

Supplement 5. Gene ontology terms ($P < 0.10$) affected by lactation and pregnancy in the intercaruncular endometrium on d 17 of the cycle or pregnancy

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0006952~defense response	39	2.61E-11	Pregnancy	Up	<i>IFIH1, NMI, CCL2, AIF1, CXCL2, CCL8, RSAD2, C1QC, CXCL10, CFP, LGALS3BP, FCGRIA, TAP1, SERPINA1, C2, PTX3, MX1, MX2, PLD1, NCF2, CFB, IL1RN, RNASE6, ANXA1, SERPING1, CD40, SP140, S100A12, CCL11, C1QA, DDX58, SIGLEC1, C1QB, TNFAIP6, CCR7, NUPR1, IL20RB, IRF7, MST1R</i>
GO:0006955~immune response	41	5.19E-11	Pregnancy	Up	<i>IFIH1, PXDN, CCL2, IFITM3, ENPP3, CXCL2, CCL8, RSAD2, OAS1, C1QC, IFI35, CXCL10, CFP, FCGRIA, TAP1, FCER1G, C2, FCGR3A, PTX3, GBP5, NCF2, CFB, IL1RN, TNFRSF13B, SERPING1, TINAGL1, PRKCD, PSMB9, CCL11, C1QA, DDX58, C1QB, CCR7, CD86, IL18BP, TNFSF13B, IL20RB, IRF8, RNF19B, GBP4, IFI6</i>
GO:0009615~response to virus	17	1.07E-10	Pregnancy	Up	<i>IFIH1, CCL8, RSAD2, IFI44, STAT1, IFI35, ISG20, STAT2, DDX58, IRF9, CCL11, ISG15, IRF7, IRF3, MX1, EIF2AK2, MX2</i>
GO:0009607~response to biotic stimulus	29	3.41E-10	Pregnancy	Up	<i>IFIH1, CCL2, IFITM1, IFITM3, RSAD2, CCL8, IFI35, ISG20, CFP, ISG15, DNAJA1, IFITM5, SERPINA1, MX1, PTX3, MX2, PLD1, CFB, SOCS1, IFI44, STAT1, S100A12, STAT2, CCL11, DDX58, IRF9, IRF7, IRF3, EIF2AK2</i>
GO:0006954~inflammatory response	26	1.05E-09	Pregnancy	Up	<i>CCL2, NMI, AIF1, CXCL2, CCL8, C1QC, CXCL10, CFP, SERPINA1, C2, PTX3, CFB, IL1RN, ANXA1, SERPING1, CD40, S100A12, C1QA, CCL11, TNFAIP6,</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
					<i>C1QB, SIGLEC1, CCR7, IL20RB, NUPRI, IRF7</i>
GO:0051707~response to other organism	24	2.83E-09	Pregnancy	Up	<i>IFIH1, PLD1, CCL2, SOCS1, RSAD2, CCL8, IFI44, STAT1, IFI35, S100A12, ISG20, STAT2, DDX58, CCL11, IRF9, CFP, ISG15, IRF7, IRF3, SERPINA1, EIF2AK2, MX1, PTX3, MX2</i>
GO:0002376~immune system process	47	3.10E-09	Pregnancy	Up	<i>IFIH1, PXDN, CCL2, IFITM3, ENPP3, CXCL2, CCL8, RSAD2, OAS1, C1QC, IFI35, CXCL10, HSH2D, CFP, FCGR1A, TAP1, FCER1G, C2, FCGR3A, PTX3, GBP5, EPAS1, NCF2, CFB, HCLS1, IL1RN, TNFRSF13B, SERPING1, CD40, TINAGL1, PRKCD, PSMB9, CCL11, C1QA, DNASE2, DDX58, C1QB, CCR7, CD86, IL18BP, TNFSF13B, IL20RB, IRF8, IRF1, RNF19B, GBP4, IFI6</i>
GO:0050896~response to stimulus	103	5.05E-08	Pregnancy	Up	<i>OSMR, AIF1, CNP, C1QC, CXCL10, ISG20, CFP, ISG15, SLC2A1, MX1, MX2, HIGD1A, PLD1, GBP5, NCF2, CRYAB, SOCS1, FBP1, IFI44, SERPING1, CD40, SP140, C1QA, TNFAIP6, C1QB, CCR7, TACSTD2, ARRB1, MST1R, EIF2AK2, GBP4, IFIH1, CCL2, RTP4, IFITM1, IFITM3, ENPP3, CCL8, OAS1, BCL2L1, ASL, IFI35, LGALS3BP, DNAJA1, IFITM5, FCER1G, COL18A1, EPAS1, CFB, TNFRSF13B, IL1RN, TREX1, TINAGL1, S100A12, PSMB9, DDX58, FABP3, IFI6, PXDN, TACR3, HEXB, DAXX, GSS, SERPINA1, CASP1, FCGR3A, DDC, AIFM1, PRKCD, SIGLEC1, CD86, IL18BP, TNFSF13B, IL20RB, CA4, GADD45B, NMI, CXCL2, RSAD2, ABHD2, CDH1, PRSS8, DDX19B, FCGR1A, TAP1, NEDD4L, C2, PTX3, SLC12A2, SELL, HCLS1, RNASE6, ANXA1, STAT1, STAT2, CCL11, IRF9, ATXN3, NUPRI, IRF7, IRF8,</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
					<i>IRF3, RNF19B</i>
GO:0051704~multi-organism process	35	7.06E-08	Pregnancy	Up	<i>IFIH1, CCL2, CLDN4, HEXB, RSAD2, CCL8, DAXX, IFI35, ISG20, CFP, ISG15, TAP1, RBCK1, SERPINA1, NEDD4L, PTX3, MX1, MX2, CFLAR, PLD1, SLC25A5, SOCS1, IFI44, STAT1, GTF2B, S100A12, STAT2, CCL11, IRF9, DDX58, CD86, IRF7, IRF3, EIF2AK2, KPNA2</i>
GO:0006950~response to stress	60	3.31E-07	Pregnancy	Up	<i>PXDN, TACR3, AIF1, C1QC, DAXX, CXCL10, CFP, GSS, SLC2A1, SERPINA1, CASP1, MX1, MX2, HIGD1A, PLD1, NCF2, AIFM1, CRYAB, SERPING1, CD40, SP140, C1QA, SIGLEC1, C1QB, TNFAIP6, CCR7, IL20RB, MST1R, GADD45B, EIF2AK2, IFIH1, NMI, CCL2, CXCL2, CCL8, RSAD2, ABHD2, BCL2L1, ASL, LGALS3BP, FCGR1A, TAP1, DNAJA1, C2, PTX3, COL18A1, EPAS1, SLC12A2, CFB, RNASE6, IL1RN, ANXA1, TREX1, STAT1, S100A12, CCL11, DDX58, ATXN3, NUPR1, IRF7</i>
GO:0009611~response to wounding	27	3.81E-06	Pregnancy	Up	<i>NMI, CCL2, AIF1, CXCL2, CCL8, ABHD2, C1QC, CXCL10, CFP, SERPINA1, C2, PTX3, CFB, IL1RN, ANXA1, SERPING1, CD40, S100A12, C1QA, CCL11, TNFAIP6, C1QB, SIGLEC1, CCR7, IL20RB, NUPR1, IRF7</i>
GO:0002252~immune effector process	12	3.13E-05	Pregnancy	Up	<i>C1QA, CFP, C1QB, TNFSF13B, CFB, FCER1G, RSAD2, SERPING1, C2, PTX3, C1QC, PRKCD</i>
GO:0043436~oxoacid metabolic process	25	7.17E-05	Pregnancy	Up	<i>ZNFYX1, CREM, ASL, GSS, WARS, SLC16A1, ARG2, ALOX5AP, MARS2, DDC, PLD1, MTHFD2L, YARS,</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
					<i>ALDH5A1, FBP1, CYP26A1, LYPLA1, DLAT, CRAT, PCK2, ATF3, FABP3, SLC27A2, SLC27A5, ALOX12</i>
GO:0019752~carboxylic acid metabolic process	25	7.17E-05	Pregnancy	Up	<i>ZNFYX1, CREM, ASL, GSS, WARS, SLC16A1, ARG2, ALOX5AP, MARS2, DDC, PLD1, MTHFD2L, YARS, ALDH5A1, FBP1, CYP26A1, LYPLA1, DLAT, CRAT, PCK2, ATF3, FABP3, SLC27A2, SLC27A5, ALOX12</i>
GO:0006082~organic acid metabolic process	25	8.07E-05	Pregnancy	Up	<i>ZNFYX1, CREM, ASL, GSS, WARS, SLC16A1, ARG2, ALOX5AP, MARS2, DDC, PLD1, MTHFD2L, YARS, ALDH5A1, FBP1, CYP26A1, LYPLA1, DLAT, CRAT, PCK2, ATF3, FABP3, SLC27A2, SLC27A5, ALOX12</i>
GO:0042180~cellular ketone metabolic process	25	9.78E-05	Pregnancy	Up	<i>ZNFYX1, CREM, ASL, GSS, WARS, SLC16A1, ARG2, ALOX5AP, MARS2, DDC, PLD1, MTHFD2L, YARS, ALDH5A1, FBP1, CYP26A1, LYPLA1, DLAT, CRAT, PCK2, ATF3, FABP3, SLC27A2, SLC27A5, ALOX12</i>
GO:0006956~complement activation	7	9.96E-05	Pregnancy	Up	<i>C1QA, CFP, C1QB, CFB, SERPING1, C2, C1QC</i>
GO:0002541~activation of plasma proteins involved in acute inflammatory response	7	1.14E-04	Pregnancy	Up	<i>C1QA, CFP, C1QB, CFB, SERPING1, C2, C1QC</i>
GO:0048518~positive regulation of biological process	60	1.14E-04	Pregnancy	Up	<i>NAMPT, MSRI, TACR3, OSMR, DAXX, C1QC, CXCL10, FOXS1, CFP, CASP4, CASP1, MX1, BOC, SERTAD1, MATK, PLD1, AIFM1, SERPING1, CD40, C1QA, C1QB, TRIM38, CD86, IL20RB, TNFSF13B, SGSM3, MSTIR, ALOX12, FGD2, CCL2, ABLIM3, CDH1, BCL2L1, STK17A, PSMF1, DDX19B, SHISA5,</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
					<i>PYCARD, FCER1G, AGRN, C2, NEDD4L, PTX3, COL18A1, SOAT1, CFLAR, EPAS1, CFB, HCLS1, NR4A1, STAT1, LGALS9, PSMB9, DDX58, ATF3, NUPR1, IRF6, IRF7, CDKN2AIP, IRF1</i>
GO:0044419~interspecies interaction between organisms	16	2.00E-04	Pregnancy	Up	<i>CFLAR, IFIH1, SLC25A5, STAT1, GTF2B, DAXX, STAT2, CD86, ISG15, IRF7, TAP1, RBCK1, IRF3, NEDD4L, EIF2AK2, KPNA2</i>
GO:0045087~innate immune response	11	2.02E-04	Pregnancy	Up	<i>C1QA, CFP, DDX58, C1QB, IFIH1, NCF2, CFB, FCGR1A, SERPING1, C2, C1QC</i>
GO:0032787~monocarboxylic acid metabolic process	16	3.84E-04	Pregnancy	Up	<i>MTHFD2L, ALDH5A1, CREM, FBP1, CYP26A1, LYPLA1, CRAT, DLAT, PCK2, SLC16A1, ATF3, ALOX5AP, FABP3, SLC27A2, SLC27A5, ALOX12</i>
GO:0002526~acute inflammatory response	9	3.94E-04	Pregnancy	Up	<i>C1QA, CFP, C1QB, NUPR1, CFB, SERPING1, SERPINA1, C2, C1QC</i>
GO:0016064~immunoglobulin mediated immune response	7	4.09E-04	Pregnancy	Up	<i>C1QA, C1QB, FCER1G, SERPING1, C2, C1QC, PRKCD</i>
GO:0002460~adaptive immune response based on somatic recombination of immune receptors built from immunoglobulin superfamily domains	8	4.74E-04	Pregnancy	Up	<i>C1QA, C1QB, IL18BP, FCER1G, SERPING1, C2, C1QC, PRKCD</i>
GO:0002250~adaptive immune response	8	4.74E-04	Pregnancy	Up	<i>C1QA, C1QB, IL18BP, FCER1G, SERPING1, C2, C1QC, PRKCD</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0019724~B cell mediated immunity	7	4.99E-04	Pregnancy	Up	<i>C1QA, C1QB, FCER1G, SERPING1, C2, C1QC, PRKCD</i>
GO:0009605~response to external stimulus	32	5.26E-04	Pregnancy	Up	<i>NMI, CCL2, AIF1, CXCL2, CCL8, ABHD2, ASL, C1QC, CXCL10, CFP, SERPINA1, C2, PTX3, PLD1, SLC12A2, CFB, IL1RN, ANXA1, SERPING1, CD40, STAT1, S100A12, CCL11, C1QA, SIGLEC1, TNFAIP6, C1QB, CCR7, NUPRI, IL20RB, ARRB1, IRF7</i>
GO:0006959~humoral immune response	8	5.54E-04	Pregnancy	Up	<i>C1QA, CFP, C1QB, CCL2, CFB, SERPING1, C2, C1QC</i>
GO:0050776~regulation of immune response	13	8.46E-04	Pregnancy	Up	<i>CFB, SERPING1, CD40, C1QC, CFP, C1QA, DDX58, C1QB, CD86, IL20RB, TNFSF13B, FCER1G, C2</i>
GO:0042221~response to chemical stimulus	39	0.001566	Pregnancy	Up	<i>PXDN, RTP4, CCL2, TACR3, OSMR, CXCL2, CCL8, CDH1, BCL2L1, ASL, CXCL10, PRSS8, GSS, DDX19B, DNAJA1, SERPINA1, NEDD4L, CASP1, COL18A1, DDC, PLD1, EPAS1, CFB, CRYAB, SELL, HCLS1, IL1RN, SOCS1, FBP1, STAT1, S100A12, CCL11, C1QB, CCR7, NUPRI, FABP3, CA4, IRF3, EIF2AK2</i>
GO:0002449~lymphocyte mediated immunity	7	0.001635	Pregnancy	Up	<i>C1QA, C1QB, FCER1G, SERPING1, C2, C1QC, PRKCD</i>
GO:0006958~complement activation, classical pathway	5	0.001731	Pregnancy	Up	<i>C1QA, C1QB, SERPING1, C2, C1QC</i>
GO:0048583~regulation of response to stimulus	19	0.002002	Pregnancy	Up	<i>TACR3, OSMR, CFB, SOCS1, SERPING1, CD40, PRKCD, C1QC, DAXX, DDX58, CFP, C1QA, C1QB,</i>

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					<i>CD86, TNFSF13B, IL20RB, IRF7, FCER1G, C2</i>
GO:0042127~regulation of cell proliferation	27	0.002129	Pregnancy	Up	<i>NAMPT, CCL2, IFITM1, AIF1, OSMR, BCL2L1, CXCL10, WARS, MORC3, SERTAD1, MATK, COL18A1, HCLS1, TNFRSF13B, ANXA1, CD40, STAT1, CD86, ATF3, TNFSF13B, IL20RB, NUPR1, IRF6, FABP3, MST1R, EIF2AK2, ALOX12</i>
GO:0002455~humoral immune response mediated by circulating immunoglobulin	5	0.00223	Pregnancy	Up	<i>C1QA, C1QB, SERPING1, C2, C1QC</i>
GO:0008219~cell death	25	0.002792	Pregnancy	Up	<i>FGD2, STK17A, BCL2L1, DNASE1L3, DAXX, CASP4, SHISA5, PYCARD, XAF1, CASP1, AATK, CFLAR, BCL2L15, YARS, BCL2L14, AIFM1, TREX1, OPTN, STAT1, BCL2L12, DNASE2, ATXN3, EIF2AK2, GADD45B, IFI6</i>
GO:0009725~response to hormone stimulus	16	0.002808	Pregnancy	Up	<i>PLD1, CCL2, TACR3, CRYAB, HCLS1, SOCS1, IL1RN, FBP1, BCL2L1, ASL, STAT1, PRSS8, C1QB, FABP3, CA4, SERPINA1</i>
GO:0016265~death	25	0.003049	Pregnancy	Up	<i>FGD2, STK17A, BCL2L1, DNASE1L3, DAXX, CASP4, SHISA5, PYCARD, XAF1, CASP1, AATK, CFLAR, BCL2L15, YARS, BCL2L14, AIFM1, TREX1, OPTN, STAT1, BCL2L12, DNASE2, ATXN3, EIF2AK2, GADD45B, IFI6</i>
GO:0006915~apoptosis	22	0.003073	Pregnancy	Up	<i>FGD2, CFLAR, BCL2L15, YARS, BCL2L14, AIFM1, BCL2L1, STK17A, STAT1, BCL2L12, DNASE1L3, DAXX, DNASE2, CASP4, SHISA5, PYCARD, XAF1,</i>

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					<i>EIF2AK2, GADD45B, CASP1, IFI6, AATK</i>
GO:0032020~ISG15-protein conjugation	3	0.003136	Pregnancy	Up	<i>ISG15, UBA7, UBE2L6</i>
GO:0012501~programmed cell death	22	0.003668	Pregnancy	Up	<i>FGD2, CFLAR, BCL2L15, YARS, BCL2L14, AIFM1, BCL2L1, STK17A, STAT1, BCL2L12, DNASE1L3, DAXX, DNASE2, CASP4, SHISA5, PYCARD, XAF1, EIF2AK2, GADD45B, CASP1, IFI6, AATK</i>
GO:0016485~protein processing	8	0.004193	Pregnancy	Up	<i>C1QA, CFP, C1QB, CFB, SERPING1, C2, CASP1, C1QC</i>
GO:0051605~protein maturation by peptide bond cleavage	7	0.004618	Pregnancy	Up	<i>C1QA, CFP, C1QB, CFB, SERPING1, C2, C1QC</i>
GO:0002443~leukocyte mediated immunity	7	0.004618	Pregnancy	Up	<i>C1QA, C1QB, FCER1G, SERPING1, C2, C1QC, PRKCD</i>
GO:0050778~positive regulation of immune response	9	0.004836	Pregnancy	Up	<i>C1QA, CFP, C1QB, TNFSF13B, CFB, FCER1G, SERPING1, C2, C1QC</i>
GO:0007259~JAK-STAT cascade	5	0.005208	Pregnancy	Up	<i>NMI, CCL2, SOCS1, STAT1, STAT2</i>
GO:0010033~response to organic substance	24	0.005891	Pregnancy	Up	<i>PLD1, CCL2, TACR3, OSMR, CFB, SELL, CRYAB, HCLS1, SOCS1, IL1RN, FBP1, CDH1, BCL2L1, ASL, STAT1, PRSS8, C1QB, DNAJA1, FABP3, CA4, IRF3, SERPINA1, EIF2AK2, CASP1</i>

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GO:0002673~regulation of acute inflammatory response	4	0.006091	Pregnancy	Up	<i>IL20RB, OSMR, FCER1G, SERPING1</i>
GO:0051604~protein maturation	8	0.006665	Pregnancy	Up	<i>CIQA, CFP, CIQB, CFB, SERPING1, C2, CASP1, CIQC</i>
GO:0006090~pyruvate metabolic process	5	0.006795	Pregnancy	Up	<i>SLC16A1, ATF3, FBP1, DLAT, PCK2</i>
GO:0009719~response to endogenous stimulus	16	0.006921	Pregnancy	Up	<i>PLD1, CCL2, TACR3, CRYAB, HCLS1, SOCS1, IL1RN, FBP1, BCL2L1, ASL, STAT1, PRSS8, CIQB, FABP3, CA4, SERPINA1</i>
GO:0002253~activation of immune response	7	0.007101	Pregnancy	Up	<i>CIQA, CFP, CIQB, CFB, SERPING1, C2, CIQC</i>
GO:0048545~response to steroid hormone stimulus	10	0.008226	Pregnancy	Up	<i>PRSS8, CIQB, CCL2, TACR3, CRYAB, SOCS1, IL1RN, CA4, SERPINA1, ASL</i>
GO:0008284~positive regulation of cell proliferation	16	0.008488	Pregnancy	Up	<i>COL18A1, NAMPT, CCL2, OSMR, HCLS1, BCL2L1, CD40, STAT1, CXCL10, CD86, ATF3, TNFSF13B, MST1R, SERTAD1, ALOX12, MATK</i>
GO:0006508~proteolysis	31	0.008779	Pregnancy	Up	<i>DPP3, UBA7, CIQC, CFP, PRSS8, PSMF1, USP18, CASP4, ISG15, PYCARD, RBCK1, NEDD4L, C2, CASP1, VCPIPI, CFLAR, CFB, SOCS1, UBE2L6, CPXM2, SERPING1, TINAGL1, PSMB9, CIQA, CIQB, MEP1B, UBD, RNF19B, FBXO33, USP25, PRSS22</i>
GO:0044106~cellular amine	13	0.009755	Pregnancy	Up	<i>DDC, MTHFD2L, YARS, EPAS1, ZNFX1, ALDH5A1,</i>

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metabolic process					<i>ASL, GSS, WARS, LY6E, ARG2, FABP3, MARS2</i>
GO:0044248~cellular catabolic process	30	0.0106	Pregnancy	Up	<i>PXDN, ENPP3, PNPT1, HEXB, UBA7, CNP, ASL, DNASE1L3, ISG20, PSMF1, USP18, ISG15, SMPDL3B, RBCK1, NEDD4L, VCIPI1, PLD1, AIFM1, ALDH5A1, RNASE6, SOCS1, UBE2L6, CYP26A1, CRAT, PSMB9, DNASE2, UBD, RNF19B, FBXO33, USP25</i>
GO:0048584~positive regulation of response to stimulus	11	0.010776	Pregnancy	Up	<i>C1QA, CFP, C1QB, TNFSF13B, OSMR, CFB, IRF7, FCER1G, SERPING1, C2, C1QC</i>
GO:0002684~positive regulation of immune system process	11	0.011397	Pregnancy	Up	<i>C1QA, CFP, C1QB, CD86, TNFSF13B, CFB, FCER1G, SERPING1, CD40, C2, C1QC</i>
GO:0006917~induction of apoptosis	13	0.013639	Pregnancy	Up	<i>FGD2, CFLAR, AIFM1, NR4A1, STK17A, STAT1, DAXX, CASP4, NUPR1, DDX19B, PYCARD, CASP1, MXI</i>
GO:0012502~induction of programmed cell death	13	0.013969	Pregnancy	Up	<i>FGD2, CFLAR, AIFM1, NR4A1, STK17A, STAT1, DAXX, CASP4, NUPR1, DDX19B, PYCARD, CASP1, MXI</i>
GO:0009308~amine metabolic process	15	0.014138	Pregnancy	Up	<i>DDC, MTHFD2L, YARS, EPAS1, ZNFX1, ALDH5A1, HEXB, ASL, GSS, WARS, LY6E, ARG2, FABP3, MARS2, CRYM</i>
GO:0065008~regulation of biological quality	39	0.014713	Pregnancy	Up	<i>FGD2, CLDN16, CCL2, TACR3, HEXB, OSGIN1, BCL2L1, SYNGR1, LY6E, MORC3, SERPINA1, AGRN, NEDD4L, SERTAD1, SOAT1, NCDN, SLC12A2, EPAS1,</i>

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					<i>ALDH5A1, CRYAB, AIFM1, HCLS1, TNFRSF13B, CYP26A1, SERPING1, CD40, PRKCD, SELT, CCL11, DNASE2, CCR7, TNFSF13B, NUPR1, IL20RB, IRF7, CDKN2AIP, IFI6, CRYM, ALOX12</i>
GO:0044255~cellular lipid metabolic process	18	0.014793	Pregnancy	Up	<i>SOAT1, PLD1, SPTLC2, ALDH5A1, CREM, HEXB, GPLD1, CYP26A1, LYPLA1, CRAT, SERINC2, SMPDL3B, ALOX5AP, FABP3, PLA1A, SLC27A2, SLC27A5, ALOX12</i>
GO:0002822~regulation of adaptive immune response based on somatic recombination of immune receptors built from immunoglobulin superfamily domains	5	0.017268	Pregnancy	Up	<i>CD86, TNFSF13B, IL20RB, FCER1G, CD40</i>
GO:0002819~regulation of adaptive immune response	5	0.01834	Pregnancy	Up	<i>CD86, TNFSF13B, IL20RB, FCER1G, CD40</i>
GO:0042981~regulation of apoptosis	24	0.019813	Pregnancy	Up	<i>FGD2, COL18A1, CFLAR, IFIH1, BCL2L14, CCL2, AIFM1, CRYAB, ANXA1, NR4A1, CDH1, STK17A, BCL2L1, STAT1, DAXX, CASP4, TNFSF13B, NUPR1, DDX19B, PYCARD, CASP1, MX1, IFI6, ALOX12</i>
GO:0043067~regulation of programmed cell death	24	0.021739	Pregnancy	Up	<i>FGD2, COL18A1, CFLAR, IFIH1, BCL2L14, CCL2, AIFM1, CRYAB, ANXA1, NR4A1, CDH1, STK17A, BCL2L1, STAT1, DAXX, CASP4, TNFSF13B, NUPR1, DDX19B, PYCARD, CASP1, MX1, IFI6, ALOX12</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0043434~response to peptide hormone stimulus	8	0.021846	Pregnancy	Up	<i>PRSS8, PLD1, SOCS1, FABP3, FBP1, BCL2L1, STAT1, ASL</i>
GO:0070206~protein trimerization	3	0.022237	Pregnancy	Up	<i>ALOX5AP, TRIM6, TRIM6-TRIM34, TRIM21</i>
GO:0010941~regulation of cell death	24	0.02281	Pregnancy	Up	<i>FGD2, COL18A1, CFLAR, IFIH1, BCL2L14, CCL2, AIFM1, CRYAB, ANXA1, NR4A1, CDH1, STK17A, BCL2L1, STAT1, DAXX, CASP4, TNFSF13B, NUPR1, DDX19B, PYCARD, CASP1, MX1, IFI6, ALOX12</i>
GO:0002682~regulation of immune system process	14	0.022926	Pregnancy	Up	<i>CFB, TNFRSF13B, SERPING1, CD40, C1QC, CFP, C1QA, DDX58, C1QB, CD86, TNFSF13B, IL20RB, FCER1G, C2</i>
GO:0001819~positive regulation of cytokine production	6	0.02348	Pregnancy	Up	<i>DDX58, IL20RB, PYCARD, FCER1G, CD40, CASP1</i>
GO:0043065~positive regulation of apoptosis	15	0.024641	Pregnancy	Up	<i>COL18A1, FGD2, CFLAR, AIFM1, NR4A1, BCL2L1, STK17A, STAT1, DAXX, CASP4, NUPR1, DDX19B, PYCARD, CASP1, MX1</i>
GO:0043068~positive regulation of programmed cell death	15	0.025969	Pregnancy	Up	<i>COL18A1, FGD2, CFLAR, AIFM1, NR4A1, BCL2L1, STK17A, STAT1, DAXX, CASP4, NUPR1, DDX19B, PYCARD, CASP1, MX1</i>
GO:0006519~cellular amino acid and derivative metabolic process	13	0.026609	Pregnancy	Up	<i>DDC, MTHFD2L, YARS, EPAS1, ZNFX1, ALDH5A1, ASL, GSS, WARS, LY6E, ARG2, FABP3, MARS2</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0010942~positive regulation of cell death	15	0.027064	Pregnancy	Up	<i>COL18A1, FGD2, CFLAR, AIFM1, NR4A1, BCL2L1, STK17A, STAT1, DAXX, CASP4, NUPR1, DDX19B, PYCARD, CASP1, MX1</i>
GO:0006631~fatty acid metabolic process	9	0.027549	Pregnancy	Up	<i>ALDH5A1, CREM, ALOX5AP, FABP3, LYPLA1, CRAT, SLC27A2, SLC27A5, ALOX12</i>
GO:0006957~complement activation, alternative pathway	3	0.029235	Pregnancy	Up	<i>CFP, CFB, C2</i>
GO:0051188~cofactor biosynthetic process	6	0.03115	Pregnancy	Up	<i>GSS, NAMPT, ALAS1, MTHFD2L, PDXK, DLAT</i>
GO:0043123~positive regulation of I-kappaB kinase/NF-kappaB cascade	6	0.03115	Pregnancy	Up	<i>TRIM38, CFLAR, SHISA5, CD40, CASP1, LGALS9</i>
GO:0048522~positive regulation of cellular process	45	0.032215	Pregnancy	Up	<i>FGD2, NAMPT, MSR1, CCL2, OSMR, ABLIM3, BCL2L1, STK17A, DAXX, CXCL10, PSMF1, CASP4, DDX19B, SHISA5, PYCARD, AGRN, NEDD4L, PTX3, MX1, CASP1, BOC, SERTAD1, MATK, SOAT1, COL18A1, CFLAR, PLD1, EPAS1, AIFM1, HCLS1, NR4A1, CD40, STAT1, LGALS9, PSMB9, TRIM38, CD86, ATF3, TNFSF13B, NUPR1, IRF6, CDKN2AIP, IRF1, MST1R, ALOX12</i>
GO:0048872~homeostasis of number of cells	6	0.034866	Pregnancy	Up	<i>DNASE2, TNFSF13B, IL20RB, EPAS1, HCLS1, TNFRSF13B</i>
GO:0009108~coenzyme	5	0.036065	Pregnancy	Up	<i>GSS, NAMPT, MTHFD2L, PDXK, DLAT</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
biosynthetic process					
GO:0019221~cytokine-mediated signaling pathway	5	0.037728	Pregnancy	Up	<i>CCL2, SOCS1, PYCARD, RQCD1, STAT1</i>
GO:0043122~regulation of I-kappaB kinase/NF-kappaB cascade	6	0.044565	Pregnancy	Up	<i>TRIM38, CFLAR, SHISA5, CD40, CASP1, LGALS9</i>
GO:0009056~catabolic process	32	0.044859	Pregnancy	Up	<i>PXDN, ENPP3, PNPT1, HEXB, UBA7, CNP, ASL, DNASE1L3, ISG20, PSMF1, USP18, ISG15, SMPDL3B, PLA1A, RBCK1, NEDD4L, VCIPI1, PLD1, ALDH5A1, AIFM1, RNASE6, SOCS1, UBE2L6, CYP26A1, CRAT, DLAT, PSMB9, DNASE2, UBD, RNF19B, FBXO33, USP25</i>
GO:0001817~regulation of cytokine production	8	0.046188	Pregnancy	Up	<i>DDX58, CD86, IL20RB, PYCARD, IRF1, FCER1G, CD40, CASP1</i>
GO:0006665~sphingolipid metabolic process	5	0.046695	Pregnancy	Up	<i>SMPDL3B, SPTLC2, ALDH5A1, CREM, HEXB</i>
GO:0006066~alcohol metabolic process	14	0.048173	Pregnancy	Up	<i>SOAT1, DDC, EPAS1, CRYAB, ALDH5A1, CREM, HEXB, FBP1, DLAT, PMVK, PCK2, ATF3, LY6E, FABP3</i>
GO:0006418~tRNA aminoacylation for protein translation	4	0.050081	Pregnancy	Up	<i>WARS, YARS, ZNFX1, MARS2</i>
GO:0043039~tRNA	4	0.050081	Pregnancy	Up	<i>WARS, YARS, ZNFX1, MARS2</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
aminoacylation					
GO:0043038~amino acid activation	4	0.050081	Pregnancy	Up	WARS, YARS, ZNFX1, MARS2
GO:0032496~response to lipopolysaccharide	5	0.050585	Pregnancy	Up	CCL2, SOCS1, IRF3, SERPINA1, STAT1
GO:0048519~negative regulation of biological process	43	0.052381	Pregnancy	Up	CCL2, SLC15A1, IFITM1, AIF1, OSGIN1, ABHD2, BCL2L1, DAXX, C1QC, WARS, PSMF1, MOV10, MORC3, ARG2, NEDD4L, SERTAD1, DNAJC1, COL18A1, CFLAR, CRYAB, SOCS1, TNFRSF13B, ANXA1, CYP26A1, SERPING1, RGS16, PRKCD, PSMB9, DKK1, TNFSF13B, IL20RB, NUPR1, IRF6, IRF7, CDKN2AIP, IRF8, FABP3, EIF2AK2, MAD2L2, IFI6, CRYM, ALOX12, ADAR
GO:0006520~cellular amino acid metabolic process	9	0.053056	Pregnancy	Up	GSS, WARS, YARS, MTHFD2L, ALDH5A1, ZNFX1, ARG2, MARS2, ASL
GO:0007030~Golgi organization	3	0.054491	Pregnancy	Up	ATL3, OPTN, VCIPI1
GO:0043281~regulation of caspase activity	5	0.054648	Pregnancy	Up	PYCARD, NR4A1, CDH1, STAT1, IFI6
GO:0034097~response to cytokine stimulus	5	0.054648	Pregnancy	Up	OSMR, SOCS1, SERPINA1, BCL2L1, STAT1
GO:0006644~phospholipid metabolic process	8	0.057396	Pregnancy	Up	SERINC2, PLD1, SMPDL3B, ALDH5A1, HEXB, GPLD1, FABP3, PLA1A

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0006643~membrane lipid metabolic process	5	0.058882	Pregnancy	Up	<i>SMPDL3B, SPTLC2, ALDH5A1, CREM, HEXB</i>
GO:0006006~glucose metabolic process	7	0.059253	Pregnancy	Up	<i>ATF3, ALDH5A1, CRYAB, CREM, FBP1, DLAT, PCK2</i>
GO:0052548~regulation of endopeptidase activity	5	0.061064	Pregnancy	Up	<i>PYCARD, NR4A1, CDH1, STAT1, IFI6</i>
GO:0009617~response to bacterium	8	0.061127	Pregnancy	Up	<i>CFP, PLD1, CCL2, SOCS1, IRF3, SERPINA1, STAT1, S100A12</i>
GO:0007626~locomotory behavior	10	0.061199	Pregnancy	Up	<i>CCL11, CCR7, PLD1, CCL2, CXCL2, HEXB, CCL8, CNP, ASL, CXCL10</i>
GO:0015718~monocarboxylic acid transport	4	0.061404	Pregnancy	Up	<i>SLC16A1, ANXA1, ABCC3, FABP3</i>
GO:0006366~transcription from RNA polymerase II promoter	9	0.062439	Pregnancy	Up	<i>IRF9, NMI, EPAS1, IRF7, IRF1, IRF3, STAT1, GTF2B, NFATC1</i>
GO:0006650~glycerophospho lipid metabolic process	6	0.062771	Pregnancy	Up	<i>SERINC2, PLD1, ALDH5A1, GPLD1, FABP3, PLA1A</i>
GO:0006629~lipid metabolic process	22	0.063404	Pregnancy	Up	<i>SOAT1, PLD1, SPTLC2, ALDH5A1, CREM, HEXB, GPLD1, ANXA1, CYP26A1, LYPLA1, CRAT, ACSS2, PMVK, SERINC2, STARD5, SMPDL3B, ALOX5AP, FABP3, PLA1A, SLC27A2, SLC27A5, ALOX12</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0044265~cellular macromolecule catabolic process	20	0.065124	Pregnancy	Up	<i>AIFM1, PNPT1, SOCS1, RNASE6, UBA7, UBE2L6, DNASE1L3, PSMB9, ISG20, DNASE2, PSMF1, USP18, ISG15, UBD, RBCK1, NEDD4L, FBXO33, RNF19B, USP25, VCPIP1</i>
GO:0031960~response to corticosteroid stimulus	5	0.06786	Pregnancy	Up	<i>PRSS8, C1QB, CCL2, IL1RN, ASL</i>
GO:0002237~response to molecule of bacterial origin	5	0.070209	Pregnancy	Up	<i>CCL2, SOCS1, IRF3, SERPINA1, STAT1</i>
GO:0052547~regulation of peptidase activity	5	0.070209	Pregnancy	Up	<i>PYCARD, NR4A1, CDH1, STAT1, IFI6</i>
GO:0045351~type I interferon biosynthetic process	2	0.070331	Pregnancy	Up	<i>IRF9, IRF3</i>
GO:0032606~type I interferon production	2	0.070331	Pregnancy	Up	<i>IRF9, IRF3</i>
GO:0006935~chemotaxis	7	0.070351	Pregnancy	Up	<i>CCL11, CCR7, PLD1, CCL2, CXCL2, CCL8, CXCL10</i>
GO:0042330~taxis	7	0.070351	Pregnancy	Up	<i>CCL11, CCR7, PLD1, CCL2, CXCL2, CCL8, CXCL10</i>
GO:0019637~organophosphate metabolic process	8	0.0711	Pregnancy	Up	<i>SERINC2, PLD1, SMPDL3B, ALDH5A1, HEXB, GPLD1, FABP3, PLA1A</i>
GO:0032355~response to estradiol stimulus	4	0.073806	Pregnancy	Up	<i>TACR3, CRYAB, SOCS1, SERPINA1</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0006094~gluconeogenesis	3	0.0743	Pregnancy	Up	<i>ATF3, FBP1, PCK2</i>
GO:0051240~positive regulation of multicellular organismal process	9	0.075569	Pregnancy	Up	<i>DDX58, CCL2, IL20RB, TACR3, PYCARD, FCER1G, CD40, CASP1, FOXS1</i>
GO:0010035~response to inorganic substance	8	0.078755	Pregnancy	Up	<i>GSS, PXDN, CRYAB, DDX19B, SERPINA1, NEDD4L, BCL2L1, STAT1</i>
GO:0006687~glycosphingolipid metabolic process	3	0.079563	Pregnancy	Up	<i>ALDH5A1, CREM, HEXB</i>
GO:0006916~anti-apoptosis	8	0.080105	Pregnancy	Up	<i>CFLAR, CCL2, TNFSF13B, CRYAB, ANXA1, BCL2L1, IFI6, ALOX12</i>
GO:0042542~response to hydrogen peroxide	4	0.080392	Pregnancy	Up	<i>PXDN, CRYAB, BCL2L1, STAT1</i>
GO:0010740~positive regulation of protein kinase cascade	7	0.082559	Pregnancy	Up	<i>TRIM38, CFLAR, HCLS1, SHISA5, CD40, CASP1, LGALS9</i>
GO:0010627~regulation of protein kinase cascade	9	0.083304	Pregnancy	Up	<i>TRIM38, CFLAR, HCLS1, SOCS1, SHISA5, CD40, CASP1, DAXX, LGALS9</i>
GO:0002883~regulation of hypersensitivity	2	0.08713	Pregnancy	Up	<i>IL20RB, FCER1G</i>
GO:0002864~regulation of acute inflammatory response	2	0.08713	Pregnancy	Up	<i>IL20RB, FCER1G</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
to antigenic stimulus					
GO:0050708~regulation of protein secretion	4	0.087224	Pregnancy	Up	<i>PYCARD, CD40, CASP1, DNAJC1</i>
GO:0030888~regulation of B cell proliferation	3	0.09042	Pregnancy	Up	<i>TNFSF13B, TNFRSF13B, CD40</i>
GO:0051260~protein homooligomerization	5	0.093174	Pregnancy	Up	<i>ALDH5A1, CRYAB, ALOX5AP, ATL3, CDH1</i>
GO:0006308~DNA catabolic process	4	0.094291	Pregnancy	Up	<i>DNASE2, AIFM1, DNASE1L3, ISG20</i>
GO:0001666~response to hypoxia	6	0.095676	Pregnancy	Up	<i>CCL2, EPAS1, SERPINA1, BCL2L1, CASP1, ASL</i>
GO:0051259~protein oligomerization	7	0.095788	Pregnancy	Up	<i>ALDH5A1, CRYAB, ALOX5AP, TRIM6, ATL3, CDH1, TRIM6-TRIM34, TRIM21</i>
GO:0042493~response to drug	8	0.097672	Pregnancy	Up	<i>PRSS8, COL18A1, CCL2, SOCS1, FABP3, CA4, CDH1, STAT1</i>
GO:0007155~cell adhesion	53	1.44E-13	Pregnancy	Down	<i>MTSS1, CADM3, IGFBP7, NPNT, CLDN5, PCDHGA8, WISP2, CD44, ROBO1, COL12A1, SPON2, COL11A1, SPON1, TYRO3, SIGLEC10, PTPRS, CDK5, PCDHGB4, AMIGO1, HES1, PGM5, VCAN, SGCE, TGFB1I1, JAM2, MFAP4, DST, MIA, EMCN, COL3A1, CLDN10, CDH2, PCDHGC3, ISLR, SEMA5A,</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
					<i>COL27A1, TEK, TNXB, GMDS, COL13A1, HSPG2, NID1, NLGN3, COL5A3, MCAM, CDH13, LAMA4, STAB1, FBLN5, PECAM1, ITGA7, FEZ1, CDH11</i>
GO:0022610~biological adhesion	53	1.52E-13	Pregnancy	Down	<i>MTSS1, CADM3, IGFBP7, NPNT, CLDN5, PCDHGA8, WISP2, CD44, ROBO1, COL12A1, SPON2, COL11A1, SPON1, TYRO3, SIGLEC10, PTPRS, CDK5, PCDHGB4, AMIGO1, HES1, PGM5, VCAN, SGCE, TGFB111, JAM2, MFAP4, DST, MIA, EMCN, COL3A1, CLDN10, CDH2, PCDHGC3, ISLR, SEMA5A, COL27A1, TEK, TNXB, GMDS, COL13A1, HSPG2, NID1, NLGN3, COL5A3, MCAM, CDH13, LAMA4, STAB1, FBLN5, PECAM1, ITGA7, FEZ1, CDH11</i>
GO:0032502~developmental process	120	1.38E-08	Pregnancy	Down	<i>EDN3, TSPAN2, GRIK1, EFNA2, JAG2, JAG1, CITED1, TGFB2, OLFML3, CD44, SERPINE2, CDKN2C, ROBO1, SMARCD3, ROBO4, COL12A1, PATZ1, ASPH, SPON2, SIX5, KRT10, PRELP, HES1, SERPINF1, TCFL5, GTF2IRD1, VEGFA, COL1A2, EFNA5, COL1A1, TGFB111, DST, EID1, EMCN, MFNG, MRAS, TIMP4, ELK3, MEIS1, SEMA5A, PEG10, TUBB, AHNAK2, CLASP2, PPP2R2B, ANGPTL2, BMP2, SPHK2, MSTN, ZNF521, MYOZ1, MCAM, ANKH, CDKN1C, LAMA4, HOXB7, SFRP2, ITGA7, NOTCH4, NTRK2, FABP7, IGFBP7, NPNT, TTLL3, EDNRA, LBH, OSR2, MKKS, SOX18, COL11A1, KCNMA1, EGFL7, LDB1, LDB2, ARHGAP24, CDK5, MMP11, AMIGO1, CCND1, LCK, VCAN, SGCE, KLHL10, IRX3, UNG, FHL1, COL3A1, OXTR, CDH2, KIT, MLF1, IGSF10, ALDH1A2, CRISPLD2, DISP1, PPP3CA, DCLK1, MYOC, MLLT3, NES, COL13A1, MSH2, MAP1B,</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
					<i>HSPG2, IGF1, DPYSL3, NID1, DPYSL2, COL5A3, SNAI2, RCAN2, ZNF358, WNT2B, CDH13, ICK, FYN, MPPED2, GAMT, FEZ1, CDH11</i>
GO:0007275~multicellular organismal development	112	1.46E-08	Pregnancy	Down	<i>EDN3, GRIK1, TSPAN2, EFNA2, JAG2, JAG1, CITED1, TGFB2, OLFML3, CD44, SERPINE2, CDKN2C, ROBO1, SMARCD3, ROBO4, COL12A1, PATZ1, ASPH, SPON2, SIX5, KRT10, PRELP, HES1, SERPINF1, TCFL5, GTF2IRD1, VEGFA, COL1A2, EFNA5, COL1A1, TGFB111, DST, EMCN, MFNG, MRAS, TIMP4, ELK3, MEIS1, SEMA5A, TUBB, AHNAK2, ANGPTL2, BMP2, SPHK2, MSTN, ZNF521, ANKH, CDKN1C, LAMA4, HOXB7, SFRP2, ITGA7, NOTCH4, NTRK2, FABP7, IGFBP7, NPNT, EDNRA, LBH, OSR2, MKKS, SOX18, COL11A1, KCNMA1, EGFL7, LDB1, LDB2, ARHGAP24, CDK5, MMP11, AMIGO1, CCND1, LCK, SGCE, VCAN, KLHL10, IRX3, UNG, FHL1, COL3A1, OXTR, CDH2, KIT, MLF1, IGSF10, ALDH1A2, CRISPLD2, DISP1, PPP3CA, DCLK1, MLLT3, NES, COL13A1, MSH2, MAP1B, HSPG2, IGF1, DPYSL3, NID1, DPYSL2, COL5A3, SNAI2, RCAN2, ZNF358, WNT2B, CDH13, ICK, FYN, MPPED2, GAMT, CDH11, FEZ1</i>
GO:0048856~anatomical structure development	102	1.86E-08	Pregnancy	Down	<i>EDN3, GRIK1, TSPAN2, EFNA2, JAG2, JAG1, CITED1, TGFB2, CD44, SERPINE2, ROBO1, SMARCD3, CDKN2C, ROBO4, COL12A1, PATZ1, ASPH, SPON2, SIX5, KRT10, PRELP, HES1, SERPINF1, VEGFA, COL1A2, EFNA5, COL1A1, TGFB111, DST, EMCN, MRAS, TIMP4, ELK3, SEMA5A, TUBB, AHNAK2, CLASP2, BMP2, SPHK2, MSTN, MYOZ1, MCAM,</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
					<i>ANKH, CDKN1C, LAMA4, HOXB7, SFRP2, NOTCH4, NTRK2, ITGA7, FABP7, TTLL3, EDNRA, OSR2, MKKS, SOX18, COL11A1, KCNMA1, EGFL7, LDB1, ARHGAP24, CDK5, AMIGO1, CCND1, LCK, SGCE, VCAN, KLHL10, IRX3, UNG, FHL1, COL3A1, OXTR, CDH2, KIT, MLF1, IGSF10, ALDH1A2, CRISPLD2, PPP3CA, MYOC, DCLK1, NES, COL13A1, MSH2, MAP1B, HSPG2, IGF1, NID1, DPYSL3, DPYSL2, COL5A3, SNAI2, RCAN2, ZNF358, WNT2B, CDH13, FYN, MPPED2, GAMT, CDH11, FEZ1</i>
GO:0001568~blood vessel development	24	1.93E-08	Pregnancy	Down	<i>EMCN, SPHK2, EGFL7, COL3A1, ELK3, CDH2, JAG1, ARHGAP24, CITED1, TGFB2, SEMA5A, EDNRA, CDH13, LAMA4, CD44, ROBO1, VEGFA, ITGA7, NOTCH4, NTRK2, COL1A2, ROBO4, SOX18, COL1A1</i>
GO:0030198~extracellular matrix organization	16	2.12E-08	Pregnancy	Down	<i>MIA, TNXB, COL3A1, HSPG2, CCDC80, NID1, COL5A3, TGFB2, EGFLAM, CRISPLD2, FBLN5, COL1A2, COL12A1, COL1A1, VWA1, COL11A1</i>
GO:0001944~vasculature development	24	3.02E-08	Pregnancy	Down	<i>EMCN, SPHK2, EGFL7, COL3A1, ELK3, CDH2, JAG1, ARHGAP24, CITED1, TGFB2, SEMA5A, EDNRA, CDH13, LAMA4, CD44, ROBO1, VEGFA, ITGA7, NOTCH4, NTRK2, COL1A2, ROBO4, SOX18, COL1A1</i>
GO:0009653~anatomical structure morphogenesis	60	4.25E-08	Pregnancy	Down	<i>EFNA2, JAG2, JAG1, CITED1, TGFB2, TTLL3, EDNRA, OSR2, CD44, SMARCD3, ROBO1, ROBO4, MKKS, SOX18, ASPH, SPON2, COL11A1, EGFL7, LDB1, ARHGAP24, CDK5, AMIGO1, HES1, CCND1, VEGFA, COL1A2, VCAN, EFNA5, COL1A1, TGFB111, KLHL10, DST, EMCN, FHL1, CDH2, ELK3, SEMA5A,</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
					<i>IGSF10, ALDH1A2, CLASP2, DCLK1, MYOC, BMP2, COL13A1, MAP1B, HSPG2, IGF1, MSTN, MYOZ1, MCAM, ZNF358, WNT2B, CDH13, HOXB7, SFRP2, ITGA7, NTRK2, NOTCH4, GAMT, FEZ1</i>
GO:0043062~extracellular structure organization	19	5.93E-08	Pregnancy	Down	<i>MIA, TNXB, COL3A1, MAP1B, HSPG2, CCDC80, NLGN3, NID1, CDH2, COL5A3, TGFB2, EGFLAM, CRISPLD2, FBLN5, COL1A2, COL12A1, COL1A1, VWA1, COL11A1</i>
GO:0048731~system development	94	9.52E-08	Pregnancy	Down	<i>EDN3, GRIK1, TSPAN2, EFNA2, JAG2, JAG1, CITED1, TGFB2, EDNRA, OSR2, SERPINE2, CD44, CDKN2C, SMARCD3, ROBO1, ROBO4, MKKS, COL12A1, PATZ1, SOX18, SPON2, COL11A1, KCNMA1, EGFL7, LDB1, SIX5, KRT10, ARHGAP24, CDK5, PRELP, AMIGO1, HES1, CCND1, SERPINF1, LCK, VEGFA, COL1A2, EFNA5, SGCE, VCAN, KLHL10, COL1A1, TGFB111, DST, IRX3, EMCN, UNG, MRAS, FHL1, COL3A1, OXTR, TIMP4, CDH2, ELK3, KIT, MLF1, IGSF10, SEMA5A, ALDH1A2, TUBB, CRISPLD2, AHNAK2, PPP3CA, DCLK1, BMP2, NES, SPHK2, MSH2, COL13A1, MAP1B, HSPG2, IGF1, MSTN, DPYSL3, NID1, DPYSL2, SNAI2, COL5A3, RCAN2, ANKH, ZNF358, CDKN1C, CDH13, LAMA4, HOXB7, FYN, ITGA7, NOTCH4, NTRK2, MPPED2, GAMT, FABP7, CDH11, FEZ1</i>
GO:0030154~cell differentiation	73	1.10E-07	Pregnancy	Down	<i>EDN3, TSPAN2, EFNA2, NPNT, JAG2, JAG1, CITED1, TGFB2, EDNRA, SERPINE2, CD44, CDKN2C, SMARCD3, ROBO1, ROBO4, MKKS, PATZ1, SOX18, SPON2, COL11A1, KCNMA1, EGFL7, LDB1, SIX5,</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
					<i>ARHGAP24, CDK5, AMIGO1, HES1, CCND1, SERPINF1, TCFL5, LCK, VEGFA, EFNA5, VCAN, COL1A1, TGFB111, KLHL10, DST, IRX3, EID1, FHL1, CDH2, KIT, MLF1, IGSF10, SEMA5A, ALDH1A2, PEG10, TUBB, AHNAK2, PPP3CA, PPP2R2B, DCLK1, BMP2, MSH2, COL13A1, MAP1B, HSPG2, IGF1, MYOZ1, ZNF521, DPYSL2, ZNF358, CDKN1C, LAMA4, HOXB7, SFRP2, FYN, NTRK2, NOTCH4, FABP7, FEZ1</i>
GO:0048869~cellular developmental process	75	1.22E-07	Pregnancy	Down	<i>EDN3, TSPAN2, EFNA2, NPNT, JAG2, JAG1, CITED1, TGFB2, TTLL3, EDNRA, SERPINE2, CD44, CDKN2C, SMARCD3, ROBO1, ROBO4, MKKS, PATZ1, SOX18, SPON2, COL11A1, KCNMA1, EGFL7, LDB1, SIX5, ARHGAP24, CDK5, AMIGO1, HES1, CCND1, SERPINF1, TCFL5, LCK, VEGFA, EFNA5, VCAN, KLHL10, COL1A1, TGFB111, DST, IRX3, EID1, FHL1, CDH2, KIT, MLF1, IGSF10, SEMA5A, ALDH1A2, PEG10, TUBB, AHNAK2, PPP3CA, CLASP2, PPP2R2B, DCLK1, BMP2, MSH2, COL13A1, MAP1B, HSPG2, IGF1, MYOZ1, ZNF521, DPYSL2, ZNF358, CDKN1C, LAMA4, HOXB7, SFRP2, FYN, NTRK2, NOTCH4, FABP7, FEZ1</i>
GO:0022008~neurogenesis	35	2.29E-06	Pregnancy	Down	<i>IRX3, EDN3, TSPAN2, EFNA2, JAG2, KIT, JAG1, CDH2, TGFB2, SEMA5A, ALDH1A2, TUBB, CD44, ROBO1, CDKN2C, SPON2, DCLK1, KCNMA1, BMP2, LDB1, MAP1B, IGF1, CDK5, HES1, CDKN1C, AMIGO1, SERPINF1, FYN, VEGFA, NTRK2, EFNA5, VCAN, FABP7, DST, FEZ1</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0048468~cell development	36	3.97E-06	Pregnancy	Down	<i>EDN3, EFNA2, KIT, CITED1, TGFB2, SEMA5A, EDNRA, ALDH1A2, CD44, ROBO1, MKKS, PPP3CA, SPON2, PPP2R2B, COL11A1, DCLK1, KCNMA1, BMP2, MSH2, MAP1B, IGF1, SIX5, MYOZ1, ZNF358, CDK5, HES1, CDKN1C, AMIGO1, VEGFA, NOTCH4, NTRK2, EFNA5, VCAN, KLHL10, DST, FEZ1</i>
GO:0032501~multicellular organismal process	139	1.04E-05	Pregnancy	Down	<i>EDN3, TSPAN2, GRIK1, EFNA2, CRHBP, JAG2, JAG1, AQP1, CITED1, TGFB2, OLFML3, HMCN1, CD44, SERPINE2, PPP1R1B, CDKN2C, ROBO1, SMARCD3, ROBO4, COL12A1, PATZ1, CREB3L4, ASPH, SPON2, CRTAP, SIX5, KRT10, PRELP, HES1, SERPINF1, TCFL5, GTF2IRD1, VEGFA, COL1A2, EFNA5, TGFB11, COL1A1, DST, FXYD1, KCNMB4, EMCN, MFNG, MRAS, TIMP4, ELK3, MEIS1, SEMA5A, TUBB, HNMT, BCHE, AHNAK2, PPP2R2B, ANGPTL2, BMP2, SPHK2, MSTN, ZNF521, ANKH, CDKN1C, LAMA4, HOXB7, SFRP2, CD59, ITGA7, NOTCH4, NTRK2, CACNA1G, FABP7, TRPV2, NPNT, IGFBP7, EDNRA, LBH, OSR2, SERPINA5, MKKS, SOX18, COL11A1, KCNMA1, EGFL7, ACTA2, LDB1, LDB2, ARHGAP24, CDK5, MMP11, AMIGO1, CCND1, LCK, VCAN, SGCE, KLHL10, IRX3, UNG, FHL1, COL3A1, OXTR, TIMM13, CDH2, KIT, MLF1, IGSF10, ALDH1A2, CRISPLD2, DISP1, HSF2BP, PPP3CA, SCNN1A, DCLK1, MLLT3, COL4A4, NES, TNXB, COL13A1, MSH2, MAP1A, MAP1B, HSPG2, IGF1, DPYSL3, NLGN3, NID1, NPR2, DPYSL2, COL5A3, SNAI2, RCAN2, ZNF358, WNT2B, CDH13, ICK, SLC6A8, FYN, FBLN5, PECAM1, MPPED2, GAMT, FEZ1, CDH11</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0048514~blood vessel morphogenesis	18	1.13E-05	Pregnancy	Down	<i>EMCN, EGFL7, ELK3, CDH2, JAG1, ARHGAP24, CITED1, TGFB2, EDNRA, SEMA5A, CDH13, ROBO1, VEGFA, ITGA7, NOTCH4, NTRK2, ROBO4, SOX18</i>
GO:0007399~nervous system development	49	1.91E-05	Pregnancy	Down	<i>EDN3, TSPAN2, GRIK1, EFNA2, JAG2, JAG1, TGFB2, CD44, SERPINE2, ROBO1, CDKN2C, MKKS, SPON2, KCNMA1, LDB1, CDK5, HES1, AMIGO1, SERPINF1, VEGFA, EFNA5, VCAN, DST, IRX3, OXTR, TIMP4, KIT, CDH2, SEMA5A, ALDH1A2, TUBB, DCLK1, NES, BMP2, SPHK2, MAP1B, HSPG2, IGF1, DPYSL3, DPYSL2, ZNF358, RCAN2, CDKN1C, FYN, NTRK2, NOTCH4, MPPED2, FABP7, FEZ1</i>
GO:0048699~generation of neurons	31	2.54E-05	Pregnancy	Down	<i>IRX3, EDN3, EFNA2, JAG2, KIT, JAG1, CDH2, TGFB2, SEMA5A, ALDH1A2, TUBB, CD44, ROBO1, SPON2, DCLK1, KCNMA1, BMP2, LDB1, MAP1B, CDK5, HES1, AMIGO1, CDKN1C, SERPINF1, FYN, VEGFA, NTRK2, EFNA5, VCAN, DST, FEZ1</i>
GO:0048513~organ development	68	3.15E-05	Pregnancy	Down	<i>EDN3, EFNA2, JAG2, JAG1, CITED1, TGFB2, EDNRA, OSR2, CD44, SMARCD3, ROBO1, ROBO4, MKKS, PATZI, SOX18, COL11A1, KCNMA1, EGFL7, LDB1, SIX5, KRT10, ARHGAP24, CDK5, HES1, CCND1, LCK, VEGFA, COL1A2, EFNA5, SGCE, COL1A1, TGFB111, KLHL10, EMCN, FHL1, MRAS, COL3A1, OXTR, CDH2, ELK3, KIT, MLF1, IGSF10, SEMA5A, ALDH1A2, CRISPLD2, AHNAK2, PPP3CA, DCLK1, BMP2, SPHK2, MSH2, COL13A1, HSPG2, IGF1, MSTN, NID1, SNAI2, COL5A3, CDH13, LAMA4, HOXB7, FYN, ITGA7, NTRK2, NOTCH4, GAMT,</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
					<i>FABP7</i>
GO:0007160~cell-matrix adhesion	11	4.66E-05	Pregnancy	Down	<i>MIA, CD44, COL13A1, FBLN5, TEK, COL3A1, ITGA7, SGCE, NID1, COL5A3, CDK5</i>
GO:0030334~regulation of cell migration	15	4.93E-05	Pregnancy	Down	<i>EDN3, EGFL7, ENPP2, JAG2, IGF1, JAG1, KIT, CDK5, TGFB2, CDH13, LAMA4, SERPINE2, VEGFA, TEK, ROBO4</i>
GO:0001525~angiogenesis	14	4.99E-05	Pregnancy	Down	<i>EMCN, EGFL7, JAG1, ELK3, ARHGAP24, TGFB2, EDNRA, SEMA5A, CDH13, ROBO1, NOTCH4, VEGFA, ROBO4, SOX18</i>
GO:0030199~collagen fibril organization	7	5.03E-05	Pregnancy	Down	<i>COL3A1, COL1A2, COL12A1, COL1A1, COL5A3, COL11A1, TGFB2</i>
GO:0040012~regulation of locomotion	16	5.27E-05	Pregnancy	Down	<i>EDN3, EGFL7, ENPP2, JAG2, IGF1, JAG1, KIT, CDK5, TGFB2, CDH13, LAMA4, SERPINE2, TEK, VEGFA, ROBO4, MKKS</i>
GO:0051270~regulation of cell motion	16	5.60E-05	Pregnancy	Down	<i>EDN3, EGFL7, ENPP2, JAG2, IGF1, JAG1, KIT, CDK5, TGFB2, CDH13, LAMA4, SERPINE2, TEK, VEGFA, ROBO4, MKKS</i>
GO:0050793~regulation of developmental process	34	6.19E-05	Pregnancy	Down	<i>IRX3, EDN3, CCDC85B, OXTR, JAG1, KIT, CDH2, TGFB2, CDC42EP1, ROBO1, TEK, DDAH1, COL4A4, BMP2, PTGER4, LDB1, MAP1B, MSTN, IGF1, ZNF358, ANKH, HES1, AMIGO1, LAMA4, CCND1, SERPINF1, TCFL5, FYN, STAB1, VEGFA, NTRK2, NOTCH4, ITGA7, TGFBIII</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0009628~response to abiotic stimulus	23	6.67E-05	Pregnancy	Down	<i>KCNMA1, BMP2, NES, MSH2, TRPV2, IGFBP7, COL3A1, MAP1B, MSTN, NLGN3, KIT, HVCN1, SNAI2, CDK5, CCND1, UACA, HSPB6, FYN, HSPB8, DDB2, MKKS, COL1A1, COL11A1</i>
GO:0031589~cell-substrate adhesion	11	1.06E-04	Pregnancy	Down	<i>MIA, CD44, COL13A1, FBLN5, TEK, COL3A1, ITGA7, SGCE, NID1, COL5A3, CDK5</i>
GO:0030182~neuron differentiation	25	1.22E-04	Pregnancy	Down	<i>EDN3, EFNA2, JAG2, JAG1, TGFB2, SEMA5A, ALDH1A2, TUBB, CD44, ROBO1, SPON2, DCLK1, KCNMA1, LDB1, MAP1B, CDK5, AMIGO1, CDKN1C, HES1, NTRK2, VEGFA, EFNA5, VCAN, DST, FEZ1</i>
GO:0032879~regulation of localization	31	1.27E-04	Pregnancy	Down	<i>KCNMB4, EDN3, JPH4, GRIK1, ENPP2, JAG2, OXTR, JAG1, KIT, CDH2, TGFB2, EDNRA, SERPINE2, TEK, ROBO4, MKKS, SCG5, SERGEF, EGFL7, IGF1, PFKM, CDK5, FLNA, SYNGR3, CDH13, LAMA4, UACA, VEGFA, NTRK2, LCK, MBTPS1</i>
GO:0051969~regulation of transmission of nerve impulse	13	1.94E-04	Pregnancy	Down	<i>COL4A4, EDN3, KCNMB4, GRIK1, MAP1B, OXTR, NLGN3, CDH2, KIT, CDK5, BCHE, NTRK2, PPP3CA</i>
GO:0000904~cell morphogenesis involved in differentiation	17	2.35E-04	Pregnancy	Down	<i>BMP2, EFNA2, MAP1B, CDK5, CITED1, TGFB2, AMIGO1, HES1, SEMA5A, ROBO1, NOTCH4, VCAN, EFNA5, SPON2, DST, DCLK1, FEZ1</i>
GO:0031644~regulation of neurological system process	13	2.82E-04	Pregnancy	Down	<i>COL4A4, EDN3, KCNMB4, GRIK1, MAP1B, OXTR, NLGN3, CDH2, KIT, CDK5, BCHE, NTRK2, PPP3CA</i>
GO:0016337~cell-cell	18	3.17E-04	Pregnancy	Down	<i>CADM3, EMCN, GMDS, COL13A1, CLDN5, PCDHGA8, CLDN10, CDH2, PCDHGC3, PCDHGB4,</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
adhesion					<i>AMIGO1, CDH13, CD44, ROBO1, TEK, JAM2, COL11A1, CDH11</i>
GO:0000902~cell morphogenesis	21	3.24E-04	Pregnancy	Down	<i>BMP2, EFNA2, MAP1B, CDK5, CITED1, TGFB2, TTLL3, AMIGO1, SEMA5A, HES1, ROBO1, NOTCH4, MKKS, VCAN, EFNA5, CLASP2, KLHL10, SPON2, DST, DCLK1, FEZ1</i>
GO:0048519~negative regulation of biological process	66	3.47E-04	Pregnancy	Down	<i>EDN3, EIF2C1, GRIK1, CCDC85B, IGFBP7, JAG1, LATS2, CITED1, TGFB2, EDNRA, WISP2, CDKN2C, SERPINA5, ASPH, KCNMA1, EGFL7, LDB1, ESR1, SIX5, CDK5, FLNA, HES1, CCND1, SERPINF1, LCK, VEGFA, WFDC1, TGFB111, COL1A1, EIF2AK2, LCOR, EID1, IRX3, COL3A1, KIT, ELK3, ALDH1A2, PEG10, TNRC6C, BCHE, DDIT4L, CLASP2, TCF4, PIK3R2, SERGEF, BMP2, SPHK2, MSH2, MAP1A, MAP1B, TAF7, KLF11, LMCD1, IGF1, MSTN, SNAI2, ZNF358, SIRT3, CDKN1C, CDH13, UACA, STAB1, RGS5, NOTCH4, FABP7, ADAMDEC1</i>
GO:0050804~regulation of synaptic transmission	12	3.87E-04	Pregnancy	Down	<i>COL4A4, KCNMB4, EDN3, GRIK1, BCHE, MAP1B, NTRK2, OXTR, NLGN3, KIT, PPP3CA, CDK5</i>
GO:0032989~cellular component morphogenesis	22	5.14E-04	Pregnancy	Down	<i>BMP2, EFNA2, MAP1B, MYOZ1, CDK5, CITED1, TGFB2, TTLL3, AMIGO1, SEMA5A, HES1, ROBO1, NOTCH4, MKKS, VCAN, EFNA5, CLASP2, KLHL10, SPON2, DST, DCLK1, FEZ1</i>
GO:0048545~response to steroid hormone stimulus	14	6.60E-04	Pregnancy	Down	<i>KCNMA1, IGFBP7, MAP1B, ESR1, MSTN, OXTR, AQP1, CITED1, TGFB2, ALDH1A2, CCND1, BCHE, WFDC1, COL1A1</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0048646~anatomical structure formation involved in morphogenesis	20	7.34E-04	Pregnancy	Down	<i>EMCN, EGFL7, LDB1, MYOZ1, ELK3, JAG1, ARHGAP24, CDK5, TGFB2, SEMA5A, EDNRA, CDH13, CD44, ROBO1, SFRP2, VEGFA, NOTCH4, ROBO4, SOX18, COL1A1</i>
GO:0051239~regulation of multicellular organismal process	39	7.95E-04	Pregnancy	Down	<i>KCNMB4, EDN3, IRX3, GRIK1, OXTR, JAG1, KIT, CDH2, TGFB2, BCHE, ROBO1, TEK, CNN1, PPP3CA, DDAH1, KCNMA1, COL4A4, BMP2, PTGER4, LDB1, MAP1B, MSTN, IGF1, NLGN3, CDK5, ANKH, HES1, AMIGO1, LAMA4, CCND1, SERPINF1, PTGDS, STAB1, VEGFA, NTRK2, NOTCH4, CACNA1G, GAMT, TGFB111</i>
GO:0043627~response to estrogen stimulus	10	8.55E-04	Pregnancy	Down	<i>KCNMA1, ALDH1A2, CCND1, MAP1B, ESRI, OXTR, MSTN, WFDC1, AQP1, CITED1</i>
GO:0010647~positive regulation of cell communication	19	8.78E-04	Pregnancy	Down	<i>COL4A4, BMP2, GRIK1, TSPAN6, ESRI, OXTR, IGF1, KIT, JAG1, FLNA, CITED1, TGFB2, CDKN1C, CDH13, PLK2, LCK, VEGFA, NTRK2, TGFB111</i>
GO:0014829~vascular smooth muscle contraction	4	9.92E-04	Pregnancy	Down	<i>EDNRA, EDN3, ACTA2, CACNA1G</i>
GO:0044057~regulation of system process	18	0.001128	Pregnancy	Down	<i>COL4A4, KCNMA1, EDN3, KCNMB4, GRIK1, MAP1B, OXTR, MSTN, NLGN3, CDH2, KIT, CDK5, TGFB2, BCHE, NTRK2, CACNA1G, CNN1, PPP3CA</i>
GO:0010720~positive regulation of cell development	8	0.001196	Pregnancy	Down	<i>AMIGO1, BMP2, SERPINF1, ROBO1, MAP1B, TGFB111, KIT, TGFB2</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0001763~morphogenesis of a branching structure	8	0.001804	Pregnancy	Down	<i>SEMA5A, EDNRA, BMP2, CD44, COL13A1, VEGFA, NOTCH4, IGF1</i>
GO:0051960~regulation of nervous system development	13	0.002084	Pregnancy	Down	<i>COL4A4, IRX3, BMP2, MAP1B, IGF1, OXTR, CDH2, KIT, HES1, AMIGO1, SERPINF1, ROBO1, NTRK2</i>
GO:0022603~regulation of anatomical structure morphogenesis	14	0.002174	Pregnancy	Down	<i>MAP1B, CDH2, TGFB2, AMIGO1, CDC42EP1, SERPINF1, STAB1, FYN, ROBO1, ITGA7, VEGFA, TEK, TGFB111, DDAH1</i>
GO:0003012~muscle system process	12	0.002198	Pregnancy	Down	<i>KCNMA1, EDNRA, FXYD1, EDN3, ACTA2, SLC6A8, CACNA1G, OXTR, MSTN, IGF1, GAMT, ASPH</i>
GO:0007417~central nervous system development	21	0.002798	Pregnancy	Down	<i>NES, SPHK2, GRIK1, EFNA2, LDB1, MAP1B, HSPG2, JAG2, OXTR, TIMP4, CDK5, RCAN2, HES1, ALDH1A2, CDKN2C, FYN, NOTCH4, MKKS, EFNA5, FABP7, DCLK1</i>
GO:0048666~neuron development	18	0.002995	Pregnancy	Down	<i>EFNA2, MAP1B, CDK5, TGFB2, AMIGO1, HES1, SEMA5A, CDKN1C, CD44, ROBO1, VEGFA, NTRK2, VCAN, EFNA5, SPON2, DST, DCLK1, FEZ1</i>
GO:0060284~regulation of cell development	13	0.003598	Pregnancy	Down	<i>COL4A4, IRX3, BMP2, MAP1B, CDH2, KIT, TGFB2, HES1, AMIGO1, SERPINF1, ROBO1, NTRK2, TGFB111</i>
GO:0009719~response to endogenous stimulus	20	0.003657	Pregnancy	Down	<i>KCNMA1, ADCY4, MSH2, IGFBP7, MAP1B, ESRI, OXTR, MSTN, TIMP4, AQP1, CITED1, LATS2, TGFB2, CDH13, ALDH1A2, CCND1, BCHE, WFDC1, PPP3CA, COL1A1</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0022604~regulation of cell morphogenesis	10	0.003946	Pregnancy	Down	<i>AMIGO1, CDC42EP1, ROBO1, FYN, VEGFA, MAP1B, ITGA7, TGFB111, CDH2, TGFB2</i>
GO:0048667~cell morphogenesis involved in neuron differentiation	13	0.004164	Pregnancy	Down	<i>EFNA2, MAP1B, CDK5, HES1, SEMA5A, AMIGO1, ROBO1, VCAN, EFNA5, SPON2, DST, DCLK1, FEZ1</i>
GO:0048754~branching morphogenesis of a tube	7	0.004289	Pregnancy	Down	<i>SEMA5A, EDNRA, BMP2, CD44, VEGFA, NOTCH4, IGF1</i>
GO:0042490~mechanoreceptor differentiation	5	0.004582	Pregnancy	Down	<i>KCNMA1, HES1, NTRK2, JAG2, JAG1</i>
GO:0033273~response to vitamin	7	0.004626	Pregnancy	Down	<i>ALDH1A2, CCND1, BMP2, CD44, BCHE, IGFBP7, MAP1B</i>
GO:0006928~cell motion	22	0.004662	Pregnancy	Down	<i>EDN3, MTSS1, ENPP2, MSH2, EFNA2, IGF1, KIT, CDH2, CDK5, TGFB2, SEMA5A, CDH13, TUBB, CD44, ROBO1, FYN, VCAN, EFNA5, CLASP2, SPON2, DCLK1, FEZ1</i>
GO:0030155~regulation of cell adhesion	10	0.00529	Pregnancy	Down	<i>CDH13, LAMA4, EMCN, EGFLAM, JAG2, CCDC80, NID1, COL1A1, ADAMDEC1, TGFB2</i>
GO:0048858~cell projection morphogenesis	14	0.005726	Pregnancy	Down	<i>EFNA2, MAP1B, CDK5, TLL3, AMIGO1, SEMA5A, ROBO1, MKKS, VCAN, EFNA5, SPON2, DST, DCLK1, FEZ1</i>
GO:0048523~negative regulation of cellular process	56	0.005952	Pregnancy	Down	<i>EDN3, EIF2C1, GRIK1, CCDC85B, IGFBP7, JAG1, LATS2, CITED1, TGFB2, EDNRA, WISP2, CDKN2C, SERPINA5, ASPH, EGFL7, LDB1, ESR1, SIX5, CDK5,</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
					<i>HES1, CCND1, VEGFA, WFDC1, TGFB11, COL1A1, EIF2AK2, LCOR, EID1, IRX3, KIT, ELK3, ALDH1A2, PEG10, BCHE, DDIT4L, CLASP2, TCF4, SERGEF, BMP2, SPHK2, MSH2, MAP1A, MAP1B, TAF7, KLF11, LMCD1, IGF1, SNAI2, ZNF358, SIRT3, CDKN1C, CDH13, RGS5, NOTCH4, FABP7, ADAMDEC1</i>
GO:0007409~axonogenesis	12	0.006303	Pregnancy	Down	<i>AMIGO1, SEMA5A, ROBO1, EFNA2, MAP1B, EFNA5, VCAN, SPON2, CDK5, DST, DCLK1, FEZ1</i>
GO:0051128~regulation of cellular component organization	21	0.006411	Pregnancy	Down	<i>COL4A4, EDN3, MAP1A, TAF7, MAP1B, OXTR, IGF1, KIT, CDH2, TGFB2, AMIGO1, CDH13, CDC42EPI, ROBO1, FYN, VEGFA, ITGA7, NTRK2, CLASP2, TGFB11, DST</i>
GO:0042127~regulation of cell proliferation	31	0.00677	Pregnancy	Down	<i>FGFR2, EDN3, IGFBP7, JAG2, JAG1, KIT, TGFB2, EDNRA, ALDH1A2, WISP2, OSR2, CDKN2C, TEK, ASPH, BMP2, SPHK2, KLF11, IGF1, SIX5, HES1, CDKN1C, CDH13, CCND1, TCFL5, DBP, VEGFA, NOTCH4, WFDC1, TGFB11, EIF2AK2, FABP7</i>
GO:0030030~cell projection organization	18	0.006772	Pregnancy	Down	<i>MTSS1, EFNA2, MAP1B, CDK5, TTLL3, AMIGO1, SEMA5A, CDH13, CD44, ROBO1, CC2D2A, MKKS, VCAN, EFNA5, SPON2, DST, DCLK1, FEZ1</i>
GO:0042310~vasoconstriction	4	0.006978	Pregnancy	Down	<i>EDNRA, EDN3, ACTA2, CACNA1G</i>
GO:0006939~smooth muscle contraction	5	0.007331	Pregnancy	Down	<i>KCNMA1, EDNRA, EDN3, ACTA2, CACNA1G</i>
GO:0007167~enzyme linked	17	0.007587	Pregnancy	Down	<i>FGFR2, MTSS1, PTPRD, BMP2, REPS2, COL3A1,</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
receptor protein signaling pathway					<i>MSTN, KIT, CDK5, FLNA, CITED1, TGFB2, TEK, VEGFA, NTRK2, COL1A2, TGFB11</i>
GO:0032990~cell part morphogenesis	14	0.008023	Pregnancy	Down	<i>EFNA2, MAP1B, CDK5, TTLL3, AMIGO1, SEMA5A, ROBO1, MKKS, VCAN, EFNA5, SPON2, DST, DCLK1, FEZ1</i>
GO:0010646~regulation of cell communication	38	0.008095	Pregnancy	Down	<i>KCNMB4, EDN3, GRIK1, TSPAN6, OXTR, JAG1, KIT, CDH2, TRIB2, CITED1, TGFB2, PLEKHG2, PEG10, BCHE, GEFT, SCG5, PPP3CA, DDIT4L, COL4A4, RAMP2, BMP2, MAP1B, ESR1, IGF1, NLGN3, PFKM, CDK5, FLNA, CDKN1C, TBC1D24, CDH13, CCND1, PLK2, VEGFA, RGS5, NTRK2, LCK, TGFB11</i>
GO:0042491~auditory receptor cell differentiation	4	0.008228	Pregnancy	Down	<i>KCNMA1, HES1, JAG2, JAG1</i>
GO:0009888~tissue development	27	0.008422	Pregnancy	Down	<i>EDN3, COL3A1, JAG2, JAG1, CITED1, TGFB2, IGSF10, EDNRA, ALDH1A2, CD44, AHNAK2, MKKS, PPP3CA, COL11A1, BMP2, HSPG2, MSTN, IGF1, KRT10, COL5A3, SNAI2, CDK5, NOTCH4, VEGFA, COL1A2, COL1A1, TGFB11</i>
GO:0051093~negative regulation of developmental process	14	0.008854	Pregnancy	Down	<i>IRX3, CCDC85B, LDB1, IGF1, MSTN, JAG1, KIT, ZNF358, HES1, CCND1, SERPINF1, STAB1, NOTCH4, TGFB11</i>
GO:0007420~brain development	15	0.009059	Pregnancy	Down	<i>SPHK2, EFNA2, LDB1, HSPG2, JAG2, OXTR, CDK5, HES1, ALDH1A2, FYN, NOTCH4, MKKS, EFNA5, FABP7, DCLK1</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0001501~skeletal system development	16	0.009225	Pregnancy	Down	<i>BMP2, COL13A1, COL3A1, HSPG2, JAG2, IGF1, ANKH, PRELP, IGSF10, OSR2, HOXB7, COL1A2, COL12A1, COL1A1, COL11A1, CDH11</i>
GO:0009612~response to mechanical stimulus	6	0.010254	Pregnancy	Down	<i>BMP2, FYN, MAP1B, MKKS, COL1A1, COL11A1</i>
GO:0006936~muscle contraction	10	0.010621	Pregnancy	Down	<i>KCNMA1, EDNRA, FXYD1, EDN3, ACTA2, SLC6A8, CACNA1G, OXTR, GAMT, ASPH</i>
GO:0048729~tissue morphogenesis	11	0.010647	Pregnancy	Down	<i>ALDH1A2, BMP2, CD44, COL1A2, JAG2, MKKS, TGFB111, JAG1, COL1A1, COL11A1, TGFB2</i>
GO:0009967~positive regulation of signal transduction	15	0.010729	Pregnancy	Down	<i>BMP2, TSPAN6, ESRI, IGF1, JAG1, KIT, FLNA, CITED1, TGFB2, CDKN1C, CDH13, PLK2, LCK, VEGFA, TGFB111</i>
GO:0048511~rhythmic process	9	0.011111	Pregnancy	Down	<i>KCNMA1, BMP2, PTGDS, DBP, VEGFA, OXTR, MSTN, TIMP4, TGFB2</i>
GO:0007389~pattern specification process	14	0.011233	Pregnancy	Down	<i>MFNG, LDB1, HES1, EDNRA, SEMA5A, ALDH1A2, HOXB7, DISP1, SFRP2, NOTCH4, VEGFA, MKKS, ASPH, MLLT3</i>
GO:0003018~vascular process in circulatory system	6	0.01184	Pregnancy	Down	<i>KCNMA1, EDNRA, EDN3, ACTA2, VEGFA, CACNA1G</i>
GO:0007156~homophilic cell adhesion	9	0.012658	Pregnancy	Down	<i>AMIGO1, CDH13, CADM3, ROBO1, PCDHGA8, PCDHGC3, CDH2, CDH11, PCDHGB4</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0048812~neuron projection morphogenesis	12	0.01267	Pregnancy	Down	<i>AMIGO1, SEMA5A, ROBO1, EFNA2, MAP1B, EFNA5, VCAN, SPON2, CDK5, DST, DCLK1, FEZ1</i>
GO:0050769~positive regulation of neurogenesis	6	0.012693	Pregnancy	Down	<i>AMIGO1, BMP2, SERPINF1, ROBO1, MAP1B, KIT</i>
GO:0001569~patterning of blood vessels	4	0.012729	Pregnancy	Down	<i>SEMA5A, EDNRA, VEGFA, NOTCH4</i>
GO:0045595~regulation of cell differentiation	21	0.013447	Pregnancy	Down	<i>COL4A4, IRX3, BMP2, CCDC85B, LDB1, MAP1B, IGF1, KIT, CDH2, JAG1, ZNF358, TGFB2, AMIGO1, HES1, CCND1, TCFL5, SERPINF1, ROBO1, NOTCH4, NTRK2, TGFB11</i>
GO:0009725~response to hormone stimulus	17	0.014117	Pregnancy	Down	<i>KCNMA1, ADCY4, IGFBP7, MAP1B, ESRI, OXTR, MSTN, TIMP4, AQP1, LATS2, CITED1, TGFB2, ALDH1A2, CCND1, BCHE, WFDC1, COL1A1</i>
GO:0009887~organ morphogenesis	23	0.015032	Pregnancy	Down	<i>BMP2, COL13A1, FHL1, HSPG2, JAG2, IGF1, JAG1, TGFB2, ALDH1A2, CCND1, OSR2, HOXB7, CD44, SMARCD3, VEGFA, NTRK2, COL1A2, MKKS, GAMT, COL1A1, TGFB11, KLHL10, COL11A1</i>
GO:0001570~vasculogenesis	5	0.01566	Pregnancy	Down	<i>EGFL7, VEGFA, NTRK2, SOX18, CITED1</i>
GO:0009790~embryonic development	23	0.016251	Pregnancy	Down	<i>BMP2, MSH2, LDB1, MAP1B, HSPG2, JAG2, ZNF358, CDK5, CITED1, TGFB2, EDNRA, HES1, ALDH1A2, OSR2, HOXB7, DISP1, SFRP2, VEGFA, NOTCH4, MKKS, COL1A1, TGFB11, COL11A1</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0060078~regulation of postsynaptic membrane potential	4	0.016371	Pregnancy	Down	<i>GRIK1, NLGN3, PPP3CA, CDK5</i>
GO:0016339~calcium-dependent cell-cell adhesion	4	0.016371	Pregnancy	Down	<i>CDH13, PCDHGC3, CDH2, PCDHGB4</i>
GO:0033189~response to vitamin A	5	0.016995	Pregnancy	Down	<i>ALDH1A2, BMP2, CD44, IGFBP7, MAP1B</i>
GO:0009605~response to external stimulus	33	0.017043	Pregnancy	Down	<i>EDN3, ENPP2, IGFBP7, COL3A1, ELK3, TGFB2, IGSF10, ALDH1A2, HMCN1, CD44, BCHE, ROBO1, MKKS, COL11A1, KCNMA1, SUOX, NES, BMP2, MAP1B, LYZ, MSTN, IGF1, CDK5, CCND1, STAB1, SFRP2, FYN, FBLN5, CD59, VCAN, COL1A1, FABP7, CD302</i>
GO:0050767~regulation of neurogenesis	10	0.017331	Pregnancy	Down	<i>AMIGO1, HES1, IRX3, BMP2, SERPINF1, ROBO1, MAP1B, NTRK2, KIT, CDH2</i>
GO:0007584~response to nutrient	9	0.018243	Pregnancy	Down	<i>ALDH1A2, SUOX, CCND1, BMP2, CD44, BCHE, IGFBP7, MAP1B, COL1A1</i>
GO:0060113~inner ear receptor cell differentiation	4	0.018389	Pregnancy	Down	<i>KCNMA1, HES1, JAG2, JAG1</i>
GO:0006029~proteoglycan metabolic process	5	0.018398	Pregnancy	Down	<i>EGFLAM, CHST7, CHST9, IGF1, COL11A1</i>
GO:0042221~response to	43	0.018596	Pregnancy	Down	<i>ADCY4, KCNMB4, EDN3, ENPP2, IGFBP7, COL3A1, JAG2, OXTR, TIMP4, HVCN1, AQP1, LATS2, CITED1,</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
chemical stimulus					<i>TGFB2, EDNRA, TYMS, ALDH1A2, CD44, BCHE, ROBO1, PLOD2, CREB3L4, PPP3CA, CABCI, KCNMA1, SUOX, NES, BMP2, MSH2, MAP1B, ESRI, MSTN, CDK5, CDH13, CCND1, FYN, VEGFA, ANXA11, LCK, CACNA1G, WFDC1, COL1A1, EIF2AK2</i>
GO:0042063~gliogenesis	6	0.018688	Pregnancy	Down	<i>TSPAN2, CDKN2C, IGF1, VCAN, CDK5, TGFB2</i>
GO:0031344~regulation of cell projection organization	7	0.018889	Pregnancy	Down	<i>AMIGO1, CDC42EP1, ROBO1, MAP1B, NTRK2, KIT, CDH2</i>
GO:0031175~neuron projection development	13	0.018903	Pregnancy	Down	<i>EFNA2, MAP1B, CDK5, SEMA5A, AMIGO1, CD44, ROBO1, VCAN, EFNA5, SPON2, DST, DCLK1, FEZ1</i>
GO:0065008~regulation of biological quality	48	0.019676	Pregnancy	Down	<i>FGFR2, FXYD1, EDN3, JPH4, KCNMB4, GRIK1, RBP1, CCDC85B, CRHBP, FHL1, COL3A1, OXTR, KIT, TGFB2, EDNRA, ALDH1A2, HMCN1, CDC42EP1, PPP1R1B, CDKN2C, MKKS, SCG5, PPP3CA, DCLK1, KCNMA1, COL4A4, ACTA2, MAP1B, IGF1, NPR2, NLGN3, PFKM, CDK5, FLNA, AMIGO1, SLC16A2, CPE, FYN, CHST9, CD59, FBLN5, VEGFA, ITGA7, LCK, COL1A2, CACNA1G, WFDC1, KLHL10</i>
GO:0042698~ovulation cycle	6	0.021039	Pregnancy	Down	<i>BMP2, VEGFA, OXTR, MSTN, TIMP4, TGFB2</i>
GO:0010033~response to organic substance	27	0.0217	Pregnancy	Down	<i>ADCY4, IGF1BP7, COL3A1, OXTR, TIMP4, AQP1, CITED1, LATS2, TGFB2, EDNRA, ALDH1A2, CD44, BCHE, CREB3L4, PPP3CA, KCNMA1, MSH2, MAP1B, ESRI, MSTN, CDK5, CDH13, CCND1, FYN, WFDC1, COL1A1, EIF2AK2</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0048609~reproductive process in a multicellular organism	20	0.022944	Pregnancy	Down	<i>BMP2, MSH2, CRTAP, JAG2, OXTR, MSTN, SIX5, TIMP4, KIT, TGFB2, TCFL5, PPP1R1B, SERPINA5, VEGFA, MKKS, CREB3L4, GAMT, HSF2BP, KLHL10, PPP2R2B</i>
GO:0032504~multicellular organism reproduction	20	0.022944	Pregnancy	Down	<i>BMP2, MSH2, CRTAP, JAG2, OXTR, MSTN, SIX5, TIMP4, KIT, TGFB2, TCFL5, PPP1R1B, SERPINA5, VEGFA, MKKS, CREB3L4, GAMT, HSF2BP, KLHL10, PPP2R2B</i>
GO:0010810~regulation of cell-substrate adhesion	5	0.02303	Pregnancy	Down	<i>CDH13, EGFLAM, CCDC80, NID1, COL1A1</i>
GO:0031099~regeneration	6	0.023575	Pregnancy	Down	<i>IGSF10, CCND1, MAP1B, MSTN, IGF1, VCAN</i>
GO:0031346~positive regulation of cell projection organization	5	0.024717	Pregnancy	Down	<i>AMIGO1, CDC42EP1, ROBO1, MAP1B, KIT</i>
GO:0050678~regulation of epithelial cell proliferation	6	0.026301	Pregnancy	Down	<i>CDKN1C, EDNRA, VEGFA, IGF1, WFDC1, TGFB2</i>
GO:0010811~positive regulation of cell-substrate adhesion	4	0.027777	Pregnancy	Down	<i>CDH13, EGFLAM, CCDC80, NID1</i>
GO:0032963~collagen metabolic process	4	0.027777	Pregnancy	Down	<i>TNXB, COL3A1, COL1A1, MMP11</i>
GO:0030900~forebrain	9	0.028179	Pregnancy	Down	<i>HES1, ALDH1A2, FYN, EFNA2, OXTR, MKKS, FABP7,</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
development					<i>CDK5, DCLK1</i>
GO:0032886~regulation of microtubule-based process	5	0.028311	Pregnancy	Down	<i>MAP1A, MAP1B, MKKS, CLASP2, DST</i>
GO:0051130~positive regulation of cellular component organization	10	0.02842	Pregnancy	Down	<i>AMIGO1, EDN3, CDC42EP1, ROBO1, MAP1B, OXTR, IGF1, TGFB11, KIT, TGFB2</i>
GO:0007517~muscle organ development	11	0.028852	Pregnancy	Down	<i>FHL1, MRAS, ITGA7, HSPG2, MSTN, IGF1, SGCE, PPP3CA, COL11A1, CDK5, TGFB2</i>
GO:0003007~heart morphogenesis	6	0.029219	Pregnancy	Down	<i>ALDH1A2, BMP2, SMARCD3, MKKS, COL11A1, TGFB2</i>
GO:0043588~skin development	4	0.030454	Pregnancy	Down	<i>COL3A1, COL1A2, COL1A1, COL5A3</i>
GO:0035239~tube morphogenesis	8	0.031292	Pregnancy	Down	<i>SEMA5A, EDNRA, BMP2, CD44, VEGFA, NOTCH4, IGF1, MKKS</i>
GO:0001958~endochondral ossification	3	0.0315	Pregnancy	Down	<i>COL13A1, HSPG2, COL1A1</i>
GO:0014031~mesenchymal cell development	5	0.032199	Pregnancy	Down	<i>EDNRA, EDN3, ALDH1A2, BMP2, TGFB2</i>
GO:0048762~mesenchymal cell differentiation	5	0.032199	Pregnancy	Down	<i>EDNRA, EDN3, ALDH1A2, BMP2, TGFB2</i>
GO:0040008~regulation of	15	0.032631	Pregnancy	Down	<i>COL4A4, CCDC85B, IGFBP7, MAP1B, IGF1, MSTN,</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
growth					<i>TGFB2, NOV, CDH13, WISP2, CD44, CDKN2C, WFDC1, GAMT, BRMS1L</i>
GO:0002009~morphogenesis of an epithelium	7	0.032669	Pregnancy	Down	<i>ALDH1A2, BMP2, CD44, JAG2, MKKS, TGFB111, JAG1</i>
GO:0021700~developmental maturation	7	0.032669	Pregnancy	Down	<i>KCNMA1, CDKN1C, HES1, CD44, VEGFA, MAP1B, TGFB2</i>
GO:0045596~negative regulation of cell differentiation	11	0.03323	Pregnancy	Down	<i>HES1, IRX3, CCND1, CCDC85B, LDB1, NOTCH4, IGF1, TGFB111, KIT, JAG1, ZNF358</i>
GO:0060341~regulation of cellular localization	12	0.034222	Pregnancy	Down	<i>KCNMB4, EDN3, SERGEF, UACA, NTRK2, OXTR, SCG5, PFKM, CDK5, MBTPS1, FLNA, TGFB2</i>
GO:0060485~mesenchyme development	5	0.034255	Pregnancy	Down	<i>EDNRA, EDN3, ALDH1A2, BMP2, TGFB2</i>
GO:0007178~transmembrane receptor protein serine/threonine kinase signaling pathway	7	0.035466	Pregnancy	Down	<i>BMP2, COL3A1, COL1A2, MSTN, TGFB111, CITED1, TGFB2</i>
GO:0007050~cell cycle arrest	7	0.035466	Pregnancy	Down	<i>CDKN1C, CDKN2C, MSH2, AK1, DST, MLF1, TGFB2</i>
GO:0010769~regulation of cell morphogenesis involved in differentiation	6	0.035651	Pregnancy	Down	<i>AMIGO1, ROBO1, MAP1B, TGFB111, CDH2, TGFB2</i>
GO:0031110~regulation of	4	0.036198	Pregnancy	Down	<i>MAP1A, MAP1B, CLASP2, DST</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
microtubule polymerization or depolymerization					
GO:0044259~multicellular organismal macromolecule metabolic process	4	0.036198	Pregnancy	Down	<i>TNXB, COL3A1, COL1A1, MMP11</i>
GO:0048661~positive regulation of smooth muscle cell proliferation	4	0.036198	Pregnancy	Down	<i>CDH13, VEGFA, NOTCH4, IGF1</i>
GO:0050880~regulation of blood vessel size	5	0.036386	Pregnancy	Down	<i>KCNMA1, EDNRA, EDN3, ACTA2, CACNA1G</i>
GO:0035150~regulation of tube size	5	0.036386	Pregnancy	Down	<i>KCNMA1, EDNRA, EDN3, ACTA2, CACNA1G</i>
GO:0030511~positive regulation of transforming growth factor beta receptor signaling pathway	3	0.036655	Pregnancy	Down	<i>CDKN1C, TGFB111, CITED1</i>
GO:0050974~detection of mechanical stimulus involved in sensory perception	3	0.036655	Pregnancy	Down	<i>FYN, MKKS, COL11A1</i>
GO:0035295~tube development	11	0.036719	Pregnancy	Down	<i>SEMA5A, EDNRA, HES1, ALDH1A2, BMP2, CD44, CRISPLD2, VEGFA, NOTCH4, IGF1, MKKS</i>
GO:0009991~response to extracellular stimulus	11	0.036719	Pregnancy	Down	<i>ALDH1A2, SUOX, CCND1, NES, BMP2, CD44, BCHE, SFRP2, IGFBP7, MAP1B, COL1A1</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0042060~wound healing	10	0.038111	Pregnancy	Down	<i>IGSF10, HMCN1, CD44, FBLN5, CD59, COL3A1, MSTN, IGF1, ELK3, TGFB2</i>
GO:0007286~spermatid development	5	0.038591	Pregnancy	Down	<i>MKKS, SIX5, KIT, KLHL10, PPP2R2B</i>
GO:0042476~odontogenesis	5	0.038591	Pregnancy	Down	<i>BMP2, COL1A2, JAG2, COL1A1, TGFB2</i>
GO:0042391~regulation of membrane potential	8	0.040077	Pregnancy	Down	<i>AMIGO1, KCNMA1, KCNMB4, GRIK1, CACNA1G, NLGN3, PPP3CA, CDK5</i>
GO:0001558~regulation of cell growth	10	0.041436	Pregnancy	Down	<i>NOV, CDH13, WISP2, CD44, CCDC85B, CDKN2C, IGFBP7, MAP1B, WFDC1, TGFB2</i>
GO:0007411~axon guidance	7	0.041511	Pregnancy	Down	<i>SEMA5A, ROBO1, EFNA2, EFNA5, SPON2, CDK5, FEZ1</i>
GO:0001709~cell fate determination	4	0.042457	Pregnancy	Down	<i>HES1, NOTCH4, JAG2, JAG1</i>
GO:0009408~response to heat	5	0.043227	Pregnancy	Down	<i>HSPB6, IGFBP7, TRPV2, HSPB8, MSTN</i>
GO:0060429~epithelium development	11	0.043943	Pregnancy	Down	<i>ALDH1A2, BMP2, CD44, VEGFA, NOTCH4, JAG2, AHNK2, MKKS, TGFB111, JAG1, CITED1</i>
GO:0031667~response to nutrient levels	10	0.044928	Pregnancy	Down	<i>ALDH1A2, SUOX, CCND1, NES, BMP2, CD44, BCHE, IGFBP7, MAP1B, COL1A1</i>
GO:0048515~spermatid differentiation	5	0.045657	Pregnancy	Down	<i>MKKS, SIX5, KIT, KLHL10, PPP2R2B</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0050806~positive regulation of synaptic transmission	4	0.045776	Pregnancy	Down	<i>COL4A4, GRIK1, NTRK2, OXTR</i>
GO:0008285~negative regulation of cell proliferation	15	0.048083	Pregnancy	Down	<i>BMP2, IGFBP7, KLF11, SIX5, TGFB2, CDKN1C, CDH13, ALDH1A2, WISP2, CDKN2C, WFDC1, ASPH, TGFB11, FABP7, EIF2AK2</i>
GO:0007611~learning or memory	7	0.04817	Pregnancy	Down	<i>BCHE, FYN, CRHBP, OXTR, NLGN3, KIT, CDK5</i>
GO:0009314~response to radiation	10	0.048746	Pregnancy	Down	<i>CCND1, NES, UACA, MSH2, COL3A1, DDB2, NLGN3, KIT, SNAI2, CDK5</i>
GO:0051705~behavioral interaction between organisms	4	0.04922	Pregnancy	Down	<i>PPP1R1B, OXTR, MKKS, NLGN3</i>
GO:0070482~response to oxygen levels	8	0.050334	Pregnancy	Down	<i>KCNMA1, EDNRA, PLOD2, VEGFA, JAG2, OXTR, CABCI, TGFB2</i>
GO:0031960~response to corticosteroid stimulus	6	0.050955	Pregnancy	Down	<i>KCNMA1, CCND1, BCHE, IGFBP7, MSTN, COL1A1</i>
GO:0051046~regulation of secretion	10	0.05118	Pregnancy	Down	<i>KCNMB4, EDN3, SERGEF, GRIK1, NTRK2, OXTR, SCG5, PFKM, CDK5, TGFB2</i>
GO:0016043~cellular component organization	72	0.051531	Pregnancy	Down	<i>MTSS1, EFNA2, KNTC1, NAP1L5, CITED1, LATS2, CBX6, TGFB2, TTLL3, CD44, SMARCD3, ROBO1, SERPINA5, SH3BGR, MKKS, COL12A1, VWAI, SPON2, COL11A1, RAMP2, PFKM, CDK5, FLNA, AMIGO1, HES1, EGFLAM, CNTROB, CC2D2A,</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
					<i>COLIA2, EFNA5, VCAN, KLHL10, COLIA1, DST, MIA, REPS2, MRAS, COL3A1, TIMM13, CDH2, POLR2A, SEMA5A, TUBB, CRISPLD2, CNN1, CLASP2, EHD2, DCLK1, CHD3, BMP2, TNXB, MSH2, MAP1B, MRC2, TAF7, IPO11, HSPG2, CCDC80, MYOZ1, NLGN3, NID1, COL5A3, CTR9, CDH13, STAB1, FBLN5, RAB34, NOTCH4, CD302, LRP4, DNMI, FEZ1</i>
GO:0007612~learning	5	0.053395	Pregnancy	Down	<i>BCHE, FYN, NLGN3, KIT, CDK5</i>
GO:0007179~transforming growth factor beta receptor signaling pathway	5	0.053395	Pregnancy	Down	<i>COL3A1, COLIA2, MSTN, CITED1, TGFB2</i>
GO:0045785~positive regulation of cell adhesion	5	0.053395	Pregnancy	Down	<i>CDH13, EGFLAM, CCDC80, NID1, TGFB2</i>
GO:0032844~regulation of homeostatic process	7	0.053573	Pregnancy	Down	<i>EDNRA, CD44, LDB1, LCK, VEGFA, CACNA1G, CDH2</i>
GO:0060350~endochondral bone morphogenesis	3	0.053841	Pregnancy	Down	<i>COL13A1, HSPG2, COLIA1</i>
GO:0007026~negative regulation of microtubule depolymerization	3	0.053841	Pregnancy	Down	<i>MAP1A, MAP1B, CLASP2</i>
GO:0031114~regulation of microtubule depolymerization	3	0.053841	Pregnancy	Down	<i>MAP1A, MAP1B, CLASP2</i>
GO:0050982~detection of	3	0.053841	Pregnancy	Down	<i>FYN, MKKS, COL11A1</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
mechanical stimulus					
GO:0030097~hemopoiesis	11	0.054472	Pregnancy	Down	<i>HOXB7, MSH2, LCK, VEGFA, NOTCH4, JAG2, PATZ1, KIT, JAG1, MLF1, TGFB2</i>
GO:0007610~behavior	18	0.054736	Pregnancy	Down	<i>KCNMA1, EDN3, GRIK1, ENPP2, CRHBP, OXTR, NLGN3, KIT, CDK5, ANKH, TGFB2, PTGDS, BCHE, PPP1R1B, FYN, ROBO1, NTRK2, MKKS</i>
GO:0051049~regulation of transport	17	0.05504	Pregnancy	Down	<i>SERGEF, JPH4, EDN3, KCNMB4, GRIK1, OXTR, PFKM, CDK5, FLNA, SYNGR3, TGFB2, EDNRA, CDH13, UACA, NTRK2, SCG5, MBTPS1</i>
GO:0001503~ossification	7	0.055452	Pregnancy	Down	<i>IGSF10, BMP2, COL13A1, HSPG2, IGF1, COL1A1, CDH11</i>
GO:0044236~multicellular organismal metabolic process	4	0.056475	Pregnancy	Down	<i>TNXB, COL3A1, COL1A1, MMP11</i>
GO:0051971~positive regulation of transmission of nerve impulse	4	0.056475	Pregnancy	Down	<i>COL4A4, GRIK1, NTRK2, OXTR</i>
GO:0030335~positive regulation of cell migration	6	0.059848	Pregnancy	Down	<i>EDN3, CDH13, VEGFA, IGF1, KIT, TGFB2</i>
GO:0031111~negative regulation of microtubule polymerization or depolymerization	3	0.06009	Pregnancy	Down	<i>MAP1A, MAP1B, CLASP2</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0007283~spermatogenesis	13	0.062963	Pregnancy	Down	<i>MSH2, CRTAP, JAG2, SIX5, KIT, TCFL5, SERPINA5, MKKS, GAMT, HSF2BP, CREB3L4, KLHL10, PPP2R2B</i>
GO:0048232~male gamete generation	13	0.062963	Pregnancy	Down	<i>MSH2, CRTAP, JAG2, SIX5, KIT, TCFL5, SERPINA5, MKKS, GAMT, HSF2BP, CREB3L4, KLHL10, PPP2R2B</i>
GO:0017015~regulation of transforming growth factor beta receptor signaling pathway	4	0.064206	Pregnancy	Down	<i>CDKN1C, PEG10, TGFB111, CITED1</i>
GO:0031646~positive regulation of neurological system process	4	0.064206	Pregnancy	Down	<i>COL4A4, GRIK1, NTRK2, OXTR</i>
GO:0016477~cell migration	12	0.064488	Pregnancy	Down	<i>EDN3, CDH13, CD44, ROBO1, FYN, VCAN, CLASP2, KIT, CDH2, CDK5, DCLK1, TGFB2</i>
GO:0002520~immune system development	12	0.064488	Pregnancy	Down	<i>HOXB7, MSH2, UNG, LCK, VEGFA, NOTCH4, JAG2, PATZ1, KIT, JAG1, MLF1, TGFB2</i>
GO:0050654~chondroitin sulfate proteoglycan metabolic process	3	0.066572	Pregnancy	Down	<i>EGFLAM, CHST7, IGF1</i>
GO:0051094~positive regulation of developmental process	12	0.066925	Pregnancy	Down	<i>AMIGO1, IRX3, BMP2, SERPINF1, ROBO1, MAP1B, OXTR, TGFB111, KIT, JAG1, DDAH1, TGFB2</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0014070~response to organic cyclic substance	7	0.067558	Pregnancy	Down	<i>EDNRA, CCND1, CD44, MSH2, IGFBP7, OXTR, CDK5</i>
GO:0010817~regulation of hormone levels	8	0.06764	Pregnancy	Down	<i>EDN3, ALDH1A2, SLC16A2, CPE, RBP1, CRHBP, CHST9, SCG5</i>
GO:0051224~negative regulation of protein transport	4	0.068244	Pregnancy	Down	<i>SERGEF, UACA, CDK5, FLNA</i>
GO:0007242~intracellular signaling cascade	39	0.068938	Pregnancy	Down	<i>ADCY4, EDN3, GNAI1, MRAS, OXTR, KIT, LATS2, PLCL2, EDNRA, ALDH1A2, TYMS, CDC42EPI, ANP32A, DDAH1, DCLK1, PTGER4, MSH2, TAF7, ESRI, IGF1, NPR2, GEM, CDK5, RCAN2, FLNA, ARL3, CDH13, ICK, CCND1, UACA, RAB30, FYN, CA8, NOTCH4, RAB34, COL1A2, TGFB111, PHLDB2, NKIRAS1</i>
GO:0060317~cardiac epithelial to mesenchymal transition	2	0.069322	Pregnancy	Down	<i>BMP2, TGFB2</i>
GO:0002318~myeloid progenitor cell differentiation	2	0.069322	Pregnancy	Down	<i>KIT, MLF1</i>
GO:0008218~bioluminescence	2	0.069322	Pregnancy	Down	<i>HMCN1, NID1</i>
GO:0007507~heart development	10	0.070029	Pregnancy	Down	<i>EDNRA, ALDH1A2, BMP2, SMARCD3, COL3A1, HSPG2, OXTR, MKKS, COL11A1, TGFB2</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0060348~bone development	7	0.07191	Pregnancy	Down	<i>IGSF10, BMP2, COL13A1, HSPG2, IGF1, COL1A1, CDH11</i>
GO:0060079~regulation of excitatory postsynaptic membrane potential	3	0.073274	Pregnancy	Down	<i>GRIK1, PPP3CA, CDK5</i>
GO:0035176~social behavior	3	0.073274	Pregnancy	Down	<i>OXTR, MKKS, NLGN3</i>
GO:0051966~regulation of synaptic transmission, glutamatergic	3	0.073274	Pregnancy	Down	<i>GRIK1, NTRK2, OXTR</i>
GO:0008015~blood circulation	9	0.074283	Pregnancy	Down	<i>KCNMA1, EDNRA, EDN3, ACTA2, VEGFA, COL1A2, CACNA1G, OXTR, NPR2</i>
GO:0003013~circulatory system process	9	0.074283	Pregnancy	Down	<i>KCNMA1, EDNRA, EDN3, ACTA2, VEGFA, COL1A2, CACNA1G, OXTR, NPR2</i>
GO:0070507~regulation of microtubule cytoskeleton organization	4	0.076657	Pregnancy	Down	<i>MAP1A, MAP1B, CLASP2, DST</i>
GO:0060349~bone morphogenesis	3	0.080183	Pregnancy	Down	<i>COL13A1, HSPG2, COL1A1</i>
GO:0051899~membrane depolarization	4	0.081027	Pregnancy	Down	<i>GRIK1, CACNA1G, PPP3CA, CDK5</i>
GO:0051272~positive	6	0.08287	Pregnancy	Down	<i>EDN3, CDH13, VEGFA, IGF1, KIT, TGFB2</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
regulation of cell motion					
GO:0040017~positive regulation of locomotion	6	0.08287	Pregnancy	Down	<i>EDN3, CDH13, VEGFA, IGF1, KIT, TGFB2</i>
GO:0051050~positive regulation of transport	10	0.083612	Pregnancy	Down	<i>EDNRA, EDN3, UACA, GRIK1, OXTR, PFKM, CDK5, SYNGR3, FLNA, TGFB2</i>
GO:0065007~biological regulation	191	0.083891	Pregnancy	Down	<i>EDN3, ADCY4, MTSS1, EIF2C1, GRIK1, CCDC85B, CRHBP, KNTC1, JAG2, TSPAN6, JAG1, CITED1, CBX6, TGFB2, NOV, HMCN1, CD44, SERPINE2, PPP1R1B, CDKN2C, ROBO1, SMARCD3, TRAK1, ROBO4, CREB3L4, PATZ1, ASPH, DDAH1, TYRO3, PDXP, SIX5, MRGPRF, GEM, HES1, EGFLAM, SERPINF1, TCFL5, CPE, GTF2IRD1, VEGFA, COL1A2, WFDC1, TGFB111, COL1A1, MFAP4, EIF2AK2, DST, FXYD1, FGFR2, EID1, KCNMB4, EMCN, RBP1, ENPP2, GNAI1, MRAS, ELK3, MEIS1, PEG10, TUBB, PPP1R16B, CDC42EP1, BCHE, TEK, CLASP2, PPP2R2B, TCF4, ANGPTL2, BMP2, SPHK2, TAF7, KLF11, CCDC80, LMCD1, MSTN, ZNF521, ANKH, SYNGR3, GPR153, CDKN1C, SALL2, TBC1D24, LAMA4, UACA, PLK2, HOXB7, CD59, ITGA7, RGS5, NTRK2, NOTCH4, CACNA1G, FABP7, JPH4, ZNF532, IGFBP7, LATS2, EDNRA, WISP2, LBH, OSR2, SERPINA5, GEFT, ANP32A, MKKS, SOX18, KCNMA1, RAMP2, PTGER4, EGFL7, ACTA2, DDB1, LDB1, ESR1, PFKM, ARHGAP24, CDK5, NLRP1, FLNA, ARL3, AMIGO1, CCND1, PTGDS, CA8, CHST9, LCK, KLHL10, LCOR, NKIRAS1, GRASP, IRX3, FHLL1, COL3A1, OXTR, KIT, WTIP, CDH2, TPM2, TRIB2,</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
					<i>POLR2A, PLCL2, ALDH1A2, TYMS, PLEKHG2, TNRC6C, TCEA3, SCG5, TCEA2, PPP3CA, DDIT4L, CNN1, DCLK1, BRMS1L, MLLT3, PIK3R2, CHD3, COL4A4, SERGEF, TNXB, MSH2, MAP1A, MAP1B, IGF1, PHF10, DPYSL3, NLGN3, NID1, NPR2, DPYSL2, SNAI2, ZNF358, RCAN2, SIRT3, CDH13, SLC16A2, ICK, RAB30, STAB1, FYN, CSNK1E, DBP, ZNF362, FBLN5, PECAM1, RAB34, GAMT, PHLDB2, MBTPS1, NFIA, ADAMDEC1, GPR116</i>
GO:0010975~regulation of neuron projection development	5	0.083933	Pregnancy	Down	<i>AMIGO1, ROBO1, MAP1B, NTRK2, CDH2</i>
GO:0046928~regulation of neurotransmitter secretion	3	0.087283	Pregnancy	Down	<i>KCNMB4, EDN3, NTRK2</i>
GO:0030036~actin cytoskeleton organization	10	0.089116	Pregnancy	Down	<i>MTSSI, TNXB, MRAS, MYOZ1, CNN1, CDK5, EHD2, DST, FLNA, TTLL3</i>
GO:0048534~hemopoietic or lymphoid organ development	11	0.09087	Pregnancy	Down	<i>HOXB7, MSH2, LCK, VEGFA, NOTCH4, JAG2, PATZ1, KIT, JAG1, MLF1, TGFB2</i>
GO:0014824~artery smooth muscle contraction	2	0.091347	Pregnancy	Down	<i>EDNRA, CACNA1G</i>
GO:0043589~skin morphogenesis	2	0.091347	Pregnancy	Down	<i>COL1A2, COL1A1</i>
GO:0060120~inner ear receptor cell fate commitment	2	0.091347	Pregnancy	Down	<i>HES1, JAG2</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0019695~choline metabolic process	2	0.091347	Pregnancy	Down	<i>BCHE, DMGDH</i>
GO:0014820~tonic smooth muscle contraction	2	0.091347	Pregnancy	Down	<i>EDNRA, CACNA1G</i>
GO:0009912~auditory receptor cell fate commitment	2	0.091347	Pregnancy	Down	<i>HES1, JAG2</i>
GO:0007281~germ cell development	6	0.091452	Pregnancy	Down	<i>MSH2, MKKS, SIX5, KIT, KLHL10, PPP2R2B</i>
GO:0051301~cell division	12	0.092327	Pregnancy	Down	<i>SEPT4, CCND1, CINP, ANXA11, CNTROB, KNTC1, CLASP2, KIT, CDK5, LATS2, ARL3, TGFB2</i>
GO:0009308~amine metabolic process	15	0.093857	Pregnancy	Down	<i>ACY1, SPHK2, GGT1, TGFB2, FAH, GGT5, EGFLAM, CHST7, BCHE, CHST9, DMGDH, GAMT, CARS2, UROC1, DDAH1</i>
GO:0045597~positive regulation of cell differentiation	10	0.09437	Pregnancy	Down	<i>AMIGO1, IRX3, BMP2, SERPINF1, ROBO1, MAP1B, TGFB111, KIT, JAG1, TGFB2</i>
GO:0007423~sensory organ development	10	0.09437	Pregnancy	Down	<i>KCNMA1, HES1, ALDH1A2, VEGFA, NTRK2, JAG2, SIX5, JAG1, COL11A1, TGFB2</i>
GO:0007157~heterophilic cell adhesion	3	0.094563	Pregnancy	Down	<i>AMIGO1, CADM3, CDH2</i>
GO:0048660~regulation of smooth muscle cell	4	0.094757	Pregnancy	Down	<i>CDH13, VEGFA, NOTCH4, IGF1</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
proliferation					
GO:0050795~regulation of behavior	4	0.094757	Pregnancy	Down	<i>EDN3, CDH13, PTGDS, VEGFA</i>
GO:0045664~regulation of neuron differentiation	7	0.096012	Pregnancy	Down	<i>AMIGO1, HES1, IRX3, ROBO1, MAP1B, NTRK2, CDH2</i>
GO:0050954~sensory perception of mechanical stimulus	6	0.097419	Pregnancy	Down	<i>FYN, MAP1A, MKKS, TIMM13, COL1A1, COL11A1</i>
GO:0001666~response to hypoxia	7	0.098634	Pregnancy	Down	<i>KCNMA1, EDNRA, PLOD2, VEGFA, JAG2, CABCI, TGFB2</i>
GO:0043687~post-translational protein modification	36	0.099237	Pregnancy	Down	<i>FGFR2, DZIP3, COL3A1, KIT, TRIB2, LATS2, TTLL3, TGFB2, HMCN1, ST3GAL6, TEK, PPP3CA, ASPH, DCLK1, TYRO3, BMP2, PTPRD, DDB1, PTPRS, NID1, NPR2, CDK5, CTR9, SIRT3, ICK, CCND1, EGFLAM, PLK2, FYN, CSNK1E, NTRK2, LCK, DDB2, EIF2AK2, MYLK, DUSP7</i>
[REDACTED]					
GO:0042384~cilium assembly	4	1.90E-04	Lactation	Up	<i>BBS4, BBS5, ALMS1, PCM1</i>
GO:0060271~cilium morphogenesis	4	3.13E-04	Lactation	Up	<i>BBS4, BBS5, ALMS1, PCM1</i>
GO:0006417~regulation of translation	5	0.002252	Lactation	Up	<i>EIF4E3, EIF2C2, PUM2, EIF2AK3, EIF2C3</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0030031~cell projection assembly	4	0.004564	Lactation	Up	<i>BBS4, BBS5, ALMS1, PCM1</i>
GO:0017148~negative regulation of translation	3	0.008272	Lactation	Up	<i>EIF2C2, EIF2AK3, EIF2C3</i>
GO:0010608~posttranscriptional regulation of gene expression	5	0.010333	Lactation	Up	<i>EIF4E3, EIF2C2, PUM2, EIF2AK3, EIF2C3</i>
GO:0035239~tube morphogenesis	4	0.014619	Lactation	Up	<i>BBS4, BBS5, SIX1, KDR</i>
GO:0046548~retinal rod cell development	2	0.016056	Lactation	Up	<i>BBS4, ALMS1</i>
GO:0006468~protein amino acid phosphorylation	8	0.01732	Lactation	Up	<i>PAN3, PDK4, WNK1, AKAP9, RAGE, EIF2AK3, MST4, KDR</i>
GO:0050793~regulation of developmental process	8	0.018239	Lactation	Up	<i>SIX1, NPTN, AP3D1, MSTN, ALMS1, EIF2AK3, KDR, ANGPTL4</i>
GO:0032502~developmental process	21	0.018699	Lactation	Up	<i>BBS4, BBS5, SOCS2, UFD1L, AQP4, ALMS1, MSTN, KCNRG, PCM1, KDR, FXR1, ARHGEF11, HYDIN, ATP2A2, RASGRP1, SIX1, NPTN, AP3D1, ODF2, EIF2AK3, ANGPTL4</i>
GO:0040033~negative regulation of translation, ncRNA-mediated	2	0.02003	Lactation	Up	<i>EIF2C2, EIF2C3</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0035278~gene silencing by miRNA, negative regulation of translation	2	0.02003	Lactation	Up	<i>EIF2C2, EIF2C3</i>
GO:0045974~regulation of translation, ncRNA-mediated	2	0.02003	Lactation	Up	<i>EIF2C2, EIF2C3</i>
GO:0044267~cellular protein metabolic process	17	0.021319	Lactation	Up	<i>USPL1, EIF4E3, EIF2C2, PAN3, SOCS2, UFD1L, PDK4, WNK1, AKAP9, MST4, KDR, ST13, ARIH1, PCMTD2, RAGE, EIF2AK3, DNAJB6</i>
GO:0043473~pigmentation	3	0.023661	Lactation	Up	<i>BBS4, BBS5, AP3D1</i>
GO:0006986~response to unfolded protein	3	0.033326	Lactation	Up	<i>HSPA4, EIF2AK3, DNAJB6</i>
GO:0032402~melanosome transport	2	0.03577	Lactation	Up	<i>BBS4, BBS5</i>
GO:0048869~cellular developmental process	13	0.037369	Lactation	Up	<i>BBS4, BBS5, ALMS1, PCM1, FXR1, KDR, ARHGEF11, RASGRP1, SIX1, NPTN, ODF2, EIF2AK3, ANGPTL4</i>
GO:0051904~pigment granule transport	2	0.039666	Lactation	Up	<i>BBS4, BBS5</i>
GO:0032401~establishment of melanosome localization	2	0.039666	Lactation	Up	<i>BBS4, BBS5</i>
GO:0016310~phosphorylation	8	0.041168	Lactation	Up	<i>PAN3, PDK4, WNK1, AKAP9, RAGE, EIF2AK3, MST4, KDR</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0051905~establishment of pigment granule localization	2	0.043547	Lactation	Up	<i>BBS4, BBS5</i>
GO:0019538~protein metabolic process	18	0.048498	Lactation	Up	<i>USPL1, EIF4E3, EIF2C2, PAN3, SOCS2, UFD1L, PDK4, WNK1, AKAP9, TINAGL1, MST4, KDR, ST13, ARIH1, PCMTD2, RAGE, EIF2AK3, DNAJB6</i>
GO:0009653~anatomical structure morphogenesis	10	0.049266	Lactation	Up	<i>BBS4, BBS5, SIX1, MSTN, ALMS1, KCNRG, PCM1, ARHGEF11, KDR, ANGPTL4</i>
GO:0032400~melanosome localization	2	0.051262	Lactation	Up	<i>BBS4, BBS5</i>
GO:0045947~negative regulation of translational initiation	2	0.051262	Lactation	Up	<i>EIF2C2, EIF2AK3</i>
GO:0051875~pigment granule localization	2	0.055096	Lactation	Up	<i>BBS4, BBS5</i>
GO:0000902~cell morphogenesis	5	0.055323	Lactation	Up	<i>BBS4, BBS5, ALMS1, PCM1, ARHGEF11</i>
GO:0035295~tube development	4	0.059163	Lactation	Up	<i>BBS4, BBS5, SIX1, KDR</i>
GO:0035195~gene silencing by miRNA	2	0.066509	Lactation	Up	<i>EIF2C2, EIF2C3</i>
GO:0007265~Ras protein	3	0.067169	Lactation	Up	<i>ARHGEF3, RASGRP1, ARHGEF11</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
signal transduction					
GO:0008219~cell death	7	0.068906	Lactation	Up	<i>ARHGEF3, ZFYVE26, ALMS1, EIF2AK3, MST4, ARHGEF11, FXR1</i>
GO:0051789~response to protein stimulus	3	0.069414	Lactation	Up	<i>HSPA4, EIF2AK3, DNAJB6</i>
GO:0016265~death	7	0.070756	Lactation	Up	<i>ARHGEF3, ZFYVE26, ALMS1, EIF2AK3, MST4, ARHGEF11, FXR1</i>
GO:0048856~anatomical structure development	16	0.07319	Lactation	Up	<i>BBS4, BBS5, UFD1L, AQP4, ALMS1, MSTN, KCNRG, PCM1, KDR, FXR1, ARHGEF11, ATP2A2, SIX1, NPTN, EIF2AK3, ANGPTL4</i>
GO:0032989~cellular component morphogenesis	5	0.076073	Lactation	Up	<i>BBS4, BBS5, ALMS1, PCM1, ARHGEF11</i>
GO:0048858~cell projection morphogenesis	4	0.076347	Lactation	Up	<i>BBS4, BBS5, ALMS1, PCM1</i>
GO:0042462~eye photoreceptor cell development	2	0.077786	Lactation	Up	<i>BBS4, ALMS1</i>
GO:0016441~posttranscriptional gene silencing	2	0.081515	Lactation	Up	<i>EIF2C2, EIF2C3</i>
GO:0035194~posttranscriptional gene silencing by RNA	2	0.081515	Lactation	Up	<i>EIF2C2, EIF2C3</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0001754~eye photoreceptor cell differentiation	2	0.081515	Lactation	Up	<i>BBS4, ALMS1</i>
GO:0032990~cell part morphogenesis	4	0.084538	Lactation	Up	<i>BBS4, BBS5, ALMS1, PCMI</i>
GO:0001947~heart looping	2	0.085229	Lactation	Up	<i>BBS4, BBS5</i>
GO:0033059~cellular pigmentation	2	0.088929	Lactation	Up	<i>BBS4, BBS5</i>
GO:0042461~photoreceptor cell development	2	0.092614	Lactation	Up	<i>BBS4, ALMS1</i>
GO:0006915~apoptosis	6	0.094949	Lactation	Up	<i>ARHGEF3, ALMS1, EIF2AK3, MST4, ARHGEF11, FXR1</i>
GO:0006796~phosphate metabolic process	8	0.095477	Lactation	Up	<i>PAN3, PDK4, WNK1, AKAP9, RAGE, EIF2AK3, MST4, KDR</i>
GO:0006793~phosphorus metabolic process	8	0.095477	Lactation	Up	<i>PAN3, PDK4, WNK1, AKAP9, RAGE, EIF2AK3, MST4, KDR</i>
GO:0046530~photoreceptor cell differentiation	2	0.096284	Lactation	Up	<i>BBS4, ALMS1</i>
GO:0012501~programmed cell death	6	0.099584	Lactation	Up	<i>ARHGEF3, ALMS1, EIF2AK3, MST4, ARHGEF11, FXR1</i>

GO:0009052~pentose-phosphate shunt, non-oxidative branch	2	0.013556	Lactation	Down	<i>TALDO1, RPIA</i>
GO:0043123~positive regulation of I-kappaB kinase/NF-kappaB cascade	4	0.028389	Lactation	Down	<i>LGALS1, TSPAN6, TGM2, NFKBIL1</i>
GO:0046496~nicotinamide nucleotide metabolic process	3	0.030196	Lactation	Down	<i>LDHB, TALDO1, RPIA</i>
GO:0006769~nicotinamide metabolic process	3	0.030196	Lactation	Down	<i>LDHB, TALDO1, RPIA</i>
GO:0009820~alkaloid metabolic process	3	0.031607	Lactation	Down	<i>LDHB, TALDO1, RPIA</i>
GO:0006457~protein folding	5	0.03258	Lactation	Down	<i>PDIA2, BAG3, PPIL1, LMAN2L, DNAJC19</i>
GO:0019362~pyridine nucleotide metabolic process	3	0.033043	Lactation	Down	<i>LDHB, TALDO1, RPIA</i>
GO:0006996~organelle organization	16	0.034983	Lactation	Down	<i>EIF6, NPLOC4, RSF1, ABCD1, ARFIP2, FHL3, NAP1L5, PEX11G, LATS2, CHRAC1, MACF1, SUPT4H1, CNN1, APBB1, EMD, DNAJC19</i>
GO:0043122~regulation of I-kappaB kinase/NF-kappaB cascade	4	0.036423	Lactation	Down	<i>LGALS1, TSPAN6, TGM2, NFKBIL1</i>
GO:0006733~oxidoreduction coenzyme metabolic process	3	0.048723	Lactation	Down	<i>LDHB, TALDO1, RPIA</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0000079~regulation of cyclin-dependent protein kinase activity	3	0.052128	Lactation	Down	<i>CKS1B, HEXIM2, LATS2</i>
GO:0043603~cellular amide metabolic process	3	0.055615	Lactation	Down	<i>LDHB, TALDO1, RPIA</i>
GO:0006338~chromatin remodeling	3	0.055615	Lactation	Down	<i>CHRAC1, RSF1, SUPT4H1</i>
GO:0012501~programmed cell death	9	0.05612	Lactation	Down	<i>SIVA1, PDIA2, BAG3, LGALS1, TGM2, PSENEN, APBB1, NLRP1, NFKBIL1</i>
GO:0006007~glucose catabolic process	3	0.059182	Lactation	Down	<i>LDHB, TALDO1, RPIA</i>
GO:0006098~pentose-phosphate shunt	2	0.059585	Lactation	Down	<i>TALDO1, RPIA</i>
GO:0055086~nucleobase, nucleoside and nucleotide metabolic process	6	0.064274	Lactation	Down	<i>LDHB, TALDO1, NUDT3, PEMT, RPIA, ATP6V1F</i>
GO:0006917~induction of apoptosis	6	0.067073	Lactation	Down	<i>SIVA1, HIPK1, TGM2, PSENEN, NLRP1, NFKBIL1</i>
GO:0012502~induction of programmed cell death	6	0.067783	Lactation	Down	<i>SIVA1, HIPK1, TGM2, PSENEN, NLRP1, NFKBIL1</i>
GO:0045736~negative regulation of cyclin-dependent	2	0.072341	Lactation	Down	<i>HEXIM2, LATS2</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
protein kinase activity					
GO:0019321~pentose metabolic process	2	0.072341	Lactation	Down	<i>TALDO1, RPIA</i>
GO:0043065~positive regulation of apoptosis	7	0.072729	Lactation	Down	<i>SIVA1, HIPK1, TGM2, PSEKEN, APBB1, NLRP1, NFKBIL1</i>
GO:0043068 ~positive regulation of programmed cell death	7	0.074655	Lactation	Down	<i>SIVA1, HIPK1, TGM2, PSEKEN, APBB1, NLRP1, NFKBIL1</i>
GO:0010942~positive regulation of cell death	7	0.075956	Lactation	Down	<i>SIVA1, HIPK1, TGM2, PSEKEN, APBB1, NLRP1, NFKBIL1</i>
GO:0044092~negative regulation of molecular function	6	0.077398	Lactation	Down	<i>SIVA1, RSF1, HEXIM2, CALM3, MLLT1, LATS2</i>
GO:0019320~hexose catabolic process	3	0.080106	Lactation	Down	<i>LDHB, TALDO1, RPIA</i>
GO:0046365~monosaccharide catabolic process	3	0.084127	Lactation	Down	<i>LDHB, TALDO1, RPIA</i>
GO:0000904~cell morphogenesis involved in differentiation	5	0.084842	Lactation	Down	<i>S100A4, MACF1, APBB1, DCLK1, FEZ1</i>
GO:0006006~glucose metabolic process	4	0.086267	Lactation	Down	<i>LDHB, TALDO1, GALT, RPIA</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
GO:0042981~regulation of apoptosis	10	0.09597	Lactation	Down	<i>SIVA1, HIPK1, BAG3, LGALS1, TGM2, PSENEN, APBB1, NLRP1, NFKBIL1, GSTP1</i>
GO:0006464~protein modification process	12	0.022689	Interaction	---	<i>ALPK1, HECTD3, USP20, RELN, DUSP12, HERC2, TRRAP, TTLL12, TRIP12, GAK, HEMK1, NRBP2</i>
GO:0070647~protein modification by small protein conjugation or removal	4	0.024397	Interaction	---	<i>USP20, HERC2, TRRAP, TRIP12</i>
GO:0043412 ~biopolymer modification	12	0.031273	Interaction	---	<i>ALPK1, HECTD3, USP20, RELN, DUSP12, HERC2, TRRAP, TTLL12, TRIP12, GAK, HEMK1, NRBP2</i>
GO:0043687~post-translational protein modification	10	0.037754	Interaction	---	<i>ALPK1, USP20, RELN, DUSP12, HERC2, TRRAP, TRIP12, GAK, HEMK1, NRBP2</i>
GO:0046907~intracellular transport	7	0.041723	Interaction	---	<i>STX5, MCM3AP, KIF3B, AP3D1, CSPG5, HERC2, SYTL1</i>
GO:0006886~intracellular protein transport	5	0.05753	Interaction	---	<i>STX5, MCM3AP, AP3D1, HERC2, SYTL1</i>
GO:0044267~cellular protein metabolic process	15	0.064003	Interaction	---	<i>ALPK1, RPS15A, DUSP12, HERC2, TRRAP, TTLL12, GAK, MGRN1, RPL21, USP20, HECTD3, RELN, TRIP12, NRBP2, HEMK1</i>
GO:0051641~cellular	8	0.067427	Interaction	---	<i>STX5, MCM3AP, KIF3B, AP3D1, CSPG5, HERC2,</i>

Term	Gene, n	P-value	Main Effect	Regulation	Genes
localization					<i>SYTL1, TACC2</i>
GO:0034613~cellular protein localization	5	0.075753	Interaction	---	<i>STX5, MCM3AP, AP3D1, HERC2, SYTL1</i>
GO:0070727~cellular macromolecule localization	5	0.077346	Interaction	---	<i>STX5, MCM3AP, AP3D1, HERC2, SYTL1</i>
GO:0030071~regulation of mitotic metaphase/anaphase transition	2	0.08236	Interaction	---	<i>HECTD3, HERC2</i>
GO:0016579~protein deubiquitination	2	0.096602	Interaction	---	<i>USP20, TRRAP</i>