**Table S1 KEGG function enrichment of DEmRNAs**

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| **Term** | **Count** | **P value** | **Genes** |
| ECM-receptor interaction | 24 | 1.17E-09 | COL4A4, IBSP, TNC, COL3A1, ITGA10, ITGA4, COL5A2, COL5A1, COL4A6, SDC1, CD36, ITGA6, LAMC3, LAMA5, ITGA7, COL1A2, TNN, RELN, COL1A1, LAMB1, THBS2, COL11A1, FN1, SPP1 |
| Focal adhesion | 35 | 1.05E-07 | IBSP, CAV3, CAV2, CAV1, TNC, COL3A1, ITGA10, MYL9, VCL, PAK3, PPP1R12A, TNN, PDGFD, LAMB1, COL11A1, THBS2, FN1, SPP1, COL4A4, ACTN4, ITGA4, FLNC, VAV1, COL5A2, COL5A1, COL4A6, FLNA, ITGA6, LAMC3, LAMA5, ITGA7, COL1A2, RELN, COL1A1, MYLK |
| Cell adhesion molecules (CAMs) | 24 | 8.06E-06 | PTPRC, MPZ, CD8A, NFASC, ITGB2, L1CAM, ITGA4, CDH2, CLDN11, HLA-DMB, HLA-DMA, ITGAM, VCAM1, SIGLEC1, SDC1, CD86, ITGA6, CD34, ESAM, HLA-DPA1, VCAN, SELE, NEGR1, HLA-DRA |
| Complement and coagulation cascades | 15 | 9.19E-05 | C3AR1, F10, C5AR1, CFB, F8, C1QC, PLAUR, C1QA, C1QB, SERPINE1, SERPINA1, SERPIND1, C2, CFI, CFD |
| Hematopoietic cell lineage | 15 | 9.98E-04 | TNF, CD8A, ITGA4, KIT, ITGAM, CD1D, CD36, ITGA6, CD34, CD33, IL1B, CSF2RA, CD14, CSF1R, HLA-DRA |
| Cytokine-cytokine receptor interaction | 30 | 0.002409879 | CXCL1, TNFRSF21, TNF, CXCL3, CCR1, IL18, IL21R, TNFSF13, CXCL6, KIT, CCL4, CXCL10, CCL26, TNFRSF11B, IL17B, CCL20, CXCR4, CCL21, IL10RA, IL1B, CSF2RA, CSF1R, LIFR, CCL19, CCL18, LEP, TNFSF13B, CXCL14, CCR5, CXCL16 |
| Leukocyte transendothelial migration | 17 | 0.003248033 | ACTN4, GNAI1, NCF4, ITGB2, CLDN11, ITGA4, VAV1, ITGAM, CTNNA3, THY1, VCL, MYL9, VCAM1, CYBB, CXCR4, MAPK13, ESAM |
| PPAR signaling pathway | 12 | 0.004034735 | LPL, CD36, SORBS1, OLR1, PLIN1, FABP3, FABP4, ACADL, ADIPOQ, MMP1, FABP5, PCK1 |
| Vascular smooth muscle contraction | 16 | 0.004861234 | KCNMA1, ADORA2B, PPP1R12B, NPR1, ITPR1, MYL9, AGTR1, ACTG2, PLCB4, AVPR1A, MYH11, PPP1R12A, PLA2G2A, GUCY1A3, PPP1R14A, MYLK |
| Intestinal immune network for IgA production | 9 | 0.011705448 | CD86, TNFSF13B, CXCR4, TNFSF13, HLA-DPA1, ITGA4, HLA-DMB, HLA-DMA, HLA-DRA |
| Toll-like receptor signaling pathway | 14 | 0.01174174 | TNF, LY96, TLR1, TLR2, TLR4, CCL4, TLR7, TLR8, CXCL10, CD86, MAPK13, IL1B, CD14, SPP1 |
| Chemokine signaling pathway | 21 | 0.01573418 | CXCL1, LYN, GNAI1, HCK, CCR1, CXCL3, CCL19, CXCL6, VAV1, CCL4, CCL18, CCL26, CXCL10, DOCK2, PLCB4, CXCL14, CCR5, CCL20, CXCR4, CCL21, CXCL16 |
| Fc gamma R-mediated phagocytosis | 13 | 0.017443158 | PTPRC, LYN, MARCKSL1, HCK, PIP5K1B, VAV1, ARPC1B, DOCK2, FCGR2B, FCGR2C, CFL2, FCGR2A, PPAP2B, SYK |
| Regulation of actin cytoskeleton | 23 | 0.018711373 | ACTN4, PIP5K1B, ITGA10, NCKAP1L, FGF13, ITGB2, ITGA4, VAV1, ITGAM, VCL, MYL9, ARPC1B, ITGA6, PAK3, CFL2, ITGA7, CYFIP2, PPP1R12A, PDGFD, MYLK, CD14, MYH10, FN1 |
| B cell receptor signaling pathway | 10 | 0.028932006 | PTPN6, LYN, FCGR2B, FCGR2C, LILRB3, PIK3AP1, CD72, VAV1, BLNK, BTK, SYK |
| p53 signaling pathway | 9 | 0.031508665 | BID, TP53I3, CDKN2A, ZMAT3, RRM2, BAX, GADD45G, SERPINE1, PMAIP1 |
| Ether lipid metabolism | 6 | 0.035007611 | ENPP6, ENPP2, PLA2G2A, PLA2G7, LCLAT1, PPAP2B |
| Glycolysis / Gluconeogenesis | 8 | 0.043179876 | ALDH1B1, HK3, HK2, ENO2, FBP1, ADH1B, PGAM2, PCK1 |
| NOD-like receptor signaling pathway | 8 | 0.048029983 | CXCL1, TNF, MAPK13, IL18, PYCARD, PSTPIP1, IL1B, CASP1 |