

Supplementary Table 3.S5: All mRNA isoforms DE between healthy and mastitic milk somatic cell samples from Holstein dairy cows

mRNA isoform ID with version	P-value	Fold change	FDR p-value correction	Genomic coordinates	Transcripts annotated	Transcript length
<i>ACSS2_10</i>	2.46E-05	-394.96	1.70E-02	13:64231133-64233583	12	1220
<i>ADARBI_3</i>	1.38E-04	169.87	4.58E-02	1:145049827-145054225	4	4398
<i>ADPGK</i>	8.98E-05	-203.81	3.70E-02	10:19545259-19570026	4	2961
<i>AFDN_8</i>	4.57E-06	-1599.57	6.34E-03	9:102350866-102387956	13	3176
<i>AGO3_1</i>	4.90E-05	29.52	2.48E-02	3:109741896-109755220	14	13324
<i>AGPAT3_5</i>	5.49E-07	-2779.78	1.89E-03	1:143941825-144030070	12	5875
<i>AKAPI_9</i>	2.81E-05	-657.05	1.83E-02	19:7931746-7963369	11	3483
<i>AKT2_1</i>	1.82E-05	735.16	1.46E-02	18:49627497-49674924	16	3001
<i>AKT2_2</i>	1.00E-05	-441.02	1.07E-02	18:49627497-49632858	16	2764
<i>AKT2_5</i>	5.92E-05	460.77	2.86E-02	18:49627497-49674907	16	3088
<i>AMBRA1_9</i>	1.63E-05	-1027.78	1.35E-02	15:76498482-76528904	12	1519
<i>AP2A2_1</i>	2.14E-05	-94.07	1.59E-02	29:50416806-50484947	12	4334
<i>AP2A2_7</i>	8.70E-07	-2166.74	2.22E-03	29:50420697-50484947	12	2474
<i>APPL1_3</i>	9.25E-06	492.68	1.03E-02	22:43848811-43855533	15	3966
<i>APRT_2</i>	2.62E-06	-915.16	4.51E-03	18:14012689-14017231	8	2850
<i>ARHGEF10L_3</i>	4.27E-05	-119.27	2.28E-02	2:134985198-135021664	9	1795
<i>ASB7_1</i>	8.31E-05	401.90	3.53E-02	21:5967670-6022761	4	4458
<i>ASCC1_2</i>	1.53E-04	168.19	4.82E-02	28:28177851-28178669	7	818
<i>ATF5_3</i>	3.68E-06	-1802.71	5.41E-03	18:56269037-56273031	5	1193
<i>ATG16L2_9</i>	5.20E-10	1314.51	2.78E-05	15:52366513-52372190	9	5264
<i>ATG2A_6</i>	5.48E-05	-550.66	2.72E-02	29:43120425-43121647	9	845
<i>ATNI</i>	2.89E-05	-131.41	1.84E-02	5:103523269-103524338	6	1069
<i>ATXN1_6</i>	6.94E-07	-4394.88	2.12E-03	23:40688295-40829586	6	2830
<i>ATXN2L_8</i>	9.32E-06	-415.46	1.03E-02	25:25983763-25986134	11	874
<i>AXL</i>	1.29E-05	-1153.20	1.20E-02	18:50402712-50428472	6	2500
<i>B4GALT1</i>	1.21E-06	-2180.29	2.62E-03	8:74861625-74914361	5	1290
<i>BALAP2_7</i>	2.76E-05	-853.14	1.81E-02	19:51578603-51591868	13	1820
<i>BAX_5</i>	7.87E-05	469.49	3.40E-02	18:55532630-55535023	16	2002
<i>BIRC3_5</i>	1.38E-05	296.94	1.24E-02	15:6399467-6406272	12	4812
<i>BOLA_2_5</i>	3.54E-06	-28511.36	5.41E-03	23:28721845-28724476	7	1098
<i>BTN1A1_5</i>	3.66E-05	-30.50	2.03E-02	23:31585190-31591478	6	2691
<i>C2H2orf80_1</i>	2.43E-05	-81.33	1.70E-02	2:96437058-96442272	3	767
<i>C6H4orf3_3</i>	6.93E-06	120.20	8.15E-03	6:6009239-6015889	6	6650
<i>CALR</i>	1.14E-04	-206.02	4.21E-02	7:12617951-12621971	5	2103
<i>CCL20_3</i>	9.51E-06	391.64	1.04E-02	2:115948257-115952035	4	1069

<i>CCL20_4</i>	5.93E-05	81.84	2.86E-02	2:115948257-115951955	4	986
<i>CCN1_2</i>	1.22E-06	-3510.47	2.62E-03	3:58490946-58491317	4	371
<i>CCN2_2</i>	6.79E-06	-1718.78	8.11E-03	9:69887188-69890613	5	2609
<i>CCN2_4</i>	6.57E-08	-1106.43	5.86E-04	9:69887188-69890633	5	2640
<i>CCNK_9</i>	6.32E-05	-218.71	2.95E-02	21:64516202-64522626	14	1063
<i>CCRL2_3</i>	7.06E-05	15.52	3.17E-02	22:52998332-53000232	3	1344
<i>CD14_2</i>	1.51E-04	408.86	4.79E-02	7:51762823-51765980	5	3067
<i>CD164_4</i>	2.49E-05	1902.02	1.71E-02	9:40759363-40772129	8	3206
<i>CDC42BPB_6</i>	4.14E-05	-349.10	2.24E-02	21:67623267-67641246	11	3694
<i>CDC42BPB_9</i>	1.07E-04	-371.82	4.09E-02	21:67623261-67678642	11	9648
<i>CDV3_7</i>	1.11E-04	215.31	4.16E-02	1:135871922-135881817	13	9895
<i>CERT1_2</i>	4.36E-08	285.41	4.82E-04	10:6793647-6919717	13	4985
<i>CHST3_2</i>	9.37E-05	385.65	3.78E-02	28:28096152-28102389	6	6237
<i>CHTOP_1</i>	4.32E-05	3500.24	2.29E-02	3:16739579-16750820	15	8460
<i>CKB_5</i>	1.26E-05	-1017.88	1.20E-02	21:68159611-68161306	7	827
<i>CLMN_1</i>	1.57E-05	-89.15	1.34E-02	21:60051874-60062546	4	10672
<i>COBLL1_2</i>	5.71E-06	-941.00	7.29E-03	2:31529130-31591528	8	3706
<i>COLGALT1_1</i>	3.30E-05	340.66	1.91E-02	7:5543271-5565864	13	4764
<i>CPT1A_7</i>	8.66E-07	-3118.86	2.22E-03	29:46186180-46225440	10	1570
<i>CREBBP_7</i>	1.09E-04	-240.70	4.14E-02	25:3054307-3057678	10	3371
<i>CSN1S1_3</i>	1.37E-04	-23.72	4.58E-02	6:85411117-85429337	9	1852
<i>CSN1S2_6</i>	8.12E-05	-32.69	3.49E-02	6:85529904-85548556	6	1198
<i>CSN2_1</i>	1.47E-04	-235.23	4.71E-02	6:85448898-85457744	2	1418
<i>CSN3_1</i>	2.87E-05	-100.57	1.84E-02	6:85645744-85659048	5	1093
<i>CSN3_2</i>	6.88E-05	-26.13	3.12E-02	6:85645853-85658910	5	846
<i>CSN3_5</i>	1.92E-05	-50.94	1.51E-02	6:85648339-85658926	5	768
<i>CTSB_1_3</i>	4.88E-06	-1237.56	6.61E-03	1:143819484-143824294	4	1158
<i>CXCL2_7</i>	1.24E-07	-2217.66	9.50E-04	6:88946233-88949043	8	1859
<i>CYC51A1</i>	8.58E-07	-537.44	2.22E-03	4:9467420-9476713	5	1093
<i>CYLD_1</i>	1.45E-05	475.25	1.28E-02	18:19137683-19199449	8	2911
<i>CYTH4_6</i>	2.94E-05	1965.48	1.85E-02	5:75699578-75723720	12	14075
<i>DBN1_8</i>	1.45E-05	-467.09	1.28E-02	7:38987584-38990910	17	1517
<i>DECR2_8</i>	1.45E-04	-27.01	4.67E-02	25:395014-396241	12	1227
<i>DGKQ_9</i>	1.23E-04	-218.38	4.35E-02	6:117405903-117408420	10	688
<i>DHCR24_12</i>	3.29E-05	-650.78	1.91E-02	3:91411765-91445037	12	3354
<i>DIDO1_7</i>	8.87E-05	-458.64	3.68E-02	13:54507515-54513807	10	4052
<i>DNAJC12_1</i>	1.35E-04	-31.63	4.56E-02	28:24248367-24283690	9	1244
<i>DNMBP_3</i>	6.55E-05	-229.80	3.02E-02	26:20826581-20942446	9	4857

<i>DSP_2</i>	1.32E-04	-31.07	4.49E-02	23:47824434-47868337	3	9482
<i>E2F4_6</i>	2.60E-05	-568.11	1.75E-02	18:34830298-34834625	10	1651
<i>ECE1_9</i>	3.00E-06	2300.51	5.02E-03	2:131400814-131449347	18	4088
<i>ECHDC1_3</i>	1.78E-05	-488.93	1.45E-02	9:23958097-23999500	8	973
<i>EED_12</i>	1.32E-04	-399.52	4.49E-02	29:9265305-9296073	14	1768
<i>EFHD1_2</i>	6.47E-05	-20.79	2.99E-02	3:112396167-112440870	2	2513
<i>EFNBI_3</i>	7.40E-05	-534.58	3.27E-02	X:81635594-81648094	3	2853
<i>EGLN1_11</i>	3.05E-05	-650.21	1.86E-02	28:4093627-4150467	14	1354
<i>EHMT2_5</i>	1.96E-05	-1729.67	1.53E-02	23:27472268-27477773	11	2142
<i>EIF4EBP2_5</i>	2.96E-05	-410.05	1.85E-02	28:26606320-26626183	8	769
<i>EIF4EBP2_7</i>	1.41E-04	-236.23	4.63E-02	28:26606320-26606887	8	567
<i>ELAC2_2</i>	9.47E-05	346.03	3.79E-02	19:31361658-31368133	6	2343
<i>ELAC2_6</i>	1.31E-05	-1017.17	1.20E-02	19:31364615-31368133	6	592
<i>ELF4_5</i>	2.42E-05	-278.72	1.70E-02	X:14041703-14081565	7	6469
<i>ELF5_6</i>	1.33E-04	-49.35	4.49E-02	15:65019975-65052826	9	2021
<i>ELF5_8</i>	6.64E-07	-234.40	2.10E-03	15:65019975-65065633	9	1496
<i>ELL_3</i>	2.12E-05	100.88	1.59E-02	7:4704953-4734071	11	3836
<i>ELP6_3</i>	1.10E-04	215.61	4.16E-02	22:52149273-52152953	5	3680
<i>ENSBTAT00000012349</i>	1.10E-04	-86.60	4.16E-02	21:69189158-69195153	2	2171
<i>EPB41L2_12</i>	1.30E-04	-377.19	4.49E-02	9:68956837-69092316	17	3068
<i>EPS15_2</i>	4.00E-05	129.68	2.19E-02	3:94841621-94943822	11	4827
<i>EPS15L1_6</i>	2.96E-05	-663.32	1.85E-02	7:6593698-6606818	10	857
<i>F13A1_3</i>	1.05E-04	583.91	4.09E-02	23:48772304-48913918	18	3906
<i>FAM20C_7</i>	1.31E-05	-932.89	1.20E-02	25:42134208-42170449	12	4485
<i>FAM20C_8</i>	1.28E-05	-885.33	1.20E-02	25:42134208-42170449	12	4053
<i>FBRS_9</i>	9.75E-07	2150.37	2.37E-03	25:26783859-26795080	11	4165
<i>FBXW2_2</i>	1.13E-04	240.50	4.19E-02	8:110160829-110168505	16	2301
<i>FCSK_10</i>	1.38E-04	-495.38	4.58E-02	18:1644176-1656608	10	3249
<i>FLII_1</i>	3.89E-08	767.78	4.82E-04	29:32122862-32184260	8	2807
<i>FOXK1_5</i>	1.45E-06	-2548.06	2.97E-03	25:39214004-39218509	6	3996
<i>FOXRED2_2</i>	2.64E-05	333.75	1.75E-02	5:74901609-74905370	4	3761
<i>GARRE1</i>	6.82E-06	-1175.67	8.11E-03	18:44691410-44774960	8	4616
<i>GATAD2B_13</i>	1.17E-04	-393.55	4.25E-02	3:16580138-16589067	17	5069
<i>Gene_1007</i>	7.29E-05	228.43	3.24E-02	11-1:72505640-72508871	12	2075
<i>Gene_1149</i>	1.04E-06	-1312.31	2.46E-03	11-1:98510691-98529677	8	788
<i>Gene_1149</i>	4.88E-05	-108.43	2.48E-02	11-1:98497637-98529714	8	3008
<i>Gene_1180</i>	1.41E-06	-3352.94	2.95E-03	11-1:99159315-99178645	2	1634
<i>Gene_1335</i>	1.02E-04	-83.18	3.99E-02	11-1:106231708-106235668	4	3526

<i>Gene_1711</i>	1.07E-04	-54.49	4.09E-02	19:26666821-26669665	10	2020
<i>Gene_1711</i>	1.28E-04	73.31	4.45E-02	19:26656544-26669665	10	3115
<i>Gene_2310</i>	3.12E-05	17.73	1.88E-02	3:86164085-86182808	2	12912
<i>Gene_2644</i>	1.17E-04	22.49	4.25E-02	11-1:6716314-6728323	3	507
<i>Gene_343</i>	4.28E-05	47.64	2.28E-02	6:115952167-115960221	8	7710
<i>Gene_593</i>	8.77E-05	36.05	3.67E-02	11-1:1185527-1232139	10	5134
<i>Gene_657</i>	1.17E-04	792.39	4.25E-02	11-1:6709199-6716867	8	4749
<i>Gene_726</i>	5.87E-05	-152.57	2.86E-02	11-1:14696388-14725870	8	1220
<i>Gene_926</i>	1.07E-04	419.48	4.09E-02	11-1:62511669-62519754	11	8085
<i>Gene_943</i>	6.67E-05	-230.47	3.06E-02	11-1:66667335-66667877	4	542
<i>Gene_966</i>	7.86E-05	1401.95	3.40E-02	11-1:71324276-71361339	7	20098
<i>ENSBTAG0000009049_1</i>	7.23E-05	-294.68	3.23E-02	5:57433436-57437847	2	2326
<i>ENSBTAG00000019479_10</i>	1.54E-04	192.11	4.82E-02	22:16627298-16646552	14	3222
<i>GLUD1_9</i>	4.43E-07	-3912.71	1.82E-03	28:41621573-41649162	10	1246
<i>GLYCAM1_1</i>	2.39E-05	-39.56	1.69E-02	5:25478786-25482858	4	1807
<i>GLYCAM1_2</i>	1.71E-05	-41.51	1.40E-02	5:25478786-25481207	4	661
<i>GLYCAM1_3</i>	1.18E-05	-47.66	1.19E-02	5:25478786-25482858	4	1834
<i>GLYCAM1_4</i>	2.13E-05	-40.39	1.59E-02	5:25478786-25482857	4	1806
<i>GOLPH3_4</i>	3.12E-05	-363.97	1.88E-02	20:41438837-41472854	8	1507
<i>GOLPH3_6</i>	1.16E-05	787.51	1.19E-02	20:41438837-41491576	8	3480
<i>GOT2_6</i>	1.43E-04	-196.44	4.67E-02	18:26453564-26471496	9	1027
<i>GPALPP1_8</i>	1.27E-04	-398.92	4.45E-02	12:15156705-15190181	13	6323
<i>GPAT4_10</i>	1.48E-04	-145.79	4.71E-02	27:36535363-36539828	12	1053
<i>GPRC5B_2</i>	8.84E-05	-49.93	3.68E-02	25:17478831-17498791	2	1321
<i>GSE1_5</i>	3.22E-05	-1110.95	1.90E-02	18:11589111-11644469	9	3894
<i>HBEGF_5</i>	4.64E-05	-189.91	2.41E-02	7:51544456-51544821	7	365
<i>HDAC7_6</i>	4.28E-06	-1170.26	6.03E-03	5:32483442-32493326	17	1873
<i>HDHD5_4</i>	1.16E-04	-84.11	4.25E-02	5:108838762-108840661	9	952
<i>HIF1A_3</i>	1.42E-04	-1055.33	4.65E-02	10:73836333-73879560	4	2811
<i>HIRA_12</i>	6.28E-07	-1170.31	2.10E-03	17:72647473-72668844	16	2794
<i>HNRNPUL1_6</i>	1.39E-04	-67.51	4.60E-02	18:50468262-50472634	9	1325
<i>HPN_2</i>	6.13E-05	-1042.38	2.93E-02	18:45782387-45796511	5	1042
<i>HPN_3</i>	3.00E-05	-233.40	1.86E-02	18:45783400-45796511	5	505
<i>IDH1_3</i>	1.92E-05	-1113.31	1.51E-02	2:96510260-96527386	9	2276
<i>IDH2_6</i>	8.54E-05	-462.39	3.61E-02	21:21478190-21494557	9	1802
<i>IL22RA2_2</i>	1.50E-04	22.18	4.76E-02	9:75052152-75068069	7	6761
<i>IPO8_4</i>	9.45E-05	136.65	3.79E-02	5:78899204-78922354	7	2855
<i>ITGB6_4</i>	1.59E-04	-631.00	4.94E-02	2:36153834-36247251	4	3394

<i>KIAA0930_1</i>	1.37E-04	-101.45	4.58E-02	5:115610973-115622925	7	7368
<i>KIAA1522_7</i>	3.30E-06	-1170.47	5.34E-03	2:120883699-120890243	10	3057
<i>KMT2B_4</i>	1.18E-05	442.57	1.19E-02	18:46444868-46453413	13	3102
<i>KRT7_7</i>	4.51E-08	-499.79	4.82E-04	5:27674797-27680223	12	805
<i>LENG8_2</i>	2.20E-06	447.30	4.13E-03	18:62878870-62888679	2	5021
<i>LETMI_8</i>	1.99E-05	-713.63	1.54E-02	6:116735336-116758963	12	2251
<i>LHFPL2_2</i>	2.63E-05	-661.89	1.75E-02	10:9538340-9585771	3	1298
<i>LIMK2_2</i>	2.85E-06	401.17	4.83E-03	17:70053292-70092008	12	1923
<i>LMNA_2</i>	7.47E-05	-167.24	3.29E-02	3:14647522-14661261	4	952
<i>LPIN3_12</i>	1.22E-04	-252.55	4.35E-02	13:69988545-69990978	12	1456
<i>LPO_5</i>	1.27E-04	-25.03	4.45E-02	19:9202919-9247946	6	4658
<i>LRCHI_1</i>	3.31E-05	-268.64	1.91E-02	12:16492492-16493196	8	704
<i>LRR3C6</i>	8.67E-05	-420.58	3.65E-02	18:35001817-35005559	2	1194
<i>LTBP2_14</i>	1.55E-05	-931.09	1.34E-02	10:85791791-85897975	16	5529
<i>LTF_10</i>	3.11E-07	-1768.47	1.51E-03	22:52952570-52986619	10	3112
<i>MADD_11</i>	3.60E-06	-516.93	5.41E-03	15:77152372-77157334	15	1125
<i>MAF1_10</i>	5.45E-06	-1439.69	7.19E-03	14:730323-732905	13	1305
<i>MAL2_1</i>	1.59E-05	-347.52	1.34E-02	14:44986815-45020255	3	3033
<i>MARK2_6</i>	9.65E-05	525.64	3.84E-02	29:42238048-42253724	13	3992
<i>MAST2_11</i>	1.86E-05	-432.28	1.49E-02	3:100071213-100079124	13	3674
<i>MAST3_12</i>	4.90E-05	-1029.03	2.48E-02	7:5095954-5097990	18	600
<i>MCM3AP</i>	2.89E-05	-345.82	1.84E-02	1:145940038-145972322	7	5042
<i>MED15_5</i>	1.31E-05	-841.41	1.20E-02	17:72434595-72434803	10	208
<i>MED15_6</i>	4.11E-05	313.42	2.23E-02	17:72431575-72476092	10	2202
<i>METTL9_1</i>	1.17E-08	801.39	2.45E-04	25:20111411-20133227	13	10304
<i>MFHAS1_7</i>	5.88E-06	-870.09	7.36E-03	27:24972052-24975173	9	3121
<i>MIB1_13</i>	1.21E-04	-112.00	4.34E-02	24:34484348-34515042	15	1751
<i>MIB1_14</i>	3.08E-06	-1034.93	5.06E-03	24:34493930-34515042	15	1420
<i>MIB2_9</i>	4.30E-07	-981.02	1.82E-03	16:51009297-51019359	10	3499
<i>MICAL1_4</i>	2.16E-05	316.51	1.59E-02	9:40699325-40710698	11	3732
<i>MIER1_5</i>	1.52E-04	326.51	4.79E-02	3:78335199-78352149	19	4430
<i>MMP9_4</i>	1.29E-04	-51.10	4.48E-02	13:74748616-74751681	7	1369
<i>MOB2_5</i>	1.01E-04	-258.89	3.97E-02	29:50016711-50043414	7	1775
<i>MPP5_1</i>	1.11E-04	-211.97	4.16E-02	10:79127656-79234049	11	2277
<i>MTCHI_10</i>	3.53E-06	-1307.26	5.41E-03	23:10878395-10898204	12	2133
<i>MTSS2_2</i>	1.26E-04	-403.14	4.45E-02	18:1488985-1508027	4	2177
<i>MVK_4</i>	6.24E-05	-44.02	2.94E-02	17:63609525-63615093	7	1162
<i>MYBBP1A_9</i>	7.71E-06	-1038.69	8.86E-03	19:25027891-25033903	10	1692

<i>MYO1F, SNORA70, bta-mir-339b_3</i>	7.88E-05	-199.06	3.40E-02	7:17119428-17157822	3	4509
<i>NCLN_11</i>	3.52E-07	-4687.03	1.64E-03	7:20634539-20645827	12	1838
<i>NCLN_7</i>	6.24E-05	-329.47	2.94E-02	7:20635958-20645827	12	1570
<i>NFATC1_10</i>	8.24E-05	-597.05	3.53E-02	24:822610-854031	14	1894
<i>NFIB_1</i>	1.58E-05	-76.32	1.34E-02	8:29994051-30108655	6	7358
<i>NFIX_8</i>	1.15E-06	-472.07	2.62E-03	7:12486829-12549125	8	1387
<i>NOP53, SNORD23_2</i>	9.88E-05	-428.67	3.91E-02	18:54650849-54655057	6	882
<i>NOTCH2_1</i>	5.61E-06	103.81	7.29E-03	3:23248566-23373381	9	12152
<i>NR3C2_3</i>	3.37E-05	-92.14	1.93E-02	17:9589541-10018758	3	2955
<i>NUCB1_2</i>	1.45E-04	-21.09	4.68E-02	18:55487807-55494229	3	558
<i>NUP153_4</i>	1.31E-04	367.42	4.49E-02	23:39799714-39826286	9	2788
<i>NVL_8</i>	4.01E-05	431.02	2.19E-02	16:27418643-27497008	11	2559
<i>OSBP_8</i>	1.22E-06	-3445.07	2.62E-03	15:82785663-82788964	14	1658
<i>OSBPL11_2</i>	1.20E-04	469.36	4.34E-02	1:69961626-69969932	9	1896
<i>OXAIL</i>	7.85E-06	220.75	8.93E-03	10:22026397-22042635	6	2839
<i>PABPC1_6</i>	4.64E-05	-200.60	2.41E-02	14:63625555-63635244	9	1507
<i>PABPC1_8</i>	1.12E-05	-713.97	1.16E-02	14:63625555-63638806	9	2060
<i>PAH_1</i>	6.25E-05	-80.06	2.94E-02	5:66613295-66616243	10	859
<i>PAH_7</i>	1.07E-04	-134.03	4.09E-02	5:66613983-66732963	10	1311
<i>PALMD_1</i>	1.61E-04	-45.77	4.98E-02	3:43536338-43543913	3	1650
<i>PCBP4_4</i>	1.58E-06	-1886.75	3.06E-03	22:48973021-48976249	7	1212
<i>PCYT2, bta-mir-2347_2</i>	1.38E-04	-177.47	4.58E-02	19:50982899-50986736	4	561
<i>PDIA3_5</i>	8.84E-06	-1188.86	9.95E-03	21:55370175-55376311	5	417
<i>PDXK_8</i>	1.05E-04	1006.74	4.09E-02	1:143782379-143812726	11	6924
<i>PEX14_3</i>	7.83E-05	-476.89	3.40E-02	16:42966074-42995377	12	1725
<i>PHB2</i>	2.45E-05	-969.95	1.70E-02	5:103492958-103496671	4	1121
<i>PHF1_1</i>	1.47E-04	297.19	4.71E-02	23:7586489-7590430	8	1396
<i>PKMYT1_4</i>	3.15E-05	-710.59	1.88E-02	25:2382241-2384742	6	1642
<i>PLD1_1</i>	1.31E-04	-451.21	4.49E-02	1:95908463-95914850	14	6387
<i>PLXNA1_9</i>	7.04E-06	-642.34	8.19E-03	22:60238308-60241321	13	3013
<i>PLXND1_6</i>	4.97E-07	-4581.82	1.87E-03	22:56134768-56157136	10	2183
<i>PPARGC1A_1</i>	8.79E-05	-483.42	3.67E-02	6:43380462-43487276	4	6323
<i>PPARGC1B_4</i>	4.92E-05	-518.08	2.48E-02	7:61171598-61172816	5	1218
<i>PPP1R11</i>	5.44E-06	-1511.82	7.19E-03	23:28908903-28913084	2	2679
<i>PPP2R1A, 5S_rRNA_1</i>	1.16E-04	-118.44	4.25E-02	18:58100862-58101234	3	372
<i>PRDM2_11</i>	3.57E-05	-174.89	2.01E-02	16:53788898-53921908	11	7161
<i>PRKAA2_2</i>	1.22E-04	-105.23	4.35E-02	3:89477898-89549744	2	1775
<i>PRPF18_9</i>	3.78E-06	-417.73	5.46E-03	13:28284940-28342922	11	5268

<i>PRR12_4</i>	1.67E-05	-864.38	1.37E-02	18:56015876-56018931	7	1128
<i>PRR12_5</i>	2.58E-06	-1887.07	4.51E-03	18:56015876-56028994	7	1197
<i>PRR14_7</i>	2.08E-05	-747.44	1.59E-02	25:26776672-26778616	10	1171
<i>PTGES3_7</i>	2.78E-07	-4986.04	1.41E-03	5:56760655-56782290	8	2191
<i>PTPN14_1</i>	6.36E-05	-71.69	2.96E-02	16:69036393-69223539	6	3747
<i>PVRIG_3</i>	9.25E-05	-66.76	3.77E-02	25:36191679-36193385	5	1438
<i>RALGAPB_1</i>	2.22E-05	351.92	1.61E-02	13:67377907-67449822	2	4672
<i>RASEF_3</i>	7.85E-07	-253.98	2.22E-03	8:76173242-76268340	3	5985
<i>RBM27_1</i>	2.38E-05	-382.82	1.69E-02	7:57417457-57475132	14	3259
<i>RERE_7</i>	1.47E-07	-7378.15	9.81E-04	16:44907739-45028328	13	3729
<i>REXO1_11</i>	5.96E-05	-505.26	2.86E-02	7:44150050-44169237	11	4370
<i>RGL2_11</i>	5.92E-06	-1232.16	7.36E-03	23:7466041-7472417	11	2288
<i>RNF10_2</i>	5.23E-05	-1656.27	2.63E-02	17:62816661-62838805	13	1600
<i>RNF128_1</i>	2.60E-07	-983.21	1.39E-03	X:55260937-55325976	5	2823
<i>RNF170_1</i>	2.36E-06	-803.04	4.27E-03	27:37557496-37590963	5	3669
<i>RNF19B_5</i>	3.59E-06	-117.97	5.41E-03	2:120719447-120721002	11	1555
<i>RNF44_5</i>	2.22E-05	-774.55	1.61E-02	7:37999774-38004979	10	3583
<i>RO60</i>	1.50E-04	183.00	4.77E-02	16:12164239-12173946	5	2213
<i>RPS6KC1_5</i>	2.24E-06	734.76	4.13E-03	16:70348854-70530710	11	4327
<i>RPS8_5</i>	1.48E-05	-899.12	1.29E-02	3:101232559-101235265	5	1272
<i>RRBP1_6</i>	1.60E-05	-908.41	1.34E-02	13:37988476-38011411	14	3987
<i>RREB1_8</i>	5.70E-05	-312.07	2.81E-02	23:48052756-48110402	11	5292
<i>RRP12_8</i>	3.07E-05	-589.21	1.86E-02	26:18612031-18632724	10	3668
<i>RTCB_8</i>	5.06E-07	-1114.11	1.87E-03	5:71010290-71025855	17	9032
<i>S100A10_2</i>	1.37E-08	568.25	2.45E-04	3:18762454-18774487	5	1702
<i>S100A2_4</i>	2.64E-05	-209.50	1.75E-02	3:16808367-16811983	7	726
<i>SCAF11_8</i>	4.29E-06	961.74	6.03E-03	5:34252702-34303160	8	5366
<i>SEMA4A_5</i>	8.47E-08	-1086.66	6.96E-04	3:14606838-14618709	8	2342
<i>SEPSECS_4</i>	3.51E-05	-378.75	1.98E-02	6:44700680-44702333	5	1653
<i>SETD1A_4</i>	2.15E-05	-814.93	1.59E-02	25:27101114-27119824	11	5724
<i>SFPQ_4</i>	1.92E-07	-2049.04	1.14E-03	3:110557887-110559755	6	1186
<i>SFPQ_5</i>	6.05E-06	-683.60	7.43E-03	3:110557887-110571478	6	2169
<i>SLC12A2_5</i>	3.69E-06	-295.71	5.41E-03	7:25761570-25853058	6	4094
<i>SLC16A1_4</i>	1.22E-05	555.16	1.20E-02	3:30404526-30413739	11	4949
<i>SLC16A12_4</i>	2.86E-05	629.50	1.84E-02	26:11102710-11133511	11	4318
<i>SLC22A18_7</i>	1.59E-04	-332.17	4.94E-02	29:48710212-48711597	7	1385
<i>SLC22A23_10</i>	7.93E-07	-1578.92	2.22E-03	23:50328048-50328556	14	508
<i>SLC25A36_13</i>	1.65E-09	1022.05	5.01E-05	1:128008637-128042419	13	2502

<i>SLC34A2_1</i>	4.76E-07	-4234.58	1.87E-03	6:45185924-45205946	8	3949
<i>SLC36A1_13</i>	4.02E-07	3688.84	1.79E-03	7:62635850-62686670	15	6683
<i>SLC37A2_9</i>	1.04E-05	707.73	1.10E-02	29:28495548-28524597	9	4117
<i>SLC38A10_9</i>	2.30E-05	-778.29	1.65E-02	19:51437162-51437577	15	415
<i>SLC39A13_6</i>	9.07E-05	465.40	3.72E-02	15:77241901-77248783	11	2472
<i>SLC9A8_2</i>	4.56E-05	157.68	2.39E-02	13:77899041-77935435	10	1676
<i>SLCO4A1_3</i>	5.72E-06	597.12	7.29E-03	13:54671704-54682822	12	2430
<i>SLU7_2</i>	2.54E-05	180.69	1.73E-02	7:71984615-71989059	12	2189
<i>SMARCA2_12</i>	9.60E-05	-280.59	3.83E-02	8:42505780-42536213	15	1356
<i>SMARCA4_9</i>	1.44E-04	-912.37	4.67E-02	7:15487480-15515185	10	1926
<i>SNAP29_2</i>	1.30E-05	-823.30	1.20E-02	17:72268801-72280357	9	3574
<i>SPG7_7</i>	1.33E-04	-165.78	4.49E-02	18:14478399-14484694	13	1631
<i>SPNS1_7</i>	1.07E-04	-388.61	4.09E-02	25:25869411-25876120	13	1931
<i>SPPL2A_8</i>	1.20E-05	-861.49	1.19E-02	10:59575760-59631979	14	5621
<i>SQLE_10</i>	6.86E-05	-1805.96	3.12E-02	14:15162449-15167777	11	1589
<i>SQLE_6</i>	9.32E-05	-560.29	3.78E-02	14:15148446-15167777	11	2379
<i>SREBF1_3</i>	1.07E-05	-400.89	1.12E-02	19:34632930-34651000	9	6516
<i>STXBP3_1</i>	7.01E-05	114.72	3.16E-02	3:34568195-34569999	12	977
<i>SUN2_12</i>	1.32E-04	-85.03	4.49E-02	5:110372392-110377298	13	577
<i>TAF4_7</i>	1.43E-04	-167.37	4.67E-02	13:55097811-55161568	9	3084
<i>TAF5_3</i>	6.72E-05	-355.55	3.07E-02	26:23967460-23968082	3	622
<i>TAF9</i>	1.58E-04	314.68	4.94E-02	20:10376110-10379392	4	2568
<i>TARMI</i>	4.57E-05	462.44	2.39E-02	18:63302948-63305249	8	2301
<i>TBC1D24_11</i>	1.01E-04	-28.37	3.97E-02	25:1994690-2006139	11	4919
<i>TBKBP1_7</i>	1.20E-05	-849.58	1.19E-02	19:38748409-38762591	8	1806
<i>TBL3_8</i>	1.27E-04	-370.70	4.45E-02	25:1530532-1533139	13	1463
<i>TDG_13</i>	1.50E-06	-260.90	2.98E-03	5:67640209-67651517	14	1233
<i>TEAD1_1</i>	9.34E-05	-26.04	3.78E-02	15:39740864-39748906	8	8042
<i>TECR_9</i>	1.14E-04	-71.54	4.21E-02	7:11233040-11260179	13	1289
<i>TENT4A_10</i>	1.19E-06	-1928.76	2.62E-03	20:66450022-66460313	15	3165
<i>TIMP2_3</i>	2.12E-07	-1266.30	1.19E-03	19:53460829-53461300	3	471
<i>TMEM120A</i>	3.64E-08	-1801.75	4.82E-04	25:34212885-34219012	3	1980
<i>TMEM120A</i>	5.97E-05	-162.42	2.86E-02	25:34212885-34219014	3	1982
<i>TMEM156_2</i>	6.28E-06	1549.12	7.63E-03	6:58179535-58186684	9	4852
<i>TMEM86A_9</i>	1.30E-05	-1275.95	1.20E-02	29:26067883-26072293	10	1939
<i>TMEM9_7</i>	1.03E-04	-433.59	4.03E-02	16:79675899-79681927	7	1098
<i>TNK2_9</i>	7.94E-07	-2903.69	2.22E-03	1:70601877-70619213	13	3354
<i>TNRC18_11</i>	6.69E-07	-564.99	2.10E-03	25:38887201-38970458	13	11628

<i>TNRC18_13</i>	5.46E-05	-4688.21	2.71E-02	25:38887201-38970458	13	11364
<i>TOLLIP_3</i>	1.38E-04	-82.63	4.58E-02	29:50180669-50185783	7	2448
<i>TOLLIP_5</i>	3.17E-05	-115.91	1.88E-02	29:50180669-50185774	7	2439
<i>TP53INP2_4</i>	1.18E-04	-478.09	4.27E-02	13:64041296-64046884	7	642
<i>TPGSI_3</i>	8.56E-07	-959.52	2.22E-03	7:43168092-43168961	3	869
<i>TRITI</i>	3.66E-06	-247.40	5.41E-03	3:106240861-106249984	12	2704
<i>TRAF3IP3</i>	3.03E-05	-443.45	1.86E-02	16:73524696-73543916	14	1817
<i>TUBB2A_2</i>	2.24E-06	-1493.82	4.13E-03	23:50525011-50528874	7	993
<i>TULP4_6</i>	9.17E-07	-3074.10	2.28E-03	9:94820215-94960850	8	4650
<i>UBE2A_6</i>	1.34E-05	-950.51	1.21E-02	X:3930263-3931455	10	711
<i>UBE2R2_5</i>	1.62E-04	-323.11	4.99E-02	8:75236773-75237690	9	917
<i>UBR2_2</i>	2.55E-06	576.96	4.51E-03	23:16360194-16364407	9	4213
<i>UHRF1BP1L_1</i>	1.12E-04	1379.03	4.16E-02	5:64077123-64165312	9	4684
<i>ULK1_8</i>	7.82E-05	-509.80	3.40E-02	17:45176712-45187171	14	4051
<i>USP10_7</i>	9.00E-05	-66.21	3.70E-02	18:10870693-10925757	12	2767
<i>USP22_8</i>	1.45E-04	-186.33	4.67E-02	19:35126747-35132593	14	1288
<i>VIM_1</i>	1.56E-07	-8183.28	9.81E-04	13:31652570-31663502	5	4851
<i>VIM_3</i>	3.02E-05	-307.76	1.86E-02	13:31653772-31655216	5	813
<i>WAS_10</i>	4.91E-05	-161.16	2.48E-02	X:86765549-86772520	11	1518
<i>WASHC1_3</i>	1.26E-04	-251.37	4.45E-02	5:106998654-107014537	5	2075
<i>WDR25_5</i>	4.16E-05	-439.17	2.24E-02	21:65415652-65416865	6	700
<i>XPA</i>	1.64E-10	1218.90	1.76E-05	8:62877556-62891541	4	3916
<i>XPO6_5</i>	5.31E-05	-206.47	2.65E-02	25:25620579-25624286	5	951
<i>YY1</i>	5.02E-08	810.28	4.88E-04	21:65181322-65193179	3	9396
<i>ZBTB1_10</i>	5.31E-07	-514.69	1.89E-03	10:76649081-76674731	14	13527
<i>ZBTB42_3</i>	3.37E-05	-682.55	1.93E-02	21:69255817-69256846	3	1029
<i>ZC3H12C_5</i>	1.59E-04	34.44	4.94E-02	15:20202949-20209731	8	6782
<i>ZDHHC24_2</i>	3.69E-05	-238.07	2.04E-02	29:44577772-44584122	3	1128
<i>ZNF592_1</i>	6.30E-05	482.21	2.95E-02	21:22396537-22397378	14	841
<i>ZNF628_1</i>	2.67E-05	-648.02	1.76E-02	18:62025055-62031566	2	3174
<i>ZNF652_4</i>	1.87E-09	-337.08	5.01E-05	19:37289963-37307761	5	9596
<i>ZNF750_1</i>	5.78E-05	-33.30	2.84E-02	19:49854333-49863765	2	3751

Supplementary Table 3.S6: Differentially expressed mRNA isoform from the milk somatic cells of Holstein dairy cows, with gene name previously annotated in the ARS_UCD1.2 bovine reference genome

Feature ID	P-value	Fold change	FDR multiple correction	Genomic coordinates	Transcripts annotated	Transcript length
<i>ACSS2</i>	2.46E-05	-394.96	1.70E-02	13:64231133-64233583	12	1220
<i>ADARB1</i>	1.38E-04	169.87	4.58E-02	1:145049827-145054225	4	4398
<i>ADPGK</i>	8.98E-05	-203.81	3.70E-02	10:19545259-19570026	4	2961
<i>AFDN</i>	4.57E-06	-1599.57	6.34E-03	9:102350866-102387956	13	3176
<i>AGO3</i>	4.90E-05	29.52	2.48E-02	3:109741896-109755220	14	13324
<i>AGPAT3</i>	5.49E-07	-2779.78	1.89E-03	1:143941825-144030070	12	5875
<i>AKAP1</i>	2.81E-05	-657.05	1.83E-02	19:7931746-7963369	11	3483
<i>AKT2</i>	1.82E-05	735.16	1.46E-02	18:49627497-49674924	16	3001
<i>AKT2</i>	1.00E-05	-441.02	1.07E-02	18:49627497-49632858	16	2764
<i>AKT2</i>	5.92E-05	460.77	2.86E-02	18:49627497-49674907	16	3088
<i>AMBRA1</i>	1.63E-05	-1027.78	1.35E-02	15:76498482-76528904	12	1519
<i>AP2A2</i>	2.14E-05	-94.07	1.59E-02	29:50416806-50484947	12	4334
<i>AP2A2</i>	8.70E-07	-2166.74	2.22E-03	29:50420697-50484947	12	2474
<i>APPL1</i>	9.25E-06	492.68	1.03E-02	22:43848811-43855533	15	3966
<i>APRT</i>	2.62E-06	-915.16	4.51E-03	18:14012689-14017231	8	2850
<i>ARHGEF10L</i>	4.27E-05	-119.27	2.28E-02	2:134985198-135021664	9	1795
<i>ASB7</i>	8.31E-05	401.9	3.53E-02	21:5967670-6022761	4	4458
<i>ASCC1</i>	1.53E-04	168.19	4.82E-02	28:28177851-28178669	7	818
<i>ATG16L2</i>	5.20E-10	1314.51	2.78E-05	15:52366513-52372190	9	5264
<i>ATG2A</i>	5.48E-05	-550.66	2.72E-02	29:43120425-43121647	9	845
<i>ATN1</i>	2.89E-05	-131.41	1.84E-02	5:103523269-103524338	6	1069
<i>ATXN2L</i>	9.32E-06	-415.46	1.03E-02	25:25983763-25986134	11	874
<i>AXL</i>	1.29E-05	-1153.2	1.20E-02	18:50402712-50428472	6	2500
<i>B4GALT1</i>	1.21E-06	-2180.29	2.62E-03	8:74861625-74914361	5	1290
<i>BAIAP2</i>	2.76E-05	-853.14	1.81E-02	19:51578603-51591868	13	1820
<i>BAX</i>	7.87E-05	469.49	3.40E-02	18:55532630-55535023	16	2002
<i>BIRC3</i>	1.38E-05	296.94	1.24E-02	15:6399467-6406272	12	4812
<i>BOLA2</i>	3.54E-06	-28511.36	5.41E-03	23:28721845-28724476	7	1098
<i>C2H2orf80</i>	2.43E-05	-81.33	1.70E-02	2:96437058-96442272	3	767

<i>C6H4orf3</i>	6.93E-06	120.2	8.15E-03	6:6009239-6015889	6	6650
<i>CALR</i>	1.14E-04	-206.02	4.21E-02	7:12617951-12621971	5	2103
<i>CCL20</i>	9.51E-06	391.64	1.04E-02	2:115948257-115952035	4	1069
<i>CCN1</i>	1.22E-06	-3510.47	2.62E-03	3:58490946-58491317	4	371
<i>CCN2</i>	6.57E-08	-1106.43	5.86E-04	9:69887188-69890633	5	2640
<i>CCNK</i>	6.32E-05	-218.71	2.95E-02	21:64516202-64522626	14	1063
<i>CD14</i>	1.51E-04	408.86	4.79E-02	7:51762823-51765980	5	3067
<i>CD164</i>	2.49E-05	1902.02	1.71E-02	9:40759363-40772129	8	3206
<i>CDC42BPB</i>	4.14E-05	-349.1	2.24E-02	21:67623267-67641246	11	3694
<i>CDV3</i>	1.11E-04	215.31	4.16E-02	1:135871922-135881817	13	9895
<i>CERT1</i>	4.36E-08	285.41	4.82E-04	10:6793647-6919717	13	4985
<i>CHST3</i>	9.37E-05	385.65	3.78E-02	28:28096152-28102389	6	6237
<i>CHTOP</i>	4.32E-05	3500.24	2.29E-02	3:16739579-16750820	15	8460
<i>CKB</i>	1.26E-05	-1017.88	1.20E-02	21:68159611-68161306	7	827
<i>CLMN</i>	1.57E-05	-89.15	1.34E-02	21:60051874-60062546	4	10672
<i>COBLL1</i>	5.71E-06	-941	7.29E-03	2:31529130-31591528	8	3706
<i>COLGALT1</i>	3.30E-05	340.66	1.91E-02	7:5543271-5565864	13	4764
<i>CPT1A</i>	8.66E-07	-3118.86	2.22E-03	29:46186180-46225440	10	1570
<i>CREBBP</i>	1.09E-04	-240.7	4.14E-02	25:3054307-3057678	10	3371
<i>CSN1S1</i>	1.37E-04	-23.72	4.58E-02	6:85411117-85429337	9	1852
<i>CSN2</i>	1.47E-04	-235.23	4.71E-02	6:85448898-85457744	2	1418
<i>CSN3</i>	2.87E-05	-100.57	1.84E-02	6:85645744-85659048	5	1093
<i>CSTB</i>	4.88E-06	-1237.56	6.61E-03	1:143819484-143824294	4	1158
<i>CXCL2</i>	1.24E-07	-2217.66	9.50E-04	6:88946233-88949043	8	1859
<i>CYC51A1</i>	8.58E-07	-537.44	2.22E-03	4:9467420-9476713	5	1093
<i>CYTH4</i>	2.94E-05	1965.48	1.85E-02	5:75699578-75723720	12	14075
<i>DBN1</i>	1.45E-05	-467.09	1.28E-02	7:38987584-38990910	17	1517
<i>DECR2</i>	1.45E-04	-27.01	4.67E-02	25:395014-396241	12	1227
<i>DGKQ</i>	1.23E-04	-218.38	4.35E-02	6:117405903-117408420	10	688
<i>DIDO1</i>	8.87E-05	-458.64	3.68E-02	13:54507515-54513807	10	4052
<i>DNAJC12</i>	1.35E-04	-31.63	4.56E-02	28:24248367-24283690	9	1244
<i>E2F4</i>	2.60E-05	-568.11	1.75E-02	18:34830298-34834625	10	1651
<i>ECE1</i>	3.00E-06	2300.51	5.02E-03	2:131400814-131449347	18	4088

<i>ECHDC1</i>	1.78E-05	-488.93	1.45E-02	9:23958097-23999500	8	973
<i>EED</i>	1.32E-04	-399.52	4.49E-02	29:9265305-9296073	14	1768
<i>EGLN1</i>	3.05E-05	-650.21	1.86E-02	28:4093627-4150467	14	1354
<i>EHMT2</i>	1.96E-05	-1729.67	1.53E-02	23:27472268-27477773	11	2142
<i>EIF4EBP2</i>	2.96E-05	-410.05	1.85E-02	28:26606320-26626183	8	769
<i>EIF4EBP2</i>	1.41E-04	-236.23	4.63E-02	28:26606320-26606887	8	567
<i>ELAC2</i>	9.47E-05	346.03	3.79E-02	19:31361658-31368133	6	2343
<i>ELAC2</i>	1.31E-05	-1017.17	1.20E-02	19:31364615-31368133	6	592
<i>ELF4</i>	2.42E-05	-278.72	1.70E-02	X:14041703-14081565	7	6469
<i>ELL</i>	2.12E-05	100.88	1.59E-02	7:4704953-4734071	11	3836
<i>ELP6</i>	1.10E-04	215.61	4.16E-02	22:52149273-52152953	5	3680
<i>ENSBTAG00000019479</i>	1.54E-04	192.11	4.82E-02	22:16627298-16646552	14	3222
<i>ENSBTAT00000012349</i>	1.10E-04	-86.6	4.16E-02	21:69189158-69195153	2	2171
<i>EPS15</i>	4.00E-05	129.68	2.19E-02	3:94841621-94943822	11	4827
<i>EPS15L1</i>	2.96E-05	-663.32	1.85E-02	7:6593698-6606818	10	857
<i>F13A1</i>	1.05E-04	583.91	4.09E-02	23:48772304-48913918	18	3906
<i>FAM20C</i>	1.31E-05	-932.89	1.20E-02	25:42134208-42170449	12	4485
<i>FAM20C</i>	1.28E-05	-885.33	1.20E-02	25:42134208-42170449	12	4053
<i>FBRS</i>	9.75E-07	2150.37	2.37E-03	25:26783859-26795080	11	4165
<i>FBXW2</i>	1.13E-04	240.5	4.19E-02	8:110160829-110168505	16	2301
<i>FLII</i>	3.89E-08	767.78	4.82E-04	29:32122862-32184260	8	2807
<i>FOXK1</i>	1.45E-06	-2548.06	2.97E-03	25:39214004-39218509	6	3996
<i>FOXRED2</i>	2.64E-05	333.75	1.75E-02	5:74901609-74905370	4	3761
<i>GATAD2B</i>	1.17E-04	-393.55	4.25E-02	3:16580138-16589067	17	5069
<i>GLUDI</i>	4.43E-07	-3912.71	1.82E-03	28:41621573-41649162	10	1246
<i>GLYCAMI</i>	2.39E-05	-39.56	1.69E-02	5:25478786-25482858	4	1807
<i>GLYCAMI</i>	1.71E-05	-41.51	1.40E-02	5:25478786-25481207	4	661
<i>GLYCAMI</i>	1.18E-05	-47.66	1.19E-02	5:25478786-25482858	4	1834
<i>GOLPH3</i>	3.12E-05	-363.97	1.88E-02	20:41438837-41472854	8	1507
<i>GOLPH3</i>	1.16E-05	787.51	1.19E-02	20:41438837-41491576	8	3480
<i>GOT2</i>	1.43E-04	-196.44	4.67E-02	18:26453564-26471496	9	1027
<i>GPALPP1</i>	1.27E-04	-398.92	4.45E-02	12:15156705-15190181	13	6323
<i>GPAT4</i>	1.48E-04	-145.79	4.71E-02	27:36535363-36539828	12	1053

<i>HBEGF</i>	4.64E-05	-189.91	2.41E-02	7:51544456-51544821	7	365
<i>HDAC7</i>	4.28E-06	-1170.26	6.03E-03	5:32483442-32493326	17	1873
<i>HDHD5</i>	1.16E-04	-84.11	4.25E-02	5:108838762-108840661	9	952
<i>HIF1A</i>	1.42E-04	-1055.33	4.65E-02	10:73836333-73879560	4	2811
<i>HIRA</i>	6.28E-07	-1170.31	2.10E-03	17:72647473-72668844	16	2794
<i>HNRNPUL1</i>	1.39E-04	-67.51	4.60E-02	18:50468262-50472634	9	1325
<i>HPN</i>	6.13E-05	-1042.38	2.93E-02	18:45782387-45796511	5	1042
<i>HPN</i>	3.00E-05	-233.4	1.86E-02	18:45783400-45796511	5	505
<i>IDH1</i>	1.92E-05	-1113.31	1.51E-02	2:96510260-96527386	9	2276
<i>IDH2</i>	8.54E-05	-462.39	3.61E-02	21:21478190-21494557	9	1802
<i>IL22RA2</i>	1.50E-04	22.18	4.76E-02	9:75052152-75068069	7	6761
<i>IPO8</i>	9.45E-05	136.65	3.79E-02	5:78899204-78922354	7	2855
<i>KIAA0355</i>	6.82E-06	-1175.67	8.11E-03	18:44691410-44774960	8	4616
<i>KIAA0930</i>	1.37E-04	-101.45	4.58E-02	5:115610973-115622925	7	7368
<i>KMT2B</i>	1.18E-05	442.57	1.19E-02	18:46444868-46453413	13	3102
<i>KRT7</i>	4.51E-08	-499.79	4.82E-04	5:27674797-27680223	12	805
<i>LETMI</i>	1.99E-05	-713.63	1.54E-02	6:116735336-116758963	12	2251
<i>LMNA</i>	7.47E-05	-167.24	3.29E-02	3:14647522-14661261	4	952
<i>LPIN3</i>	1.22E-04	-252.55	4.35E-02	13:69988545-69990978	12	1456
<i>LRCHI</i>	3.31E-05	-268.64	1.91E-02	12:16492492-16493196	8	704
<i>LRR3C6</i>	8.67E-05	-420.58	3.65E-02	18:35001817-35005559	2	1194
<i>MADD</i>	3.60E-06	-516.93	5.41E-03	15:77152372-77157334	15	1125
<i>MAF1</i>	5.45E-06	-1439.69	7.19E-03	14:730323-732905	13	1305
<i>MAL2</i>	1.59E-05	-347.52	1.34E-02	14:44986815-45020255	3	3033
<i>MARK2</i>	9.65E-05	525.64	3.84E-02	29:42238048-42253724	13	3992
<i>MAST2</i>	1.86E-05	-432.28	1.49E-02	3:100071213-100079124	13	3674
<i>MAST3</i>	4.90E-05	-1029.03	2.48E-02	7:5095954-5097990	18	600
<i>MCM3AP</i>	2.89E-05	-345.82	1.84E-02	1:145940038-145972322	7	5042
<i>MED15</i>	1.31E-05	-841.41	1.20E-02	17:72434595-72434803	10	208
<i>MED15</i>	4.11E-05	313.42	2.23E-02	17:72431575-72476092	10	2202
<i>METTL9</i>	1.17E-08	801.39	2.45E-04	25:20111411-20133227	13	10304
<i>MFHAS1</i>	5.88E-06	-870.09	7.36E-03	27:24972052-24975173	9	3121
<i>MIB1</i>	1.21E-04	-112	4.34E-02	24:34484348-34515042	15	1751

<i>MB1</i>	3.08E-06	-1034.93	5.06E-03	24:34493930-34515042	15	1420
<i>MB2</i>	4.30E-07	-981.02	1.82E-03	16:51009297-51019359	10	3499
<i>MICAL1</i>	2.16E-05	316.51	1.59E-02	9:40699325-40710698	11	3732
<i>MIER1</i>	1.52E-04	326.51	4.79E-02	3:78335199-78352149	19	4430
<i>MMP9</i>	1.29E-04	-51.1	4.48E-02	13:74748616-74751681	7	1369
<i>MTCHI</i>	3.53E-06	-1307.26	5.41E-03	23:10878395-10898204	12	2133
<i>MVK</i>	6.24E-05	-44.02	2.94E-02	17:63609525-63615093	7	1162
<i>MYBBP1A</i>	7.71E-06	-1038.69	8.86E-03	19:25027891-25033903	10	1692
<i>MYOIF</i>	7.88E-05	-199.06	3.40E-02	7:17119428-17157822	3	4509
<i>NCLN</i>	3.52E-07	-4687.03	1.64E-03	7:20634539-20645827	12	1838
<i>NCLN</i>	6.24E-05	-329.47	2.94E-02	7:20635958-20645827	12	1570
<i>NFATC1</i>	8.24E-05	-597.05	3.53E-02	24:822610-854031	14	1894
<i>NFIB</i>	1.58E-05	-76.32	1.34E-02	8:29994051-30108655	6	7358
<i>NOP53</i>	9.88E-05	-428.67	3.91E-02	18:54650849-54655057	6	882
<i>NOTCH2</i>	5.61E-06	103.81	7.29E-03	3:23248566-23373381	9	12152
<i>NUCB1</i>	1.45E-04	-21.09	4.68E-02	18:55487807-55494229	3	558
<i>NUP153</i>	1.31E-04	367.42	4.49E-02	23:39799714-39826286	9	2788
<i>OSBP</i>	1.22E-06	-3445.07	2.62E-03	15:82785663-82788964	14	1658
<i>OSBPL11</i>	1.20E-04	469.36	4.34E-02	1:69961626-69969932	9	1896
<i>OXA1L</i>	7.85E-06	220.75	8.93E-03	10:22026397-22042635	6	2839
<i>PABPC1</i>	4.64E-05	-200.6	2.41E-02	14:63625555-63635244	9	1507
<i>PABPC1</i>	1.12E-05	-713.97	1.16E-02	14:63625555-63638806	9	2060
<i>PAH</i>	6.25E-05	-80.06	2.94E-02	5:66613295-66616243	10	859
<i>PALMD</i>	1.61E-04	-45.77	4.98E-02	3:43536338-43543913	3	1650
<i>PCYT2</i>	1.38E-04	-177.47	4.58E-02	19:50982899-50986736	4	561
<i>PDIA3</i>	8.84E-06	-1188.86	9.95E-03	21:55370175-55376311	5	417
<i>PDXK</i>	1.05E-04	1006.74	4.09E-02	1:143782379-143812726	11	6924
<i>PEX14</i>	7.83E-05	-476.89	3.40E-02	16:42966074-42995377	12	1725
<i>PHB2</i>	2.45E-05	-969.95	1.70E-02	5:103492958-103496671	4	1121
<i>PHF1</i>	1.47E-04	297.19	4.71E-02	23:7586489-7590430	8	1396
<i>PKMYT1</i>	3.15E-05	-710.59	1.88E-02	25:2382241-2384742	6	1642
<i>PLD1</i>	1.31E-04	-451.21	4.49E-02	1:95908463-95914850	14	6387
<i>PLXNA1</i>	7.04E-06	-642.34	8.19E-03	22:60238308-60241321	13	3013

<i>PLXND1</i>	4.97E-07	-4581.82	1.87E-03	22:56134768-56157136	10	2183
<i>PPARGC1B</i>	4.92E-05	-518.08	2.48E-02	7:61171598-61172816	5	1218
<i>PPP1R11</i>	5.44E-06	-1511.82	7.19E-03	23:28908903-28913084	2	2679
<i>PPP2R1A</i>	1.16E-04	-118.44	4.25E-02	18:58100862-58101234	3	372
<i>PRPF18</i>	3.78E-06	-417.73	5.46E-03	13:28284940-28342922	11	5268
<i>PRR12</i>	1.67E-05	-864.38	1.37E-02	18:56015876-56018931	7	1128
<i>PRR12</i>	2.58E-06	-1887.07	4.51E-03	18:56015876-56028994	7	1197
<i>PRR14</i>	2.08E-05	-747.44	1.59E-02	25:26776672-26778616	10	1171
<i>PTGES3</i>	2.78E-07	-4986.04	1.41E-03	5:56760655-56782290	8	2191
<i>PVRIG</i>	9.25E-05	-66.76	3.77E-02	25:36191679-36193385	5	1438
<i>RNF10</i>	5.23E-05	-1656.27	2.63E-02	17:62816661-62838805	13	1600
<i>RNF128</i>	2.60E-07	-983.21	1.39E-03	X:55260937-55325976	5	2823
<i>RNF170</i>	2.36E-06	-803.04	4.27E-03	27:37557496-37590963	5	3669
<i>RNF19B</i>	3.59E-06	-117.97	5.41E-03	2:120719447-120721002	11	1555
<i>RNF44</i>	2.22E-05	-774.55	1.61E-02	7:37999774-38004979	10	3583
<i>RO60</i>	1.50E-04	183	4.77E-02	16:12164239-12173946	5	2213
<i>RPS6KC1</i>	2.24E-06	734.76	4.13E-03	16:70348854-70530710	11	4327
<i>RRBP1</i>	1.60E-05	-908.41	1.34E-02	13:37988476-38011411	14	3987
<i>RREB1</i>	5.70E-05	-312.07	2.81E-02	23:48052756-48110402	11	5292
<i>RRP12</i>	3.07E-05	-589.21	1.86E-02	26:18612031-18632724	10	3668
<i>RTCB</i>	5.06E-07	-1114.11	1.87E-03	5:71010290-71025855	17	9032
<i>SI00A10</i>	1.37E-08	568.25	2.45E-04	3:18762454-18774487	5	1702
<i>SI00A2</i>	2.64E-05	-209.5	1.75E-02	3:16808367-16811983	7	726
<i>SEMA4A</i>	8.47E-08	-1086.66	6.96E-04	3:14606838-14618709	8	2342
<i>SEPSECS</i>	3.51E-05	-378.75	1.98E-02	6:44700680-44702333	5	1653
<i>SETD1A</i>	2.15E-05	-814.93	1.59E-02	25:27101114-27119824	11	5724
<i>SFPQ</i>	1.92E-07	-2049.04	1.14E-03	3:110557887-110559755	6	1186
<i>SLC16A1</i>	1.22E-05	555.16	1.20E-02	3:30404526-30413739	11	4949
<i>SLC16A12</i>	2.86E-05	629.5	1.84E-02	26:11102710-11133511	11	4318
<i>SLC22A18</i>	1.59E-04	-332.17	4.94E-02	29:48710212-48711597	7	1385
<i>SLC22A23</i>	7.93E-07	-1578.92	2.22E-03	23:50328048-50328556	14	508
<i>SLC36A1</i>	4.02E-07	3688.84	1.79E-03	7:62635850-62686670	15	6683
<i>SLC38A10</i>	2.30E-05	-778.29	1.65E-02	19:51437162-51437577	15	415

<i>SLC39A13</i>	9.07E-05	465.4	3.72E-02	15:77241901-77248783	11	2472
<i>SLC9A8</i>	4.56E-05	157.68	2.39E-02	13:77899041-77935435	10	1676
<i>SLCO4A1</i>	5.72E-06	597.12	7.29E-03	13:54671704-54682822	12	2430
<i>SLU7</i>	2.54E-05	180.69	1.73E-02	7:71984615-71989059	12	2189
<i>SMARCA2</i>	9.60E-05	-280.59	3.83E-02	8:42505780-42536213	15	1356
<i>SMARCA4</i>	1.44E-04	-912.37	4.67E-02	7:15487480-15515185	10	1926
<i>SNAP29</i>	1.30E-05	-823.3	1.20E-02	17:72268801-72280357	9	3574
<i>SPG7</i>	1.33E-04	-165.78	4.49E-02	18:14478399-14484694	13	1631
<i>SPNS1</i>	1.07E-04	-388.61	4.09E-02	25:25869411-25876120	13	1931
<i>SPPL2A</i>	1.20E-05	-861.49	1.19E-02	10:59575760-59631979	14	5621
<i>SQLE</i>	6.86E-05	-1805.96	3.12E-02	14:15162449-15167777	11	1589
<i>SQLE</i>	9.32E-05	-560.29	3.78E-02	14:15148446-15167777	11	2379
<i>SREBF1</i>	1.07E-05	-400.89	1.12E-02	19:34632930-34651000	9	6516
<i>STXBP3</i>	7.01E-05	114.72	3.16E-02	3:34568195-34569999	12	977
<i>SUN2</i>	1.32E-04	-85.03	4.49E-02	5:110372392-110377298	13	577
<i>TAF5</i>	6.72E-05	-355.55	3.07E-02	26:23967460-23968082	3	622
<i>TAF9</i>	1.58E-04	314.68	4.94E-02	20:10376110-10379392	4	2568
<i>TARM1</i>	4.57E-05	462.44	2.39E-02	18:63302948-63305249	8	2301
<i>TBL3</i>	1.27E-04	-370.7	4.45E-02	25:1530532-1533139	13	1463
<i>TEAD1</i>	9.34E-05	-26.04	3.78E-02	15:39740864-39748906	8	8042
<i>TECR</i>	1.14E-04	-71.54	4.21E-02	7:11233040-11260179	13	1289
<i>TENT4A</i>	1.19E-06	-1928.76	2.62E-03	20:66450022-66460313	15	3165
<i>TIMP2</i>	2.12E-07	-1266.3	1.19E-03	19:53460829-53461300	3	471
<i>TMEM120A</i>	5.97E-05	-162.42	2.86E-02	25:34212885-34219014	3	1982
<i>TMEM120A</i>	3.64E-08	-1801.75	4.82E-04	25:34212885-34219012	3	1980
<i>TMEM156</i>	6.28E-06	1549.12	7.63E-03	6:58179535-58186684	9	4852
<i>TMEM86A</i>	1.30E-05	-1275.95	1.20E-02	29:26067883-26072293	10	1939
<i>TMEM9</i>	1.03E-04	-433.59	4.03E-02	16:79675899-79681927	7	1098
<i>TNK2</i>	7.94E-07	-2903.69	2.22E-03	1:70601877-70619213	13	3354
<i>TOLLIP</i>	1.38E-04	-82.63	4.58E-02	29:50180669-50185783	7	2448
<i>TOLLIP</i>	3.17E-05	-115.91	1.88E-02	29:50180669-50185774	7	2439
<i>TP53INP2</i>	1.18E-04	-478.09	4.27E-02	13:64041296-64046884	7	642
<i>TPGS1</i>	8.56E-07	-959.52	2.22E-03	7:43168092-43168961	3	869

<i>TRIT1</i>	3.66E-06	-247.4	5.41E-03	3:106240861-106249984	12	2704
<i>TRAF3IP3</i>	3.03E-05	-443.45	1.86E-02	16:73524696-73543916	14	1817
<i>TUBB2A</i>	2.24E-06	-1493.82	4.13E-03	23:50525011-50528874	7	993
<i>UBE2A</i>	1.34E-05	-950.51	1.21E-02	X:3930263-3931455	10	711
<i>UBE2R2</i>	1.62E-04	-323.11	4.99E-02	8:75236773-75237690	9	917
<i>UBR2</i>	2.55E-06	576.96	4.51E-03	23:16360194-16364407	9	4213
<i>UHRF1BP1L</i>	1.12E-04	1379.03	4.16E-02	5:64077123-64165312	9	4684
<i>ULK1</i>	7.82E-05	-509.8	3.40E-02	17:45176712-45187171	14	4051
<i>USP10</i>	9.00E-05	-66.21	3.70E-02	18:10870693-10925757	12	2767
<i>USP22</i>	1.45E-04	-186.33	4.67E-02	19:35126747-35132593	14	1288
<i>VIM</i>	1.56E-07	-8183.28	9.81E-04	13:31652570-31663502	5	4851
<i>VIM</i>	3.02E-05	-307.76	1.86E-02	13:31653772-31655216	5	813
<i>WASHC1</i>	1.26E-04	-251.37	4.45E-02	5:106998654-107014537	5	2075
<i>WDR25</i>	4.16E-05	-439.17	2.24E-02	21:65415652-65416865	6	700
<i>XPA</i>	1.64E-10	1218.9	1.76E-05	8:62877556-62891541	4	3916
<i>XPO6</i>	5.31E-05	-206.47	2.65E-02	25:25620579-25624286	5	951
<i>YY1</i>	5.02E-08	810.28	4.88E-04	21:65181322-65193179	3	9396
<i>ZBTB1</i>	5.31E-07	-514.69	1.89E-03	10:76649081-76674731	14	13527
<i>ZC3H12C</i>	1.59E-04	34.44	4.94E-02	15:20202949-20209731	8	6782
<i>ZNF592</i>	6.30E-05	482.21	2.95E-02	21:22396537-22397378	14	841
<i>ZNF628</i>	2.67E-05	-648.02	1.76E-02	18:62025055-62031566	2	3174
<i>ZNF652</i>	1.87E-09	-337.08	5.01E-05	19:37289963-37307761	5	9596

Supplementary Table 3.S7: Genomic coordinates of DE mRNA isoforms for QTL analysis

Gene name corresponding to DE mRNA isoform	Genomic coordinates	Fold change
<i>ACSS2</i>	13:64231133-64233583	-394.96
<i>ADARB1</i>	1:145049827-145054225	169.87
<i>ADPGK</i>	10:19545259-19570026	-203.81
<i>AFDN</i>	9:102350866-102387956	-1599.57
<i>AGO3</i>	3:109741896-109755220	29.52
<i>AGPAT3</i>	1:143941825-144030070	-2779.78
<i>AKAP1</i>	19:7931746-7963369	-657.05
<i>AKT2</i>	18:49627497-49632858	-441.02
<i>AKT2</i>	18:49627497-49674907	460.77
<i>AKT2</i>	18:49627497-49674924	735.16
<i>AMBRA1</i>	15:76498482-76528904	-1027.78
<i>AP2A2</i>	29:50420697-50484947	-2166.74
<i>AP2A2</i>	29:50416806-50484947	-94.07
<i>APPL1</i>	22:43848811-43855533	492.68
<i>APRT</i>	18:14012689-14017231	-915.16
<i>ARHGEF10L</i>	2:134985198-135021664	-119.27
<i>ASB7</i>	21:5967670-6022761	401.90
<i>ASCC1</i>	28:28177851-28178669	168.19
<i>ATF5</i>	18:56269037-56273031	-1802.71
<i>ATG16L2</i>	15:52366513-52372190	1314.51
<i>ATG2A</i>	29:43120425-43121647	-550.66
<i>ATNI</i>	5:103523269-103524338	-131.41
<i>ATXN1</i>	23:40688295-40829586	-4394.88
<i>ATXN2L</i>	25:25983763-25986134	-415.46
<i>AXL</i>	18:50402712-50428472	-1153.20
<i>B4GALT1</i>	8:74861625-74914361	-2180.29
<i>BAIAP2</i>	19:51578603-51591868	-853.14
<i>BAX</i>	18:55532630-55535023	469.49
<i>BIRC3</i>	15:6399467-6406272	296.94
<i>BOLA2</i>	23:28721845-28724476	-28511.36
<i>BTN1A1</i>	23:31585190-31591478	-30.50
<i>C2H2orf80</i>	2:96437058-96442272	-81.33
<i>C6H4orf3</i>	6:6009239-6015889	120.20
<i>CALR</i>	7:12617951-12621971	-206.02
<i>CCL20</i>	2:115948257-115951955	81.84
<i>CCL20</i>	2:115948257-115952035	391.64
<i>CCN1</i>	3:58490946-58491317	-3510.47
<i>CCN2</i>	9:69887188-69890613	-1718.78

<i>CCN2</i>	9:69887188-69890633	-1106.43
<i>CCNK</i>	21:64516202-64522626	-218.71
<i>CCRL2</i>	22:52998332-53000232	15.52
<i>CD14</i>	7:51762823-51765980	408.86
<i>CD164</i>	9:40759363-40772129	1902.02
<i>CDC42BPB</i>	21:67623261-67678642	-371.82
<i>CDC42BPB</i>	21:67623267-67641246	-349.10
<i>CDV3</i>	1:135871922-135881817	215.31
<i>CERT1</i>	10:6793647-6919717	285.41
<i>CHST3</i>	28:28096152-28102389	385.65
<i>CHTOP</i>	3:16739579-16750820	3500.24
<i>CKB</i>	21:68159611-68161306	-1017.88
<i>CLMN</i>	21:60051874-60062546	-89.15
<i>COBLL1</i>	2:31529130-31591528	-941.00
<i>COLGALT1</i>	7:5543271-5565864	340.66
<i>CPT1A</i>	29:46186180-46225440	-3118.86
<i>CREBBP</i>	25:3054307-3057678	-240.70
<i>CSN1S1</i>	6:85411117-85429337	-23.72
<i>CSN1S2</i>	6:85529904-85548556	-32.69
<i>CSN2</i>	6:85448898-85457744	-235.23
<i>CSN3</i>	6:85645744-85659048	-100.57
<i>CSN3</i>	6:85648339-85658926	-50.94
<i>CSN3</i>	6:85645853-85658910	-26.13
<i>CSTB</i>	1:143819484-143824294	-1237.56
<i>CXCL2</i>	6:88946233-88949043	-2217.66
<i>CYC51A1</i>	4:9467420-9476713	-537.44
<i>CYLD</i>	18:19137683-19199449	475.25
<i>CYTH4</i>	5:75699578-75723720	1965.48
<i>DBN1</i>	7:38987584-38990910	-467.09
<i>DECR2</i>	25:395014-396241	-27.01
<i>DGKQ</i>	6:117405903-117408420	-218.38
<i>DHCR24</i>	3:91411765-91445037	-650.78
<i>DIDO1</i>	13:54507515-54513807	-458.64
<i>DNAJC12</i>	28:24248367-24283690	-31.63
<i>DNMBP</i>	26:20826581-20942446	-229.80
<i>DSP</i>	23:47824434-47868337	-31.07
<i>E2F4</i>	18:34830298-34834625	-568.11
<i>ECE1</i>	2:131400814-131449347	2300.51
<i>ECHDC1</i>	9:23958097-23999500	-488.93
<i>EED</i>	29:9265305-9296073	-399.52

<i>EFHD1</i>	3:112396167-112440870	-20.79
<i>EFNB1</i>	X:81635594-81648094	-534.58
<i>EGLN1</i>	28:4093627-4150467	-650.21
<i>EHMT2</i>	23:27472268-27477773	-1729.67
<i>EIF4EBP2</i>	28:26606320-26626183	-410.05
<i>EIF4EBP2</i>	28:26606320-26606887	-236.23
<i>ELAC2</i>	19:31364615-31368133	-1017.17
<i>ELAC2</i>	19:31361658-31368133	346.03
<i>ELF4</i>	X:14041703-14081565	-278.72
<i>ELF5</i>	15:65019975-65065633	-234.40
<i>ELF5</i>	15:65019975-65052826	-49.35
<i>ELL</i>	7:4704953-4734071	100.88
<i>ELP6</i>	22:52149273-52152953	215.61
<i>ENSBTAT00000012349</i>	21:69189158-69195153	-86.60
<i>EPB41L2</i>	9:68956837-69092316	-377.19
<i>EPS15</i>	3:94841621-94943822	129.68
<i>EPS15L1</i>	7:6593698-6606818	-663.32
<i>F13A1</i>	23:48772304-48913918	583.91
<i>FAM20C</i>	25:42134208-42170449	-932.89
<i>FAM20C</i>	25:42134208-42170449	-885.33
<i>FBRS</i>	25:26783859-26795080	2150.37
<i>FBXW2</i>	8:110160829-110168505	240.50
<i>FCSK</i>	18:1644176-1656608	-495.38
<i>FLII</i>	29:32122862-32184260	767.78
<i>FOXK1</i>	25:39214004-39218509	-2548.06
<i>FOXRED2</i>	5:74901609-74905370	333.75
<i>GARRE1</i>	18:44691410-44774960	-1175.67
<i>GATAD2B</i>	3:16580138-16589067	-393.55
<i>gene:ENSBTAG00000009049</i>	5:57433436-57437847	-294.68
<i>gene:ENSBTAG00000019479</i>	22:16627298-16646552	192.11
<i>Gene07</i>	11:72505640-72508871	228.43
<i>Gene26</i>	11:14696388-14725870	-152.57
<i>Gene26</i>	11:62511669-62519754	419.48
<i>Gene310</i>	3:86164085-86182808	17.73
<i>Gene35</i>	11:106231708-106235668	-83.18
<i>Gene43</i>	11:66667335-66667877	-230.47
<i>Gene43</i>	6:115952167-115960221	47.64
<i>Gene49</i>	11:98510691-98529677	-1312.31
<i>Gene49</i>	11:98497637-98529714	-108.43
<i>Gene57</i>	11:6709199-6716867	792.39

<i>Gene644</i>	11:6716314-6728323	22.49
<i>Gene66</i>	11:71324276-71361339	1401.95
<i>Gene711</i>	19:26666821-26669665	-54.49
<i>Gene711</i>	19:26656544-26669665	73.31
<i>Gene80</i>	11:99159315-99178645	-3352.94
<i>Gene93</i>	11:1185527-1232139	36.05
<i>GLUDI</i>	28:41621573-41649162	-3912.71
<i>GLYCAMI</i>	5:25478786-25482858	-47.66
<i>GLYCAMI</i>	5:25478786-25481207	-41.51
<i>GLYCAMI</i>	5:25478786-25482857	-40.39
<i>GLYCAMI</i>	5:25478786-25482858	-39.56
<i>GOLPH3</i>	20:41438837-41472854	-363.97
<i>GOLPH3</i>	20:41438837-41491576	787.51
<i>GOT2</i>	18:26453564-26471496	-196.44
<i>GPALPPI</i>	12:15156705-15190181	-398.92
<i>GPAT4</i>	27:36535363-36539828	-145.79
<i>GPRC5B</i>	25:17478831-17498791	-49.93
<i>GSE1</i>	18:11589111-11644469	-1110.95
<i>HBEGF</i>	7:51544456-51544821	-189.91
<i>HDAC7</i>	5:32483442-32493326	-1170.26
<i>HDHD5</i>	5:108838762-108840661	-84.11
<i>HIF1A</i>	10:73836333-73879560	-1055.33
<i>HIRA</i>	17:72647473-72668844	-1170.31
<i>HNRNPUL1</i>	18:50468262-50472634	-67.51
<i>HPN</i>	18:45782387-45796511	-1042.38
<i>HPN</i>	18:45783400-45796511	-233.40
<i>IDH1</i>	2:96510260-96527386	-1113.31
<i>IDH2</i>	21:21478190-21494557	-462.39
<i>IL22RA2</i>	9:75052152-75068069	22.18
<i>IPO8</i>	5:78899204-78922354	136.65
<i>ITGB6</i>	2:36153834-36247251	-631.00
<i>KIAA0930</i>	5:115610973-115622925	-101.45
<i>KIAA1522</i>	2:120883699-120890243	-1170.47
<i>KMT2B</i>	18:46444868-46453413	442.57
<i>KRT7</i>	5:27674797-27680223	-499.79
<i>LENG8</i>	18:62878870-62888679	447.30
<i>LETMI</i>	6:116735336-116758963	-713.63
<i>LHFPL2</i>	10:9538340-9585771	-661.89
<i>LIMK2</i>	17:70053292-70092008	401.17
<i>LMNA</i>	3:14647522-14661261	-167.24

<i>LPIN3</i>	13:69988545-69990978	-252.55
<i>LPO</i>	19:9202919-9247946	-25.03
<i>LRCHI</i>	12:16492492-16493196	-268.64
<i>LRR3C6</i>	18:35001817-35005559	-420.58
<i>LTBP2</i>	10:85791791-85897975	-931.09
<i>LTF</i>	22:52952570-52986619	-1768.47
<i>MADD</i>	15:77152372-77157334	-516.93
<i>MAF1</i>	14:730323-732905	-1439.69
<i>MAL2</i>	14:44986815-45020255	-347.52
<i>MARK2</i>	29:42238048-42253724	525.64
<i>MAST2</i>	3:100071213-100079124	-432.28
<i>MAST3</i>	7:5095954-5097990	-1029.03
<i>MCM3AP</i>	1:145940038-145972322	-345.82
<i>MED15</i>	17:72434595-72434803	-841.41
<i>MED15</i>	17:72431575-72476092	313.42
<i>METTL9</i>	25:20111411-20133227	801.39
<i>MFHAS1</i>	27:24972052-24975173	-870.09
<i>MIB1</i>	24:34493930-34515042	-1034.93
<i>MIB1</i>	24:34484348-34515042	-112.00
<i>MIB2</i>	16:51009297-51019359	-981.02
<i>MICAL1</i>	9:40699325-40710698	316.51
<i>MIER1</i>	3:78335199-78352149	326.51
<i>MMP9</i>	13:74748616-74751681	-51.10
<i>MOB2</i>	29:50016711-50043414	-258.89
<i>MPP5</i>	10:79127656-79234049	-211.97
<i>MTCHI</i>	23:10878395-10898204	-1307.26
<i>MTSS2</i>	18:1488985-1508027	-403.14
<i>MVK</i>	17:63609525-63615093	-44.02
<i>MYBBP1A</i>	19:25027891-25033903	-1038.69
<i>MYO1F</i>	7:17119428-17157822	-199.06
<i>NCLN</i>	7:20634539-20645827	-4687.03
<i>NCLN</i>	7:20635958-20645827	-329.47
<i>NFATC1</i>	24:822610-854031	-597.05
<i>NFIB</i>	8:29994051-30108655	-76.32
<i>NFIX</i>	7:12486829-12549125	-472.07
<i>NOP53</i>	18:54650849-54655057	-428.67
<i>NOTCH2</i>	3:23248566-23373381	103.81
<i>NR3C2</i>	17:9589541-10018758	-92.14
<i>NUCB1</i>	18:55487807-55494229	-21.09
<i>NUP153</i>	23:39799714-39826286	367.42

<i>NVL</i>	16:27418643-27497008	431.02
<i>OSBP</i>	15:82785663-82788964	-3445.07
<i>OSBPL11</i>	1:69961626-69969932	469.36
<i>OXAIL</i>	10:22026397-22042635	220.75
<i>PABPC1</i>	14:63625555-63638806	-713.97
<i>PABPC1</i>	14:63625555-63635244	-200.60
<i>PAH</i>	5:66613983-66732963	-134.03
<i>PAH</i>	5:66613295-66616243	-80.06
<i>PALMD</i>	3:43536338-43543913	-45.77
<i>PCBP4</i>	22:48973021-48976249	-1886.75
<i>PCYT2</i>	19:50982899-50986736	-177.47
<i>PDIA3</i>	21:55370175-55376311	-1188.86
<i>PDXX</i>	1:143782379-143812726	1006.74
<i>PEX14</i>	16:42966074-42995377	-476.89
<i>PHB2</i>	5:103492958-103496671	-969.95
<i>PHF1</i>	23:7586489-7590430	297.19
<i>PKMYT1</i>	25:2382241-2384742	-710.59
<i>PLDI</i>	1:95908463-95914850	-451.21
<i>PLXNA1</i>	22:60238308-60241321	-642.34
<i>PLXND1</i>	22:56134768-56157136	-4581.82
<i>PPARGC1A</i>	6:43380462-43487276	-483.42
<i>PPARGC1B</i>	7:61171598-61172816	-518.08
<i>PPP1R11</i>	23:28908903-28913084	-1511.82
<i>PPP2R1A</i>	18:58100862-58101234	-118.44
<i>PRDM2</i>	16:53788898-53921908	-174.89
<i>PRKAA2</i>	3:89477898-89549744	-105.23
<i>PRPF18</i>	13:28284940-28342922	-417.73
<i>PRR12</i>	18:56015876-56028994	-1887.07
<i>PRR12</i>	18:56015876-56018931	-864.38
<i>PRR14</i>	25:26776672-26778616	-747.44
<i>PTGES3</i>	5:56760655-56782290	-4986.04
<i>PTPN14</i>	16:69036393-69223539	-71.69
<i>PVRIG</i>	25:36191679-36193385	-66.76
<i>RALGAPB</i>	13:67377907-67449822	351.92
<i>RASEF</i>	8:76173242-76268340	-253.98
<i>RBM27</i>	7:57417457-57475132	-382.82
<i>RERE</i>	16:44907739-45028328	-7378.15
<i>REXO1</i>	7:44150050-44169237	-505.26
<i>RGL2</i>	23:7466041-7472417	-1232.16
<i>RNF10</i>	17:62816661-62838805	-1656.27

<i>RNF128</i>	X:55260937-55325976	-983.21
<i>RNF170</i>	27:37557496-37590963	-803.04
<i>RNF19B</i>	2:120719447-120721002	-117.97
<i>RNF44</i>	7:37999774-38004979	-774.55
<i>RO60</i>	16:12164239-12173946	183.00
<i>RPS6KC1</i>	16:70348854-70530710	734.76
<i>RPS8</i>	3:101232559-101235265	-899.12
<i>RRBP1</i>	13:37988476-38011411	-908.41
<i>RREB1</i>	23:48052756-48110402	-312.07
<i>RRP12</i>	26:18612031-18632724	-589.21
<i>RTCB</i>	5:71010290-71025855	-1114.11
<i>SI00A10</i>	3:18762454-18774487	568.25
<i>SI00A2</i>	3:16808367-16811983	-209.50
<i>SCAF11</i>	5:34252702-34303160	961.74
<i>SEMA4A</i>	3:14606838-14618709	-1086.66
<i>SEPSECS</i>	6:44700680-44702333	-378.75
<i>SETD1A</i>	25:27101114-27119824	-814.93
<i>SFPQ</i>	3:110557887-110559755	-2049.04
<i>SFPQ</i>	3:110557887-110571478	-683.60
<i>SLC12A2</i>	7:25761570-25853058	-295.71
<i>SLC16A1</i>	3:30404526-30413739	555.16
<i>SLC16A12</i>	26:11102710-11133511	629.50
<i>SLC22A18</i>	29:48710212-48711597	-332.17
<i>SLC22A23</i>	23:50328048-50328556	-1578.92
<i>SLC25A36</i>	1:128008637-128042419	1022.05
<i>SLC34A2</i>	6:45185924-45205946	-4234.58
<i>SLC36A1</i>	7:62635850-62686670	3688.84
<i>SLC37A2</i>	29:28495548-28524597	707.73
<i>SLC38A10</i>	19:51437162-51437577	-778.29
<i>SLC39A13</i>	15:77241901-77248783	465.40
<i>SLC9A8</i>	13:77899041-77935435	157.68
<i>SLCO4A1</i>	13:54671704-54682822	597.12
<i>SLU7</i>	7:71984615-71989059	180.69
<i>SMARCA2</i>	8:42505780-42536213	-280.59
<i>SMARCA4</i>	7:15487480-15515185	-912.37
<i>SNAP29</i>	17:72268801-72280357	-823.30
<i>SPG7</i>	18:14478399-14484694	-165.78
<i>SPNS1</i>	25:25869411-25876120	-388.61
<i>SPPL2A</i>	10:59575760-59631979	-861.49
<i>SQLE</i>	14:15162449-15167777	-1805.96

<i>SQLE</i>	14:15148446-15167777	-560.29
<i>SREBF1</i>	19:34632930-34651000	-400.89
<i>STXBP3</i>	3:34568195-34569999	114.72
<i>SUN2</i>	5:110372392-110377298	-85.03
<i>TAF4</i>	13:55097811-55161568	-167.37
<i>TAF5</i>	26:23967460-23968082	-355.55
<i>TAF9</i>	20:10376110-10379392	314.68
<i>TARMI</i>	18:63302948-63305249	462.44
<i>TBC1D24</i>	25:1994690-2006139	-28.37
<i>TBKBP1</i>	19:38748409-38762591	-849.58
<i>TBL3</i>	25:1530532-1533139	-370.70
<i>TDG</i>	5:67640209-67651517	-260.90
<i>TEAD1</i>	15:39740864-39748906	-26.04
<i>TECR</i>	7:11233040-11260179	-71.54
<i>TENT4A</i>	20:66450022-66460313	-1928.76
<i>TIMP2</i>	19:53460829-53461300	-1266.30
<i>TMEM120A</i>	25:34212885-34219012	-1801.75
<i>TMEM120A</i>	25:34212885-34219014	-162.42
<i>TMEM156</i>	6:58179535-58186684	1549.12
<i>TMEM86A</i>	29:26067883-26072293	-1275.95
<i>TMEM9</i>	16:79675899-79681927	-433.59
<i>TNK2</i>	1:70601877-70619213	-2903.69
<i>TNRC18</i>	25:38887201-38970458	-4688.21
<i>TNRC18</i>	25:38887201-38970458	-564.99
<i>TOLLIP</i>	29:50180669-50185774	-115.91
<i>TOLLIP</i>	29:50180669-50185783	-82.63
<i>TP53INP2</i>	13:64041296-64046884	-478.09
<i>TPGS1</i>	7:43168092-43168961	-959.52
<i>TRIT1</i>	3:106240861-106249984	-247.40
<i>TRAF3IP3</i>	16:73524696-73543916	-443.45
<i>TUBB2A</i>	23:50525011-50528874	-1493.82
<i>TULP4</i>	9:94820215-94960850	-3074.10
<i>UBE2A</i>	X:3930263-3931455	-950.51
<i>UBE2R2</i>	8:75236773-75237690	-323.11
<i>UBR2</i>	23:16360194-16364407	576.96
<i>UHRF1BP1L</i>	5:64077123-64165312	1379.03
<i>ULK1</i>	17:45176712-45187171	-509.80
<i>USP10</i>	18:10870693-10925757	-66.21
<i>USP22</i>	19:35126747-35132593	-186.33
<i>VIM</i>	13:31652570-31663502	-8183.28

<i>VIM</i>	13:31653772-31655216	-307.76
<i>WAS</i>	X:86765549-86772520	-161.16
<i>WASHC1</i>	5:106998654-107014537	-251.37
<i>WDR25</i>	21:65415652-65416865	-439.17
<i>XPA</i>	8:62877556-62891541	1218.90
<i>XPO6</i>	25:25620579-25624286	-206.47
<i>YY1</i>	21:65181322-65193179	810.28
<i>ZBTB1</i>	10:76649081-76674731	-514.69
<i>ZBTB42</i>	21:69255817-69256846	-682.55
<i>ZC3H12C</i>	15:20202949-20209731	34.44
<i>ZDHC24</i>	29:44577772-44584122	-238.07
<i>ZNF592</i>	21:22396537-22397378	482.21
<i>ZNF628</i>	18:62025055-62031566	-648.02
<i>ZNF652</i>	19:37289963-37307761	-337.08
<i>ZNF750</i>	19:49854333-49863765	-33.30

Supplementary Table 3.S8: Previously annotated QTL within the genomic regions of the list of DE mRNA

Gene name	Position	Fold change	QTL Type	trait ID	SNP ID
<i>CREBBP</i>	25:3054307-3057678	-240.7		Bone quality	rs29017003
<i>NFIX</i>	7:12486829-12549125	-472.1		Dairy form	rs109115115
<i>NFIX</i>	7:12486829-12549125	-472.1		Dairy form	rs110469756
<i>PAH</i>	5:66613983-66732963	-134		Feet and leg conformation	rs41647805
<i>SUN2</i>	5:110372392-110377298	-85.03		Feet and leg conformation	rs108948968
<i>PAH</i>	5:66613983-66732963	-134		Foot angle	rs41647805
<i>SUN2</i>	5:110372392-110377298	-85.03		Foot angle	rs108948968
<i>NFIX</i>	7:12486829-12549125	-472.1		Foot angle	rs109115115
<i>NFIX</i>	7:12486829-12549125	-472.1		Foot angle	rs110469756
<i>PAH</i>	5:66613983-66732963	-134		Rear leg placement - rear view	rs41647805
<i>SUN2</i>	5:110372392-110377298	-85.03		Rear leg placement - rear view	rs108948968
<i>NFIX</i>	7:12486829-12549125	-472.1		Rear leg placement - side view	rs109115115
<i>NFIX</i>	7:12486829-12549125	-472.1		Rear leg placement - side view	rs110469756
<i>PTPN14</i>	16:69036393-69223539	-71.69		Rump angle	rs41582273
<i>PAH</i>	5:66613983-66732963	-134		Stature	rs41647805
<i>SUN2</i>	5:110372392-110377298	-85.03		Stature	rs108948968
<i>PAH</i>	5:66613983-66732963	-134		Strength	rs41647805
<i>SUN2</i>	5:110372392-110377298	-85.03		Strength	rs108948968
<i>NFIX</i>	7:12486829-12549125	-472.1		Strength	rs109115115
<i>NFIX</i>	7:12486829-12549125	-472.1		Strength	rs110469756
<i>RPS6KC1</i>	16:70348854-70530710	734.76		Teat length	rs109376626
<i>GLYCAMI</i>	5:25478786-25481207	-41.51	Exterior	Teat length	rs434279993
<i>GLYCAMI</i>	5:25478786-25482857	-40.39		Teat length	rs434279993
<i>GLYCAMI</i>	5:25478786-25482858	-47.66		Teat length	rs434279993
<i>GLYCAMI</i>	5:25478786-25482858	-39.56		Teat length	rs434279993
<i>PAH</i>	5:66613983-66732963	-134		Teat length	rs41647805
<i>RPS6KC1</i>	16:70348854-70530710	734.76		Teat placement - front	rs109376626
<i>PAH</i>	5:66613983-66732963	-134		Teat placement - front	rs41647805
<i>SUN2</i>	5:110372392-110377298	-85.03		Teat placement - front	rs108948968
<i>RPS6KC1</i>	16:70348854-70530710	734.76		Teat placement - rear	rs109376626
<i>RREB1</i>	23:48052756-48110402	-312.1		Temperament	rs42037482
<i>RPS6KC1</i>	16:70348854-70530710	734.76		Udder attachment	rs109376626
<i>PAH</i>	5:66613983-66732963	-134		Udder attachment	rs41647805
<i>SUN2</i>	5:110372392-110377298	-85.03		Udder attachment	rs108948968
<i>CREBBP</i>	25:3054307-3057678	-240.7		Udder cleft	rs29017003
<i>RPS6KC1</i>	16:70348854-70530710	734.76		Udder depth	rs109376626

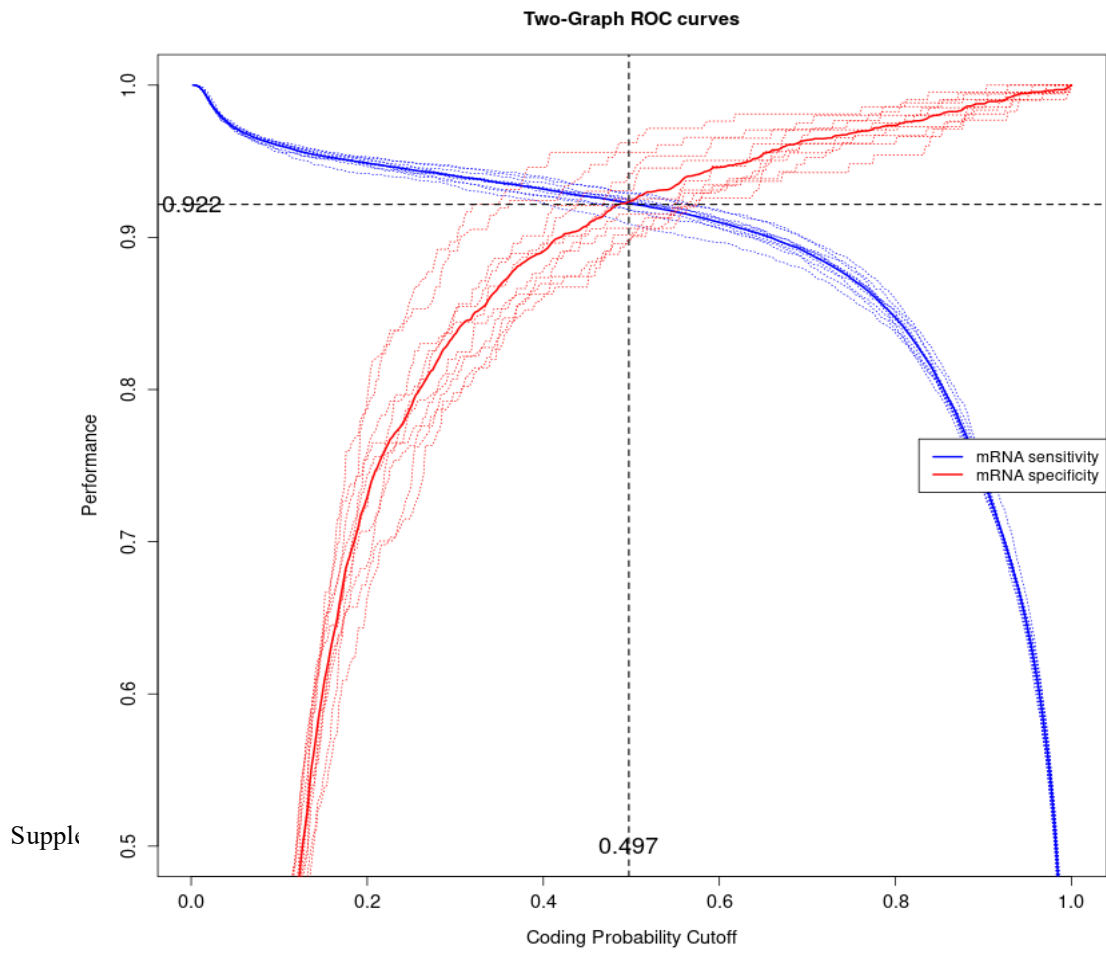
<i>PAH</i>	5:66613983-66732963	-134		Udder depth	rs41647805
<i>SUN2</i>	5:110372392-110377298	-85.03		Udder depth	rs108948968
<i>NFIX</i>	7:12486829-12549125	-472.1		Udder depth	rs109115115
<i>NFIX</i>	7:12486829-12549125	-472.1		Udder depth	rs110469756
<i>PAH</i>	5:66613983-66732963	-134		Udder height	rs41647805
<i>SUN2</i>	5:110372392-110377298	-85.03		Udder height	rs108948968
<i>CREBBP</i>	25:3054307-3057678	-240.7		Udder texture	rs29017003
<i>CALR</i>	7:12617951-12621971	-206		Bovine respiratory disease susceptibility	rs110920906
<i>SMARCA4</i>	7:15487480-15515185	-912.4		Bovine tuberculosis susceptibility	rs133141124,rs110620230,rs134224452
<i>SLC9A8</i>	13:77899041-77935435	157.68		Clinical mastitis	rs109934030
<i>LTF</i>	22:52952570-52986619	-1768		Clinical mastitis	rs109623119
<i>LTF</i>	22:52952570-52986619	-1768	Health	Clinical mastitis	rs109623119
<i>SLC9A8</i>	13:77899041-77935435	157.68		Somatic cell score	rs109934030
<i>SLC9A8</i>	13:77899041-77935435	157.68		Somatic cell score	rs109934030
<i>RPS6KC1</i>	16:70348854-70530710	734.76		Somatic cell score	rs109376626
<i>SUN2</i>	5:110372392-110377298	-85.03		Somatic cell score	rs108948968
<i>NFIX</i>	7:12486829-12549125	-472.1		Somatic cell score	rs109115115
<i>NFIX</i>	7:12486829-12549125	-472.1		Somatic cell score	rs110469756
<i>PTPN14</i>	16:69036393-69223539	-71.69		Head weight	rs41824657
<i>CYTH4</i>	5:75699578-75723720	1965.5		Lean meat yield	rs110355206
<i>TNRC18</i>	25:38887201-38970458	-4688		Lean meat yield	rs109195021
<i>TNRC18</i>	25:38887201-38970458	-565	Meat and Carcass	Lean meat yield	rs109195021
<i>FAM20C</i>	25:42134208-42170449	-932.9		Marbling score	rs110258661
<i>FAM20C</i>	25:42134208-42170449	-885.3		Marbling score	rs110258661
<i>PTPN14</i>	16:69036393-69223539	-71.69		Monounsaturated fatty acid content	rs110725032
<i>RGL2</i>	23:7466041-7472417	-1232		305-day milk yield	rs110870325
<i>LTF</i>	22:52952570-52986619	-1768		305-day milk yield	rs43706485
<i>ACSS2</i>	13:64231133-64233583	-395		Milk capric acid content	rs29018443
<i>TP53INP2</i>	13:64041296-64046884	-478.1		Milk capric acid content	rs41700748
<i>TP53INP2</i>	13:64041296-64046884	-478.1		Milk capric acid content	rs41700748
<i>PAH</i>	5:66613295-66616243	-80.06		Milk capric acid content	rs41647824,rs110643510,rs134498285
<i>PAH</i>	5:66613983-66732963	-134		Milk capric acid content	rs41647824,rs110643510,rs134498285
<i>ACSS2</i>	13:64231133-64233583	-395		Milk capric acid content	rs29018443

<i>TP53INP2</i>	13:64041296-64046884	-478.1	Milk capric acid content	rs41700748
<i>TP53INP2</i>	13:64041296-64046884	-478.1	Milk capric acid content	rs41700748
<i>REXO1</i>	7:44150050-44169237	-505.3	Milk capric acid content	rs449070503
<i>ACSS2</i>	13:64231133-64233583	-395	Milk capric acid content	rs29018443
<i>TP53INP2</i>	13:64041296-64046884	-478.1	Milk capric acid content	rs41700748
<i>TP53INP2</i>	13:64041296-64046884	-478.1	Milk capric acid content	rs41700748
<i>PAH</i>	5:66613295-66616243	-80.06	Milk capric acid content	rs41647824,rs110643510,rs134498285
<i>PAH</i>	5:66613983-66732963	-134	Milk capric acid content	rs41647824,rs110643510,rs134498285
<i>BTN1A1</i>	23:31585190-31591478	-30.5	Milk fat percentage	rs43706495
<i>PAH</i>	5:66613983-66732963	-134	Milk fat percentage	rs41647805
<i>SUN2</i>	5:110372392-110377298	-85.03	Milk fat percentage	rs108948968
<i>NFLX</i>	7:12486829-12549125	-472.1	Milk fat percentage	rs109115115
<i>NFLX</i>	7:12486829-12549125	-472.1	Milk fat percentage	rs110469756
<i>LTF</i>	22:52952570-52986619	-1768	Milk fat percentage	rs43765462
<i>GLYCAMI</i>	5:25478786-25481207	-41.51	Milk fat yield	rs41257413
<i>GLYCAMI</i>	5:25478786-25482857	-40.39	Milk fat yield	rs41257413
<i>GLYCAMI</i>	5:25478786-25482858	-47.66	Milk fat yield	rs41257413
<i>GLYCAMI</i>	5:25478786-25482858	-39.56	Milk fat yield	rs41257413
<i>PAH</i>	5:66613983-66732963	-134	Milk fat yield	rs109899231
<i>SUN2</i>	5:110372392-110377298	-85.03	Milk fat yield	rs108948968
<i>TBC1D24</i>	25:1994690-2006139	-28.37	Milk fat yield	rs378549242
<i>TBC1D24</i>	25:1994690-2006139	-28.37	Milk fat yield	rs382183513
<i>CD14</i>	7:51762823-51765980	408.86	Milk fat yield	rs109621328
<i>LTF</i>	22:52952570-52986619	-1768	Milk fat yield	rs43765462
<i>RALGAPB</i>	13:67377907-67449822	351.92	Milk iron content	rs110161352
<i>LTF</i>	22:52952570-52986619	-1768	Milk lactoferrin content	rs109183581
<i>LTF</i>	22:52952570-52986619	-1768	Milk lactoferrin content	rs137054020
<i>LTF</i>	22:52952570-52986619	-1768	Milk lactoferrin content	rs41256920
<i>LTF</i>	22:52952570-52986619	-1768	Milk lactoferrin content	rs41565711
<i>LTF</i>	22:52952570-52986619	-1768	Milk lactoferrin content	rs109741625
<i>LTF</i>	22:52952570-52986619	-1768	Milk lactoferrin content	rs135707004
<i>LTF</i>	22:52952570-52986619	-1768	Milk lactoferrin content	rs111013482
<i>LTF</i>	22:52952570-52986619	-1768	Milk lactoferrin content	rs109431159
<i>LTF</i>	22:52952570-52986619	-1768	Milk lactoferrin content	rs110649055
<i>LTF</i>	22:52952570-52986619	-1768	Milk lactoferrin content	rs133503091
<i>LTF</i>	22:52952570-52986619	-1768	Milk lactoferrin content	rs137209195
<i>LTF</i>	22:52952570-52986619	-1768	Milk lactoferrin content	rs137628077
<i>CCRL2</i>	22:52998332-53000232	15.522	Milk lactoferrin content	rs135070346

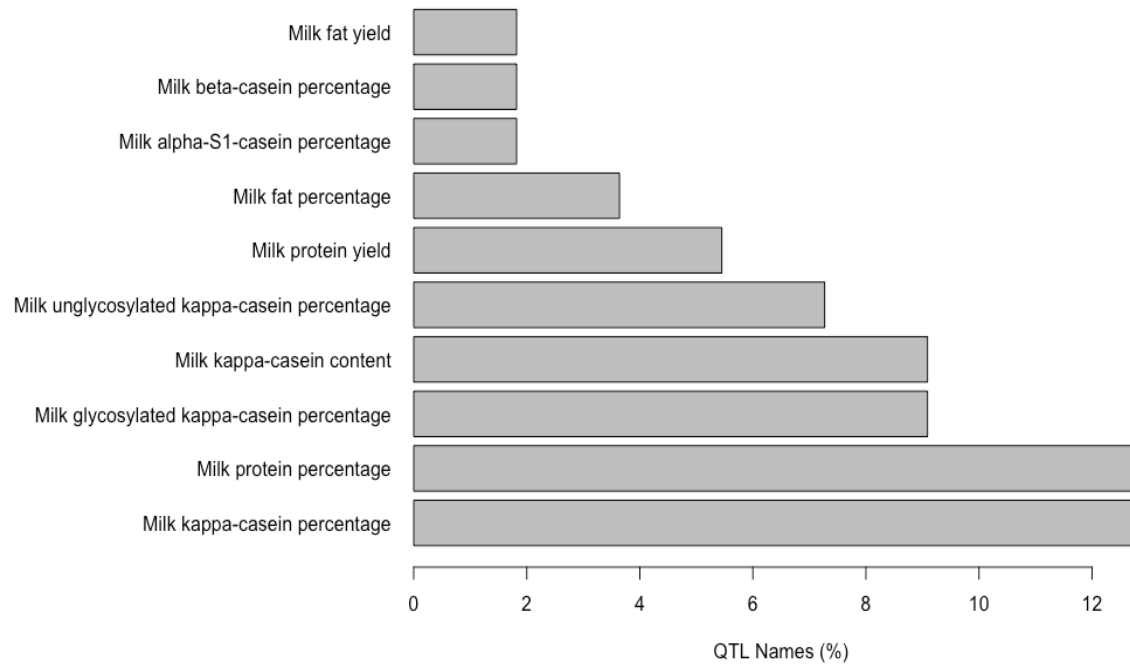
<i>LTF</i>	22:52952570-52986619	-1768		Milk lactose content	rs43765461
<i>ACSS2</i>	13:64231133-64233583	-395		Milk lauric acid content	rs29018443
<i>TP53INP2</i>	13:64041296-64046884	-478.1		Milk lauric acid content	rs41700748
<i>ACSS2</i>	13:64231133-64233583	-395		Milk medium-chain fatty acid content	rs29018443
<i>TP53INP2</i>	13:64041296-64046884	-478.1		Milk medium-chain fatty acid content	rs41700748
<i>ACSS2</i>	13:64231133-64233583	-395		Milk myristic acid content	rs29018443
<i>PPARGC1A</i>	6:43380462-43487276	-483.4		Milk potassium content	rs43457933
<i>PPARGC1A</i>	6:43380462-43487276	-483.4		Milk potassium content	rs109163366
<i>PPARGC1A</i>	6:43380462-43487276	-483.4		Milk potassium content	rs134734516
<i>PPARGC1A</i>	6:43380462-43487276	-483.4		Milk potassium content	rs43465408
<i>SLC34A2</i>	6:45185924-45205946	-4235		Milk potassium content	rs109659817
<i>SLC34A2</i>	6:45185924-45205946	-4235		Milk potassium content	rs135604645
<i>SLC34A2</i>	6:45185924-45205946	-4235		Milk potassium content	rs133070251
<i>SLC34A2</i>	6:45185924-45205946	-4235		Milk potassium content	rs109370642
<i>SLC34A2</i>	6:45185924-45205946	-4235		Milk potassium content	rs136063910
<i>SLC34A2</i>	6:45185924-45205946	-4235		Milk potassium content	rs110919938
<i>SLC34A2</i>	6:45185924-45205946	-4235		Milk potassium content	rs109620302
<i>SLC34A2</i>	6:45185924-45205946	-4235		Milk potassium content	rs135994678
<i>DIDO1</i>	13:54507515-54513807	-458.6		Milk protein percentage	rs135294514
<i>TAF4</i>	13:55097811-55161568	-167.4		Milk protein percentage	rs41697716
<i>SUN2</i>	5:110372392-110377298	-85.03		Milk protein percentage	rs108948968
<i>NFLX</i>	7:12486829-12549125	-472.1	Milk	Milk protein percentage	rs109115115
<i>NFLX</i>	7:12486829-12549125	-472.1		Milk protein percentage	rs110469756
<i>CSN3</i>	6:85645744-85659048	-100.6		Milk protein percentage	rs109122729
<i>CSN3</i>	6:85645853-85658910	-26.13		Milk protein percentage	rs109122729
<i>CSN3</i>	6:85648339-85658926	-50.94		Milk protein percentage	rs109122729
<i>CSN3</i>	6:85645744-85659048	-100.6		Milk protein percentage	rs135528518
<i>CSN3</i>	6:85645853-85658910	-26.13		Milk protein percentage	rs135528518
<i>CSN3</i>	6:85648339-85658926	-50.94		Milk protein percentage	rs135528518
<i>PPARGC1A</i>	6:43380462-43487276	-483.4		Milk protein percentage	rs109354753
<i>PPARGC1A</i>	6:43380462-43487276	-483.4		Milk protein percentage	rs109164131
<i>PPARGC1A</i>	6:43380462-43487276	-483.4		Milk protein percentage	rs109795305
<i>TBL3</i>	25:1530532-1533139	-370.7		Milk protein yield	rs109450082
<i>TBL3</i>	25:1530532-1533139	-370.7		Milk protein yield	rs110210573
<i>TBL3</i>	25:1530532-1533139	-370.7		Milk protein yield	rs110162973
<i>CD14</i>	7:51762823-51765980	408.86		Milk protein yield	rs109621328

<i>BTN1A1</i>	23:31585190-31591478	-30.5		Milk protein-to-fat ratio	rs43706495
<i>LTF</i>	22:52952570-52986619	-1768		Milk protein-to-fat ratio	rs43765462
<i>RREB1</i>	23:48052756-48110402	-312.1		Milk tridecylic acid content	rs440096215
<i>BTN1A1</i>	23:31585190-31591478	-30.5		Milk yield	rs43706495
<i>TAF4</i>	13:55097811-55161568	-167.4		Milk yield	rs41697716
<i>GLYCAM1</i>	5:25478786-25481207	-41.51		Milk yield	rs41257413
<i>GLYCAM1</i>	5:25478786-25482857	-40.39		Milk yield	rs41257413
<i>GLYCAM1</i>	5:25478786-25482858	-47.66		Milk yield	rs41257413
<i>GLYCAM1</i>	5:25478786-25482858	-39.56		Milk yield	rs41257413
<i>CD14</i>	7:51762823-51765980	408.86		Milk yield	rs109621328
<i>RBM27</i>	7:57417457-57475132	-382.8		Milking speed	rs109565446
<i>PAH</i>	5:66613983-66732963	-134		Body depth	rs41647805
<i>TNRC18</i>	25:38887201-38970458	-4688		Body weight (birth)	rs108957555
<i>TNRC18</i>	25:38887201-38970458	-565		Body weight (birth)	rs108957555
<i>CSN1S1</i>	6:85411117-85429337	-23.72		Body weight gain	rs110440863
<i>SLC34A2</i>	6:45185924-45205946	-4235		Body weight gain	rs41257255
<i>RPS6KC1</i>	16:70348854-70530710	734.76		Length of productive life	rs109376626
<i>SUN2</i>	5:110372392-110377298	-85.03		Length of productive life	rs108948968
<i>TBC1D24</i>	25:1994690-2006139	-28.37		Length of productive life	rs110660625
<i>NFIX</i>	7:12486829-12549125	-472.1		Length of productive life	rs109115115
<i>NFIX</i>	7:12486829-12549125	-472.1	Production	Length of productive life	rs110469756
<i>RPS6KC1</i>	16:70348854-70530710	734.76		Net merit	rs109376626
<i>SUN2</i>	5:110372392-110377298	-85.03		Net merit	rs108948968
<i>TBC1D24</i>	25:1994690-2006139	-28.37		Net merit	rs110660625
<i>NFIX</i>	7:12486829-12549125	-472.1		Net merit	rs109115115
<i>NFIX</i>	7:12486829-12549125	-472.1		Net merit	rs110469756
<i>PAH</i>	5:66613983-66732963	-134		PTA type	rs41647805
<i>SUN2</i>	5:110372392-110377298	-85.03		PTA type	rs108948968
<i>F13A1</i>	23:48772304-48913918	583.91		Residual feed intake	rs382491772
<i>PAH</i>	5:66613983-66732963	-134		Rump width	rs41647805
<i>RPS6KC1</i>	16:70348854-70530710	734.76		Calving ease	rs109376626
<i>PAH</i>	5:66613983-66732963	-134		Calving ease	rs41647805
<i>SUN2</i>	5:110372392-110377298	-85.03		Calving ease	rs108948968
<i>TBL3</i>	25:1530532-1533139	-370.7		Calving ease	rs134490897
<i>NFIX</i>	7:12486829-12549125	-472.1		Calving ease	rs109115115
<i>NFIX</i>	7:12486829-12549125	-472.1		Calving ease	rs110469756
<i>RPS6KC1</i>	16:70348854-70530710	734.76		Calving ease (maternal)	rs109376626
<i>PAH</i>	5:66613983-66732963	-134		Calving ease (maternal)	rs41647805

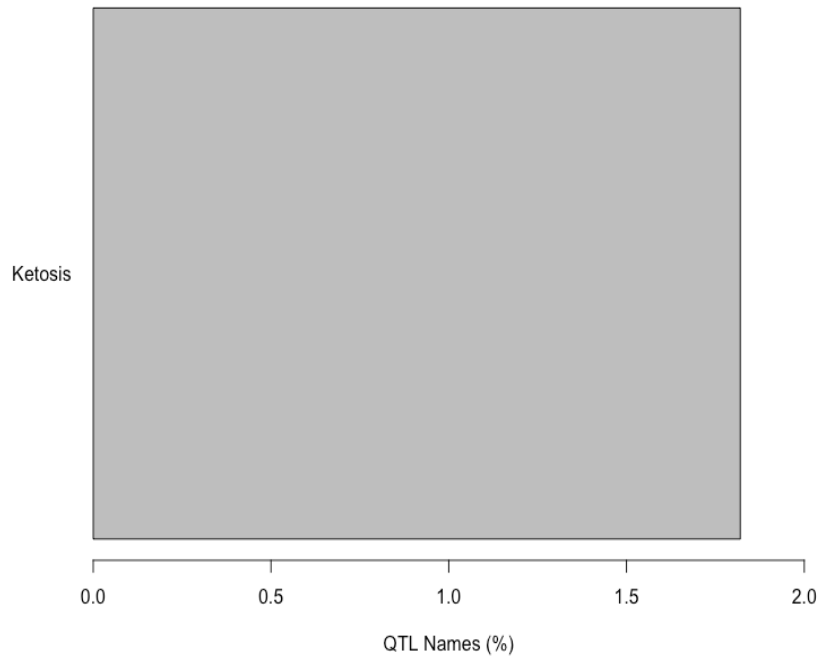
<i>SUN2</i>	5:110372392-110377298	-85.03		Calving ease (maternal)	rs108948968
<i>TBC1D24</i>	25:1994690-2006139	-28.37		Calving to conception interval	rs110660625
<i>CD14</i>	7:51762823-51765980	408.86		Calving to conception interval	rs109621328
<i>CYTH4</i>	5:75699578-75723720	1965.5		Conception rate	rs110355206
<i>TBC1D24</i>	25:1994690-2006139	-28.37		Conception rate	rs110660625
<i>CYTH4</i>	5:75699578-75723720	1965.5		Daughter pregnancy rate	rs110355206
<i>SUN2</i>	5:110372392-110377298	-85.03		Daughter pregnancy rate	rs108948968
<i>TBC1D24</i>	25:1994690-2006139	-28.37		Daughter pregnancy rate	rs110660625
<i>TBC1D24</i>	25:1994690-2006139	-28.37		Daughter pregnancy rate	rs110660625
<i>NFIX</i>	7:12486829-12549125	-472.1	Reproduction	Daughter pregnancy rate	rs109115115
<i>NFIX</i>	7:12486829-12549125	-472.1		Daughter pregnancy rate	rs110469756
<i>CD14</i>	7:51762823-51765980	408.86		Daughter pregnancy rate	rs109621328
<i>TBC1D24</i>	25:1994690-2006139	-28.37		Daughter pregnancy rate	rs110660625
<i>TBC1D24</i>	25:1994690-2006139	-28.37		Early embryonic survival	rs110660625
<i>TBC1D24</i>	25:1994690-2006139	-28.37		Fertilization rate	rs110660625
<i>TBC1D24</i>	25:1994690-2006139	-28.37		First service conception	rs110660625
<i>TBC1D24</i>	25:1994690-2006139	-28.37		Inseminations per conception	rs110660625
<i>CD14</i>	7:51762823-51765980	408.86		Inseminations per conception	rs109621328
<i>PAH</i>	5:66613983-66732963	-134		Interval to first estrus after calving	rs41647805
<i>PAH</i>	5:66613983-66732963	-134		Interval to first estrus after calving	rs41647805
<i>TBL3</i>	25:1530532-1533139	-370.7		Interval to first estrus after calving	rs134490897
<i>PPP1R11</i>	23:28908903-28913084	-1512		Sire conception rate	rs109300808
<i>RPS6KC1</i>	16:70348854-70530710	734.76		Stillbirth	rs109376626
<i>PAH</i>	5:66613983-66732963	-134		Stillbirth	rs41647805
<i>SUN2</i>	5:110372392-110377298	-85.03		Stillbirth	rs108948968
<i>NFIX</i>	7:12486829-12549125	-472.1		Stillbirth	rs109115115
<i>NFIX</i>	7:12486829-12549125	-472.1		Stillbirth	rs110469756



Supplementary Figure 4.S9: The coding potential score computed using FEELnc codpot.



Supplementary Figure 4.S10: The QTL in our analysis associated with milk (65%)



Supplementary Figure 4.S11: Plotting the QTL associated with the health trait

Supplementary Table 5.S21: Variants found in differentially expressed (FDR < 0.05, |FC| > 2) candidate genes not fixed or uniquely present in either the mastitic or healthy milk somatic cell samples from 6 Holstein dairy cows

Health Category	Gene	Position	Type	Reference	Zygoty	Genotype
	<i>FCER1G</i>	3:8289327..8289351	Deletion	CCACTCCATCTT TTTTTTTTTTTTTT	Homozygous	-/-
		5:25480190	SNP	T	Homozygous	T/T
	<i>GLYCAMI</i>	5:25480382	SNP	A	Homozygous	A/A
		5:25480416	SNP	G	Homozygous	A/A
		5:25480566	SNP	G	Homozygous	G/G
	<i>CD74</i>	7:61741953	SNP	C	Homozygous	T/T
		7:61750397	SNP	G	Heterozygous	G/A
		10:103117100	SNP	C	Homozygous	C/C
		10:103117100	SNP	C	Heterozygous	C/T
		10:103117258	SNP	C	Homozygous	C/C
		10:103117258	SNP	C	Heterozygous	C/T
		10:103117261	SNP	A	Homozygous	A/A
		10:103117270	SNP	C	Homozygous	C/C
		10:103117298	SNP	C	Homozygous	C/C
		10:103117300	SNP	A	Homozygous	A/A
		10:103117309	SNP	G	Heterozygous	G/C
		10:103117366	SNP	C	Homozygous	C/C
	<i>B2M</i>	10:103117819	SNP	T	Heterozygous	T/C
		10:103117825	SNP	A	Homozygous	A/A
		10:103117986	SNP	C	Heterozygous	C/T
		10:103118383	SNP	C	Homozygous	C/C
		10:103118447	SNP	T	Homozygous	T/T
		10:103118502	SNP	C	Heterozygous	C/T
		10:103118560	SNP	T	Heterozygous	T/G
		10:103118575	SNP	G	Homozygous	G/G
		10:103118825	SNP	T	Homozygous	T/T
		10:103119130	SNP	C	Homozygous	C/C
		10:103117471..103117475	Deletion	CATCT	Heterozygous	CATCT/-
		17:61031091	SNP	C	Homozygous	C/C
		17:61031094	SNP	A	Heterozygous	A/C
		17:61031094	SNP	A	Homozygous	A/A
		17:61031099	SNP	A	Homozygous	A/A
		17:61031254	SNP	G	Heterozygous	G/A

		17:61031520	SNP	A	Heterozygous	A/-
		17:61031520	Deletion	A	Heterozygous	A/-
		17:61031520	Deletion	A	Homozygous	-/-
		17:61031520	SNP	A	Homozygous	A/A
		17:61031597	SNP	T	Heterozygous	T/A
		17:61031663	SNP	C	Heterozygous	C/G
		17:61031671	SNP	A	Heterozygous	A/G
		17:61031760	SNP	C	Heterozygous	C/A
	<i>SDS</i>	17:61031813	SNP	T	Heterozygous	T/C
		17:61031920	SNP	C	Heterozygous	C/T
		17:61033869	SNP	A	Heterozygous	A/-
		17:61033869	Deletion	A	Heterozygous	A/-
		17:61033869	SNP	A	Homozygous	A/A
		17:61033869	Deletion	A	Homozygous	-/-
		17:61032953..61032957	Deletion	AAAAA	Heterozygous	AAAAA/-
		17:61032953..61032957	Deletion	AAAAA	Homozygous	-/-
		17:61037847..61037854	Deletion	CACACACA	Heterozygous	CACACACA/-
		17:61037847..61037854	Deletion	CACACACA	Homozygous	-/-
		17:61037880..61037893	Deletion	ACACACACACA CAA	Heterozygous	ACACACACACACAA/-
		17:61037880..61037893	Deletion	ACACACACACA CAA	Homozygous	-/-
Mastitis		21:45640047	SNP	T	Homozygous	T/T
	<i>NFKB1A</i>	21:45640048	SNP	C	Homozygous	C/C
		21:45642478	SNP	A	Homozygous	A/A
		21:45642479	SNP	A	Homozygous	A/A
		23:25837473	SNP	T	Homozygous	T/T
		23:25837473	SNP	T	Homozygous	A/A
		23:25837479	SNP	T	Homozygous	T/T
		23:25837479	SNP	T	Homozygous	C/C
		23:25837492	SNP	C	Homozygous	C/C
		23:25837492	SNP	C	Homozygous	T/T
		23:25837496	SNP	A	Homozygous	A/A
		23:25837496	Deletion	A	Homozygous	-/-
		23:25837496	SNP	A	Heterozygous	A/-
		23:25837496	Deletion	A	Heterozygous	A/-
		23:25837497	SNP	T	Homozygous	T/T
		23:25837497	SNP	T	Homozygous	G/G

	23:25837538	SNP	A	Homozygous	A/A
	23:25837538	SNP	A	Homozygous	G/G
	23:25837581	SNP	G	Homozygous	G/G
	23:25837581	SNP	G	Homozygous	T/T
	23:25837610	SNP	G	Homozygous	G/G
	23:25837610	SNP	G	Heterozygous	G/C
	23:25837662	SNP	C	Homozygous	C/C
	23:25837662	SNP	C	Homozygous	T/T
	23:25837697	SNP	G	Homozygous	G/G
	23:25837697	SNP	G	Homozygous	A/A
	23:25837785	SNP	A	Heterozygous	A/G
	23:25837785	SNP	A	Homozygous	A/A
	23:25837785	SNP	A	Homozygous	G/G
	23:25837869	SNP	C	Homozygous	C/C
<i>BoLA-DRA</i>	23:25837869	SNP	C	Homozygous	A/A
	23:25837870	SNP	A	Homozygous	A/A
	23:25837870	SNP	A	Homozygous	G/G
	23:25837884	SNP	A	Homozygous	A/A
	23:25837884	SNP	A	Homozygous	G/G
	23:25837905	SNP	T	Homozygous	T/T
	23:25837905	SNP	T	Homozygous	A/A
	23:25837916	SNP	C	Homozygous	C/C
	23:25837916	SNP	C	Homozygous	T/T
	23:25837926	SNP	C	Homozygous	C/C
	23:25837926	SNP	C	Homozygous	A/A
	23:25839000	SNP	G	Homozygous	G/G
	23:25839000	Deletion	G	Homozygous	-/-
	23:25839000	SNP	G	Heterozygous	G/-
	23:25839000	Deletion	G	Heterozygous	G/-
	23:25838992..25838996	Deletion	CAGGC	Homozygous	-/-
	23:25838992..25838996	Deletion	CAGGC	Heterozygous	CAGGC/-
	23:25839030^25839031	Insertion	-	Heterozygous	TT/TTTT
	23:25839030^25839031	Insertion	-	Heterozygous	-/T
	23:25839030^25839031	Insertion	-	Homozygous	-/-
	23:25839030^25839031	Insertion	-	Heterozygous	-/TTTT
	23:25839030^25839031	Insertion	-	Homozygous	T/T
	23:25839030^25839031	Insertion	-	Heterozygous	T/TT
	23:25839747..25839748	Insertion	TT	Homozygous	TTT/TTT

	23:25839747..25839748	Insertion	TT	Heterozygous	TT/TTT
	23:25839747..25839748	Deletion	TT	Homozygous	-/-
	23:25839747..25839748	Deletion	TT	Heterozygous	-/TTT
	23:25839747..25839748	Insertion	TT	Heterozygous	-/TTT
<i>FCER1G</i>	3:8287401	SNP	C	Homozygous	T/T
	3:8288807	SNP	G	Homozygous	A/A
	3:8289412	SNP	G	Homozygous	A/A
	3:8289434	SNP	G	Homozygous	G/G
	5:25479440	SNP	C	Homozygous	C/C
	5:25480190	SNP	T	Homozygous	T/T
	5:25480382	SNP	A	Homozygous	A/A
	5:25480416	SNP	G	Homozygous	A/A
<i>GLYCAMI</i>	5:25480504..25480517	Deletion	ACACACACACA CAC	Heterozygous	-/ACACACAC
	5:25480504..25480517	Deletion	ACACACACACA CAC	Heterozygous	ACACACACACAC/-
	5:25480504..25480517	Deletion	ACACACACACA CAC	Homozygous	ACACACACACAC/ACACACAC ACAC
	5:25480504..25480517	Deletion	ACACACACACA CAC	Heterozygous	ACACACACACAC/ACACACAC AC
<i>CD74</i>	7:61749473	SNP	T	Homozygous	T/T
	7:61750397	SNP	G	Heterozygous	G/A
	7:61750397	SNP	G	Homozygous	G/G
	10:103116650	SNP	T	Heterozygous	T/C
	10:103116650	SNP	T	Homozygous	T/T
	10:103116650	SNP	T	Homozygous	C/C
	10:103116656	SNP	T	Heterozygous	T/C
	10:103116656	SNP	T	Homozygous	T/T
	10:103116656	SNP	T	Homozygous	C/C
	10:103116719	SNP	G	Homozygous	C/C
<i>B2M</i>	10:103116719	SNP	G	Heterozygous	G/C
	10:103116719	SNP	G	Homozygous	G/G
	10:103116846	SNP	T	Heterozygous	T/C
	10:103116846	SNP	T	Homozygous	T/T
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		17:61030372	SNP	G	Homozygous	G/G
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		17:61031520	SNP	A	Heterozygous	A/-
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		17:61033869	SNP	A	Homozygous	A/A
		17:61033869	Deletion	A	Heterozygous	A/-
<i>SDS</i>		17:61031090^61031091	Insertion	-	Homozygous	-/-
		17:61032953..61032957	Deletion	AAAAA	Heterozygous	AAAAA/-
		17:61032953..61032957	Deletion	AAAAA	Homozygous	-/-
		17:61037847..61037854	Deletion	CACACACA	Homozygous	-/-
		17:61037847..61037854	Deletion	CACACACA	Heterozygous	CACACACA/-
		17:61037880..61037893	Deletion	ACACACACACA CAA	Heterozygous	ACACACACACACAA/-
		17:61037880..61037893	Deletion	ACACACACACA CAA	Homozygous	-/-
		17:61040559^61040560	Insertion	-	Homozygous	-/-
		17:61040559^61040560	Insertion	-	Heterozygous	-/TTTT
		17:61040559^61040560	Insertion	-	Heterozygous	-/TTTT
		17:61040559^61040560	Insertion	-	Homozygous	TTTT/TTTT
		21:45640047	SNP	T	Heterozygous	T/C
		21:45640047	SNP	T	Homozygous	T/T
		21:45640048	SNP	C	Homozygous	C/C
		21:45640048	SNP	C	Heterozygous	C/A
		21:45642471	SNP	C	Homozygous	C/C
		21:45642478	SNP	A	Homozygous	A/A
<i>Healthy</i>		21:45640366..45640368	Deletion	AAA	Heterozygous	AAA/AA
	<i>NFKB1A</i>	21:45640366..45640368	Deletion	AAA	Heterozygous	AAA/-
		21:45642501^45642502	Insertion	-	Homozygous	-/-
		21:45642501^45642502	Insertion	-	Homozygous	G/G
		21:45642508^45642509	Insertion	-	Heterozygous	-/CCCG
		21:45642508^45642509	Insertion	-	Heterozygous	-/CCCG

	21:45642508^45642509	Insertion	-	Homozygous	-/-
	21:45642508^45642509	Insertion	-	Heterozygous	-/CCG
	21:45642508^45642509	Insertion	-	Heterozygous	-/CCG
	23:25837473	SNP	T	Homozygous	T/T
	23:25837473	SNP	T	Heterozygous	T/A
	23:25837479	SNP	T	Homozygous	T/T
	23:25837479	SNP	T	Heterozygous	T/C
	23:25837492	SNP	C	Homozygous	C/C
	23:25837492	SNP	C	Heterozygous	C/T
	23:25837497	SNP	T	Homozygous	T/T
	23:25837497	SNP	T	Heterozygous	T/G
	23:25837511	SNP	C	Homozygous	C/C
	23:25837511	SNP	C	Heterozygous	C/A
	23:25837538	SNP	A	Homozygous	A/A
	23:25837540	SNP	T	Homozygous	T/T
	23:25837548	SNP	C	Homozygous	C/C
	23:25837581	SNP	G	Homozygous	G/G
	23:25837610	SNP	G	Homozygous	G/G
	23:25837662	SNP	C	Homozygous	C/C
	23:25837697	SNP	G	Homozygous	G/G
	23:25837785	SNP	A	Heterozygous	A/G
	23:25837869	SNP	C	Homozygous	C/C
	23:25837870	SNP	A	Homozygous	A/A
	23:25837884	SNP	A	Homozygous	A/A
	23:25837905	SNP	T	Homozygous	T/T
	23:25837916	SNP	C	Homozygous	C/C
	23:25837926	SNP	C	Homozygous	C/C
	23:25838132	SNP	A	Homozygous	A/A
	23:25838213	SNP	A	Homozygous	A/A
	23:25838406	SNP	G	Homozygous	G/G
	23:25838468	SNP	A	Homozygous	A/A
	23:25839000	SNP	G	Homozygous	G/G
<i>BoLA-DRA</i>	23:25839000	SNP	G	Heterozygous	G/-
	23:25839000	Deletion	G	Heterozygous	G/-
	23:25839069	SNP	G	Homozygous	G/G
	23:25840385	SNP	C	Homozygous	C/C
	23:25840385	SNP	C	Heterozygous	C/-
	23:25840385	Deletion	C	Heterozygous	C/-

23:25838992..25838996	Deletion	CAGGC	Heterozygous	CAGGC/-
23:25839030^25839031	Insertion	-	Heterozygous	-/TT
23:25839030^25839031	Insertion	-	Heterozygous	-/TT
23:25839030^25839031	Insertion	-	Heterozygous	-/T
23:25839030^25839031	Insertion	-	Heterozygous	-/T
23:25839030^25839031	Insertion	-	Homozygous	T/T
23:25839030^25839031	Insertion	-	Heterozygous	T/TT
23:25839030^25839031	Insertion	-	Homozygous	-/-
23:25839747..25839748	Insertion	TT	Heterozygous	TT/TTT
23:25839747..25839748	Insertion	TT	Heterozygous	TT/TTTTT
23:25839747..25839748	Deletion	TT	Heterozygous	TT/-
23:25839747..25839748	Deletion	TT	Heterozygous	-/TTT
23:25839747..25839748	Insertion	TT	Heterozygous	-/TTT
23:25840977..25840978	Deletion	TG	Heterozygous	TG/-
23:25840977..25840978	Deletion	TG	Homozygous	-/-
23:25841513^25841514	Insertion	-	Heterozygous	-/T
23:25841513^25841514	Insertion	-	Heterozygous	-/T
23:25841513^25841514	Insertion	-	Homozygous	T/T
23:25841513^25841514	Insertion	-	Homozygous	-/-
23:25841967..25841974	Deletion	ACACACAC	Heterozygous	ACACACAC/-
23:25841967..25841974	Insertion	ACACACAC	Heterozygous	ACACACAC/ACACACACACAC
23:27113567^27113568	Insertion	-	Homozygous	-/-
23:27113567^27113568	Insertion	-	Heterozygous	-/AT

Supplementary Table 5.S22: Variants found in differentially expressed (FDR < 0.05, |FC| > 2) candidate mRNA isoforms not fixed or uniquely present in either the mastitic or healthy milk somatic cell samples from 6 Holstein dairy cows

Health Category	Gene	Position	Type	Reference	Zygoty	Genotype
Mastitis	<i>SMARCA4</i>	7:15487606	SNP	G	Homozygous	A/A
		7:15487606	SNP	G	Heterozygous	G/A
		7:15487612	SNP	G	Homozygous	G/G
		7:15487612	SNP	G	Heterozygous	G/A
		7:15487948	SNP	C	Homozygous	C/C
		7:15487974	SNP	A	Heterozygous	A/T
		7:15487974	SNP	A	Homozygous	A/A
		7:15488243	SNP	T	Homozygous	T/T
		7:15487964^15487965	Insertion	-	Homozygous	T/T
		7:15491520..15491522	Deletion	TCT	Heterozygous	TCT/-
		7:15491911^15491912	Insertion	-	Homozygous	-/-
		7:15491911^15491912	Insertion	-	Heterozygous	-/T
		10:73836467	SNP	C	Homozygous	C/C
		10:73837431	SNP	T	Homozygous	T/T
	10:73837431	SNP	T	Heterozygous	T/C	
	10:73838734	SNP	T	Homozygous	T/T	
	10:73839994	SNP	C	Homozygous	C/C	
	10:73840075	SNP	T	Homozygous	T/T	
	<i>HIF1A</i>	10:73837651^73837652	Insertion	-	Homozygous	GGG/GGG
		10:73837651^73837652	Insertion	-	Homozygous	G/G
		10:73837651^73837652	Insertion	-	Homozygous	-/-
		10:73837896^73837897	Insertion	-	Homozygous	C/C
		10:73837896^73837897	Insertion	-	Homozygous	-/-
		10:73839859^73839860	Insertion	-	Homozygous	G/G
		10:73839859^73839860	Insertion	-	Homozygous	-/-
		10:73841906^73841907	Insertion	-	Homozygous	A/A
		25:3054980	SNP	G	Homozygous	G/G
		25:3054980	SNP	G	Heterozygous	G/A
	<i>CREBBP</i>	25:3055665	SNP	G	Homozygous	G/G
		25:3055665	SNP	G	Heterozygous	G/C
7:15489783..15489790		Deletion	CCCGGCC	Heterozygous	CCCGGCC/-	
7:15488318		SNP	G	Homozygous	G/G	
<i>SMARCA4</i>	7:15488318	SNP	G	Heterozygous	G/A	
	7:15488380	SNP	C	Homozygous	C/C	

	7:15491520..15491522	Deletion	TCT	Homozygous	-/-
	7:15491520..15491522	Deletion	TCT	Heterozygous	TCT/-
	10:73836467	SNP	C	Homozygous	C/C
	10:73836470	SNP	T	Homozygous	T/T
	10:73836871	SNP	T	Homozygous	T/T
	10:73836871	SNP	T	Heterozygous	T/C
	10:73837431	SNP	T	Homozygous	T/T
	10:73837431	SNP	T	Heterozygous	T/C
	10:73838734	SNP	T	Homozygous	T/T
	10:73839994	SNP	C	Homozygous	C/C
	10:73840075	SNP	T	Homozygous	A/A
	10:73840075	SNP	T	Homozygous	T/T
	10:73840075	SNP	T	Heterozygous	T/A
	10:73841061	SNP	C	Homozygous	T/T
	10:73841061	SNP	C	Heterozygous	C/T
	10:73842222	SNP	C	Heterozygous	C/CC
	10:73842222	Insertion	C	Heterozygous	C/CC
	10:73842222	Insertion	C	Homozygous	CC/CC
	10:73842222	Deletion	C	Heterozygous	-/CC
	10:73842222	Insertion	C	Heterozygous	-/CC
	10:73842222	Insertion	C	Heterozygous	CC/CCC
	10:73865441	Deletion	T	Heterozygous	T/-
	10:73868879	SNP	G	Heterozygous	G/-
<i>HIF1A</i>	10:73868879	Deletion	G	Heterozygous	G/-
	10:73868879	SNP	G	Homozygous	G/G
	10:73868879	Deletion	G	Homozygous	-/-
	10:73877567	Deletion	T	Homozygous	-/-
	10:73877567	SNP	T	Homozygous	T/T
	10:73877567	SNP	T	Heterozygous	T/-
	10:73877567	Deletion	T	Heterozygous	T/-
	10:73837651^73837652	Insertion	-	Homozygous	GGG/GGG
	10:73837651^73837652	Insertion	-	Homozygous	G/G
	10:73837651^73837652	Insertion	-	Homozygous	-/-
	10:73837651^73837652	Insertion	-	Heterozygous	G/GGG
	10:73837896^73837897	Insertion	-	Homozygous	-/-
	10:73839859^73839860	Insertion	-	Homozygous	G/G
	10:73839859^73839860	Insertion	-	Homozygous	-/-
	10:73839859^73839860	Insertion	-	Heterozygous	-/G

Healthy

CREBBP

10:73841243..73841244	Deletion	AC	Heterozygous	AC/-
10:73847433..73847435	Deletion	AGA	Heterozygous	AGA/-
10:73848341^73848342	Insertion	-	Homozygous	T/T
10:73848341^73848342	Insertion	-	Homozygous	-/-
10:73848341^73848342	Insertion	-	Heterozygous	-/T
10:73849510..73849511	Deletion	AT	Homozygous	-/-
10:73849510..73849511	Deletion	AT	Heterozygous	AT/-
25:3056832	SNP	G	Homozygous	G/G
25:3057045	SNP	A	Heterozygous	A/G
25:3057045	SNP	A	Homozygous	A/A
25:3061637	SNP	A	Heterozygous	A/AA
25:3061637	Insertion	A	Heterozygous	A/AA
25:3061637	Insertion	A	Heterozygous	AA/AAAA
25:3061637	Insertion	A	Homozygous	AA/AA
25:3069926	SNP	G	Homozygous	G/G
25:3115669	Deletion	C	Heterozygous	C/-
25:3132837	SNP	A	Heterozygous	A/-
25:3132837	Deletion	A	Heterozygous	A/-
25:3132837	SNP	A	Heterozygous	A/AA
25:3132837	Insertion	A	Heterozygous	A/AA
25:3132837	SNP	A	Homozygous	A/A
25:3136480	Deletion	A	Heterozygous	A/-
25:3136480	SNP	A	Homozygous	A/A
25:3056185..3056196	Deletion	TGCTGCTGCTGT	Heterozygous	TGCTGCTGCTGT/-
25:3072870..3072871	Deletion	AC	Heterozygous	AC/-
25:3072870..3072871	Insertion	AC	Heterozygous	AC/ACACACAC
25:3072870..3072871	Insertion	AC	Heterozygous	AC/ACACAC
25:3075714^3075715	Insertion	-	Homozygous	T/T
25:3075714^3075715	Insertion	-	Heterozygous	-/T
25:3075714^3075715	Insertion	-	Homozygous	-/-
25:3090371..3090373	Deletion	GGG	Heterozygous	GG/GGGG
25:3090371..3090373	Insertion	GGG	Heterozygous	GG/GGGG
25:3090371..3090373	Deletion	GGG	Heterozygous	GGG/GG
25:3104682^3104683	Insertion	-	Homozygous	-/-
25:3104682^3104683	Insertion	-	Homozygous	C/C
25:3104682^3104683	Insertion	-	Heterozygous	-/C
25:3108342^3108343	Insertion	-	Homozygous	A/A
25:3108342^3108343	Insertion	-	Heterozygous	-/A

25:3108342^3108343	Insertion	-	Heterozygous	A/AA
25:3118971..3118974	Deletion	AGTT	Heterozygous	AGTT/-
25:3124870..3124875	Insertion	GTGTGT	Heterozygous	GTGTGT/GTGTGTGTGT
25:3136531..3136535	Deletion	ATTAA	Heterozygous	ATTAA/-
25:3137822..3137831	Insertion	TATATATATA	Heterozygous	TATATATATATATATATA /TATATATA
25:3137822..3137831	Deletion	TATATATATA	Heterozygous	TATATATATATATATATA /TATATATA
25:3137822..3137831	Deletion	TATATATATA	Heterozygous	TATATATATA/TATATAT A
25:3137822..3137831	Insertion	TATATATATA	Homozygous	TATATATATATATATATA /TATATATATATATATAT A
25:3137822..3137831	Insertion	TATATATATA	Heterozygous	TATATATATA/TATATAT ATATATATATA
25:3139969..3139973	Deletion	GCAGG	Heterozygous	GCAGG/-
25:3143872^3143873	Insertion	-	Homozygous	A/A
25:3143872^3143873	Insertion	-	Heterozygous	-/A
25:3163302..3163313	Deletion	GTGTGTGTGTGT	Homozygous	GTGTGTGT/GTGTGTGT
25:3163302..3163313	Deletion	GTGTGTGTGTGT	Heterozygous	-/GTGTGTGTGTGTGT
25:3163302..3163313	Insertion	GTGTGTGTGTGT	Heterozygous	-/GTGTGTGTGTGTGT
25:3163302..3163313	Insertion	GTGTGTGTGTGT	Heterozygous	GTGTGTGTGTGT/GTGTG TGTGTGTGT
25:3163359..3163362	Deletion	TCTC	Heterozygous	TCTC/-
25:3164009..3164010	Deletion	AA	Heterozygous	AA/-
25:3172393..3172394	Deletion	AT	Heterozygous	AT/-

Supplementary Table 5.S23: Variants found in differentially expressed (FDR < 0.05, |FC| > 2) candidate lncRNA not fixed or uniquely present in either the mastitic or healthy milk somatic cell samples from 6 Holstein dairy cows

Health Category	Gene	Region	Type	Reference	Zygoty	Genotype
Mastitis	<i>Gene_577</i>	10:73868879	SNP	G	Heterozygous	G/-
		10:73868879	Deletion	G	Heterozygous	G/-
		10:73868879	SNP	G	Homozygous	G/G
		10:73868879	Deletion	G	Homozygous	-/-
		10:73877567	Deletion	T	Homozygous	-/-
		10:73877567	SNP	T	Homozygous	T/T
		10:73862659..73862660	Deletion	GT	Heterozygous	GT/-
		10:73888064..73888066	Deletion	AAA	Heterozygous	AAA/-
		10:73890340..73890342	Deletion	TTT	Homozygous	-/-
		10:73878504	SNP	C	Homozygous	T/T
		10:73878504	SNP	C	Homozygous	C/C
		10:73878504	SNP	C	Heterozygous	C/T
		10:73879053	SNP	T	Homozygous	T/T
		10:73879696	SNP	T	Homozygous	A/A
		10:73879903	SNP	T	Homozygous	T/T
	<i>Gene_2901</i>	16:75132902	SNP	T	Homozygous	T/T
		10:73877567	Deletion	T	Homozygous	-/-
		10:73877567	SNP	T	Homozygous	T/T
		10:73877567	SNP	T	Heterozygous	T/-
		10:73877567	Deletion	T	Heterozygous	T/-
		10:73859160	SNP	G	Homozygous	A/A
		10:73859160	SNP	G	Homozygous	G/G
		10:73859160	SNP	G	Heterozygous	G/A
		10:73860094	SNP	C	Homozygous	C/C
		10:73860345	SNP	C	Homozygous	C/C
		10:73869860	SNP	T	Homozygous	G/G
		10:73869860	SNP	T	Heterozygous	T/G
	<i>Gene_577</i>	10:73871480	SNP	T	Homozygous	C/C
		10:73871480	SNP	T	Homozygous	T/T
		10:73874734	SNP	C	Homozygous	T/T
		10:73874734	SNP	C	Homozygous	C/C
		10:73874734	SNP	C	Heterozygous	C/T
		10:73878504	SNP	C	Homozygous	T/T
10:73878504		SNP	C	Homozygous	C/C	
10:73878504		SNP	C	Heterozygous	C/T	
10:73878504		SNP	C	Homozygous	T/T	
10:73878504		SNP	C	Heterozygous	C/T	
Healthy						

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	10:73879053	SNP	T	Homozygous	T/T
	10:73879053	SNP	T	Heterozygous	T/C
	10:73879696	SNP	T	Homozygous	A/A
	10:73879903	SNP	T	Heterozygous	T/G
	10:73881114	SNP	T	Homozygous	T/T
	15:6409191	SNP	C	Homozygous	C/C
	15:6409323	SNP	C	Homozygous	C/C
	15:6409323	SNP	C	Heterozygous	C/G
	15:6409351	SNP	G	Homozygous	G/G
<i>Gene_1450</i>	15:6409735	SNP	T	Homozygous	T/T
	15:6410953	SNP	T	Homozygous	T/T
	15:6411335	SNP	G	Homozygous	G/G
	15:6411557	SNP	G	Homozygous	G/G
	15:6411562	SNP	T	Homozygous	T/T
	15:6411563	SNP	C	Homozygous	C/C
	16:75132927	SNP	A	Homozygous	A/A
<i>Gene_2901</i>	16:75132927	SNP	A	Heterozygous	A/T
	16:75132927	SNP	A	Homozygous	T/T
	16:75133907	SNP	G	Homozygous	G/G
