

Table S9. Significantly enriched gene ontology (GO) terms related to cell proliferation and apoptotic during peak and mid lactation.

Category	ID	Term	P-value	Gene Name	Number of Genes
biological process	GO:0042127	regulation of cell proliferation	< 0.001	PYCARD, MUSTN1, MMP9, CAV2, CORO1A, KITLG, CDCA7, PPARG, MEF2C, TNF, IL34, MSX2, EGR1, THBS4, IL18, S1PR1, CXCL10, FAP, DDAH1, RAC2, NDRG1, F2R, PPP1R16B, NFIB, PIM1, CCL5, SCIN, CNN1, CD320, TP53, GPR37L1, FABP4, MYC, CLU, ADIPOQ, CCL2, EPCAM, B4GALT1, LTF	39
biological process	GO:0008283	cell proliferation	< 0.001	PYCARD, MUSTN1, MMP9, CAV2, TSPAN1, CORO1A, KITLG, TEK, CDCA7, PPARG, MEF2C, TNF, IL34, MSX2, EGR1, THBS4, TGFB1, IL18, S1PR1, CXCL10, FAP, CKS2, DDAH1, RAC2, NDRG1, F2R, PPP1R16B, NFIB, PIM1, CCL5, SCIN, CNN1, CD320, TP53, GPR37L1, FABP4, MYC, CLU, ADIPOQ, CCL2, EPCAM, B4GALT1, LTF	43
biological process	GO:0008284	positive regulation of cell proliferation	< 0.001	PYCARD, MUSTN1, MMP9, CAV2, CORO1A, KITLG, MEF2C, TNF, IL34, EGR1, THBS4, IL18, S1PR1, RAC2, F2R, PPP1R16B, PIM1, CCL5, CD320, GPR37L1, FABP4, MYC, EPCAM, B4GALT1, LTF	25
biological process	GO:0050673	epithelial cell proliferation	0.001	CAV2, TEK, PPARG, MEF2C, TNF, THBS4, FAP, PPP1R16B, NFIB, CCL5, MYC, CCL2, B4GALT1	13
biological process	GO:0050678	regulation of epithelial cell proliferation	0.004	CAV2, PPARG, TNF, THBS4, PPP1R16B, NFIB, CCL5, MYC, CCL2, B4GALT1	10
biological process	GO:0043066	negative regulation of apoptotic process	< 0.001	NOS3, MMP9, CORO1A, KITLG, TEK, MEF2C, TNF, MSX2, ANGPTL4, F2R, CAV1, PIM1, MT3, CCL5, TP53, MYC, CLU, ZC3H12A, CITED2, CCL2, FHL2, LTF	22
biological process	GO:0060548	negative regulation of cell death	< 0.001	NOS3, MMP9, CORO1A, KITLG, TEK, MEF2C, TNF, MSX2, ANGPTL4, F2R, CAV1, PIM1, MT3, CCL5, TP53, GPR37L1, MYC, CLU, ZC3H12A, CITED2, CCL2, FHL2, LTF	23
biological process	GO:0043069	negative regulation of programmed cell death	< 0.001	NOS3, MMP9, CORO1A, KITLG, TEK, MEF2C, TNF, MSX2, ANGPTL4, F2R, CAV1, PIM1, MT3, CCL5, TP53, MYC, CLU, ZC3H12A, CITED2, CCL2, FHL2, LTF	22
biological process	GO:0010942	positive regulation of cell death	< 0.001	PYCARD, MMP9, MAPT, PPARG, MEF2C, TNF, MSX2, FAP, F2R, CAV1, C1QA, MT3, CCL5, SCIN, KCNMA1, ITM2C, TP53, MYC, CLU, ZC3H12A, ADIPOQ, CCL2, S100A9, B4GALT1	24
biological process	GO:0043065	positive regulation of apoptotic process	< 0.001	PYCARD, MMP9, PPARG, MEF2C, TNF, MSX2, FAP, F2R, CAV1, CCL5, SCIN, KCNMA1, ITM2C, TP53, MYC, CLU, ZC3H12A, ADIPOQ, CCL2, S100A9, B4GALT1	21
biological process	GO:0043068	positive regulation of programmed cell death	< 0.001	PYCARD, MMP9, PPARG, MEF2C, TNF, MSX2, FAP, F2R, CAV1, CCL5, SCIN, KCNMA1, ITM2C, TP53, MYC, CLU, ZC3H12A, ADIPOQ, CCL2, S100A9, B4GALT1	21
biological process	GO:0010941	regulation of cell death	< 0.001	PYCARD, NOS3, MMP9, MAPT, CORO1A, KITLG, TEK, PPARG, MEF2C, TNF, MSX2, CXCL10, FAP, ANGPTL4, RSL1D1, F2R, CAV1, PIM1, C1QA, MT3, CCL5, SCIN, KCNMA1, ITM2C, TP53, GPR37L1, MYC, CLU, ZC3H12A, ADIPOQ, CITED2, CCL2, FHL2, S100A9, B4GALT1, LTF	36

biological process	GO:0042981	regulation of apoptotic process	< 0.001	PYCARD, NOS3, MMP9, CORO1A, KITLG, TEK, PPARG, MEF2C, TNF, MSX2, CXCL10, FAP, ANGPTL4, RSL1D1, F2R, CAV1, PIM1, MT3, CCL5, SCIN, KCNMA1, ITM2C, TP53, MYC, CLU, ZC3H12A, ADIPOQ, CITED2, CCL2, FHL2, S100A9, B4GALT1, LTF	33
biological process	GO:0043067	regulation of programmed cell death	< 0.001	PYCARD, NOS3, MMP9, CORO1A, KITLG, TEK, PPARG, MEF2C, TNF, MSX2, CXCL10, FAP, ANGPTL4, RSL1D1, F2R, CAV1, PIM1, MT3, CCL5, SCIN, KCNMA1, ITM2C, TP53, MYC, CLU, ZC3H12A, ADIPOQ, CITED2, CCL2, FHL2, S100A9, B4GALT1, LTF	33
biological process	GO:0008219	cell death	< 0.001	PYCARD, NOS3, MMP9, MAPT, CORO1A, KITLG, TEK, CDCA7, CHI3L1, PPARG, DIO3, MEF2C, TNF, MSX2, CXCL10, SHISA5, FAP, ANGPTL4, RSL1D1, F2R, CAV1, PIM1, C1QA, MT3, CCL5, SCIN, KCNMA1, PMP22, ITM2C, TP53, GPR37L1, MYC, CLU, ZC3H12A, ADIPOQ, CITED2, CCL2, CIDEA, FHL2, S100A9, B4GALT1, LTF	42
biological process	GO:0006915	apoptotic process	0.001	PYCARD, NOS3, MMP9, CORO1A, KITLG, TEK, CDCA7, CHI3L1, PPARG, DIO3, MEF2C, TNF, MSX2, CXCL10, SHISA5, FAP, ANGPTL4, RSL1D1, F2R, CAV1, PIM1, MT3, CCL5, SCIN, KCNMA1, ITM2C, TP53, MYC, CLU, ZC3H12A, ADIPOQ, CITED2, CCL2, CIDEA, FHL2, S100A9, B4GALT1, LTF	38
biological process	GO:0012501	programmed cell death	0.002	PYCARD, NOS3, MMP9, CORO1A, KITLG, TEK, CDCA7, CHI3L1, PPARG, DIO3, MEF2C, TNF, MSX2, CXCL10, SHISA5, FAP, ANGPTL4, RSL1D1, F2R, CAV1, PIM1, MT3, CCL5, SCIN, KCNMA1, ITM2C, TP53, MYC, CLU, ZC3H12A, ADIPOQ, CITED2, CCL2, CIDEA, FHL2, S100A9, B4GALT1, LTF	38
biological process	GO:0008285	negative regulation of cell proliferation	0.002	CAV2, PPARG, TNF, MSX2, FAP, DDAH1, F2R, NFIB, SCIN, CNN1, TP53, ADIPOQ, CCL2, B4GALT1	14
biological process	GO:1904035	regulation of epithelial cell apoptotic process	0.005	TEK, TNF, ANGPTL4, CCL2	4