsa05204	Chemical carcinogenesis	82	3.244	2.36E-04
hsa00040	Pentose and glucuronate interconversions	34	4.781	2.47E-04
hsa04080	Neuroactive ligand-receptor interaction	277	2.081	2.47E-04
hsa04630	JAK-STAT signalling pathway	162	2.372	7.52E-04
hsa00830	Retinol metabolism	67	3.309	7.52E-04
hsa04622	RIG-I-like receptor signalling pathway	70	3.167	1.21E-03
hsa04623	Cytosolic DNA-sensing pathway	63	3.284	1.31E-03
hsa00860	Porphyrin and chlorophyll metabolism	42	3.871	1.55E-03
hsa00983	Drug metabolism	79	2.432	4.35E-02