

Supplementary Material

Endocrine Signals Altered by Heat Stress Impact Dairy Cow Mammary Cellular Processes at Different Stages of the Dry Period

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Table S1. Primers used in quantitative real-Time PCR assay gene expression.

Gene	Primer	Sequence (5'-3')	Accession No.
ACTB	Forward	ACACCTTCTACAATGAGCTG	NM_173979.3
	Reverse	CTGCTTGCTGATCCACATCT	
AIFM1	Forward	GGCTTCCTTGGTAGCGAACTGG	NM_001192984.1
	Reverse	GTCCAGTTGCTGAGGTATTCGG	
AKT1	Forward	CTGCACAAGCGAGGTGAGTA	NM_173986.2
	Reverse	GAGAAGTTGTTGAGGGGCGA	
AKT2	Forward	CATCCTCATGGAAGAGATCCGC	NM_001206146.1
	Reverse	GAGGAAGAACCTGTGCTCCATG	
AMBRA1	Forward	CTCTTCCTCAGACAACCAGGGT	NM_001034522.2
	Reverse	TCCAAGCGAAGGTGCAGACATC	
APAF1	Forward	GCCAAGCAGGAGGTGATAATG	NM_001191507.1
	Reverse	GACCATCCTCAGAAAAGCAGGC	
ATG3	Forward	GGTTGTTCCGGCTATGATGAG	NM_001075364.1
	Reverse	GGGAGATGAGGGTGATTTTC	
ATG5	Forward	TTTGAATATGAAGGCACACC	NM_001034579.2
	Reverse	TGTAAACCCATCCAGAGTTG	
ATG7	Forward	CGTTGCCACAGCATCATCTTC	NM_001083795.2
	Reverse	CACTGAGGTTCAACCATCCTTGG	
BACH2	Forward	CTGCCGCAAAGGAAACTGGAC	XM_024996978.1
	Reverse	GGAAAGGCAGGAGAAGTTGTCC	
BAD	Forward	TCCCAGAGTTTGAGCAGAGTG	NM_001035459.2
	Reverse	TTAGCCAGTGCTTGCTGAGAC	
BAX	Forward	GGGTTGTCGCCCTTTTCTACTT	NM_173894.1
	Reverse	CGCTCTCGAAGGAAGTCCAATG	
BCL2	Forward	ACAGCATCGCCCTGTGGATG	NM_001166486.1
	Reverse	GTGCCTTCAGAGACAGCCAG	
BECN1	Forward	GATGGAATAGGAACCACCAC	NM_001033627.2
	Reverse	AGTTGAGAAAGGCGAGACAC	
BNIP3	Forward	TCAGCATGAGGAACACGAGCGT	NM_001076366.1
	Reverse	GAGGTTGTCAGACGCCTTCCAA	
BRAF	Forward	AACGAGACCGATCCTCATCAGC	XM_024991194.1
	Reverse	GGTAGCAGACAAACCTGTGGTTG	
CASP3	Forward	TGAAATACGAAGTCAGGATTA	NM_001077840.1
	Reverse	GTCCGTTGGTTCCAAAAATG	
CASP8	Forward	TTTAGCATAGCACGGAAGCA	NM_001045970.2
	Reverse	TATCCAAAGCGTCTGCATCA	
CASP9	Forward	GTTTGAGGACCTTCGACCAGCT	NM_001205504.1
	Reverse	CAACGTACCAGGAGCCACTCTT	
CD4	Forward	CGGAATTCGCCCCTTCTCCAGCAGAT	NM_001103225.1
	Reverse	CCGCTCGAGGATGGCAACACAAAGC	
CDKN1B	Forward	TGTCAAACGTGCGAGTGTCTA	NM_001100346.1
	Reverse	CTCTGCAGTGCTTCTCCAAGT	
CREB1	Forward	GACCACTGATGGACAGCAGATC	NM_174285.1
	Reverse	GAGGATGCCATAACAACCTCCAGG	
CSN2	Forward	GCTATGGCTCCTAAGCACAAAGA	BC_111172.1
	Reverse	GGAAACATGACAGTTGGAGGAAG	
CXCL2	Forward	GGCAGAAAGCTTGTCTCAACCC	NM_174299.3
	Reverse	CTCCTTCAGGAACAGCCACCAA	
CXCL8	Forward	GAGAGTGATTGAGAGTGGACCAC	NM_173925.2
	Reverse	CACAACCCTCTGCACCCAGTTT	
DACT2	Forward	CTACACCAGGAGCGACTCAGAG	XM_024997160.1
	Reverse	ACTCACGGTCTCCGAATCGGTT	
EGF	Forward	TGCGATGCCAAGCAGTCTGTGA	XM_024993778.1
	Reverse	GCATAGCCCAATCTGAGAACCAC	

ESR1	Forward	GCTTACTGACCAACCTGGCAGA	NM_001001443.1
	Reverse	GGATCTCTAGCCAGGCACATTC	
ESR2	Forward	ATGGAGTCTGGTCGTGTGAAGG	NM_174051.3
	Reverse	TAACACTTCCGAAGTCGGCAGG	
Fas	Forward	GGACCCAGAATACCAAGTGCAG	NM_174662.2
	Reverse	GTTGCTGGTGAGTGTGCATTCC	
FASLG	Forward	GGTTCTGGTTGCCTTGGTAGGA	NM_001098859.2
	Reverse	CTGTGTGCATCTGGCTGGTAGA	
FOXO3	Forward	TCTACGAGTGGATGGTGC GTTG	NM_001206083.1
	Reverse	CTCTTGCCAGTTCCTCATTCTG	
GAPDH	Forward	TGACCCCTTCATTGACCTTC	NM_001034034.2
	Reverse	TACTCAGCACCAGCATCACC	
GPER1	Forward	TTCCGCGAGAAGATGACCATCC	XM_024985174.1
	Reverse	TAGTACCGCTCGTGCAGGTTGA	
GRB2	Forward	GAAATGCTTAGCAAACAGCGGCA	NM_001034630.1
	Reverse	TCCATCTCGGAGCACCTTGAAG	
HPRT1	Forward	CATTATGCTGAGGATTTGGAAAGG	NM_001034035.2
	Reverse	CTTGAGCACACAGAGGGCTACA	
HRAS	Forward	ACGCACTGTGGAATCTCGGCAG	NM_001242347.1
	Reverse	TCACGCACCAACGTGTAGAAGG	
HSD17B6	Forward	CCAGCATTCTGGGAAGAGTTGC	NM_001035395.2
	Reverse	CCGTTCTGAAGTAGCCAGGTTT	
HSF1	Forward	CAGCTGATGAAGGGGAAGCA	NM_001076809.1
	Reverse	TGGATGAGCTTGTGACGACT	
HSP90AA1	Forward	TCTGCCTCTGGTGATGAGATGG	NM_001012670.2
	Reverse	CGTTCCACAAAGGCTGAGTTAGC	
HSPA1A	Forward	ACCTTCGACGTGTCCATCCTGA	NM_203322.3
	Reverse	TCCTCCACGAAGTGGTTCACCA	
IGFBP3	Forward	CGCTACAAAGTTGACTACGAGTC	NM_174556.1
	Reverse	GTCTTCCATTTCTCTACGGCAGG	
IGFBP5	Forward	CGTGCTGTGTACCTGCCCAATT	NM_001105327.2
	Reverse	ACTTGTCCACGCACCAGCAGAT	
IL1A	Forward	TGTATGTGACTGCCCAAGATGAAG	NM_174092.1
	Reverse	AGAGGAGGTTGGTCTCACTACC	
IL1B	Forward	CCACAGACCTTCCAGGAGAATG	NM_174093.1
	Reverse	GTGCAGTTCAGTGATCGTACAGG	
IL-6	Forward	AGACAGCCACTCACCTCTCAG	NM_173923.2
	Reverse	TTCTGCCAGTGCCTCTTTGCTG	
INSIG1	Forward	TTTTCTCAGGAGGCGTCACGGT	NM_001077909.1
	Reverse	TCCTTGCTCTCAGAATCGGTGG	
LBP	Forward	TCAGCATCTCCGACTCCTCCAT	NM_001038674.2
	Reverse	CAGGAGGTTGACCGAAATGCTG	
LCA5	Forward	ATCGTCTGCCAAAGTCCTCTCC	NM_001195068.1
	Reverse	CTTCTGGCTTGAAGTCTTCCATG	
LPL	Forward	CTGCTGGCATTGCAGGAAGTCT	NM_001075120.1
	Reverse	CATCAGGAGAAAGACGACTCGG	
MAP1LC3A	Forward	GCTACAAGGGTGAGAAGCAGCT	NM_001046175.1
	Reverse	CTGGTTCACCAGCAGGAAGAAG	
MAP1LC3B	Forward	GAGAAGCAGCTTCTGTTCTGG	NM_001001169.1
	Reverse	GTGTCCGTTACCAACAGGAAG	
MAPK1	Forward	ACACCAACCTCTCGTACATCGG	NM_175793.2
	Reverse	TGGCAGTAGGTCTGGTCTCAA	
MAPK10	Forward	GTGTGGAAGTGGGAGACTCAAC	NM_001318200.1
	Reverse	GTCAAGGACAGCATCATACGCG	
MAPK14	Forward	GAGCGTTACCAGAACCTGTCTC	NM_001102174.1
	Reverse	AGTAACCGCAGTTCTCTGTAGGT	

MAP2K1	Forward	GGTGTTC AAGGTCTCCCACAAG	NM_001130752.1
	Reverse	CCACGATGTACGGAGAGTTGCA	
MAPK3	Forward	TGGCAAGCACTACCTGGATCAG	NM_001110018.1
	Reverse	GCAGAGACTGTAGGTAGTTTCGG	
mTOR	Forward	GGTTAACACCAAGCAGGTTTCAT	XM_002694043.6
	Reverse	GTATGTGCGCACTGGACACCA	
NFKB1	Forward	GCAGCACTACTTCTTGACCACC	NM_001076409.1
	Reverse	TCTGCTCCTGAGCATTGACGTC	
PCNA	Forward	CCTTGGTGCAGCTAACCCCTT	NM_001034494.1
	Reverse	TTGGACATGCTTGGTGAGGTT	
PDK1	Forward	CATGTCACGCTGGGTAATGAGG	NM_001205957.1
	Reverse	CTCAACACGAGGCTTGGTGCA	
PIK3CB	Forward	GGTAATCGGAGGATAGGGCAGT	NM_001206047.1
	Reverse	CGGCAGTATGCTTCAAGGATGAC	
PIK3R2	Forward	ATGGCACCTTCCTAGTCCGAGA	NM_174576.2
	Reverse	CTCTGAGAAGCCATAGTGCCCA	
PRKACA	Forward	CCACTATGCCATGAAGATCCTCG	NM_174584.2
	Reverse	CGAGTTTGACGAGGAACGGAAAG	
PRL	Forward	GAGGAGCAAACCAAACGGCTTC	NM_173953.2
	Reverse	AAGGCGAGACTCTTCATCAGCC	
PRLR (long)	Forward	AAGGCCATGTGGAAGATTG	NM_001039726.2
	Reverse	GATGACTGTGAGGACCAGCA	
PRLR (short)	Forward	AGGTGACACTATAGAATAAGCAAC	NM_174155.3
	Reverse	GTACGACTCACTATAGGGAAAGGC	
PTEN	Forward	TGAGTTCCTCAGCCGTTACCT	NM_001319898.1
	Reverse	GAGGTTTCCTCTGGTCCTGGTA	
PTGES	Forward	GAGGATGCCCTGAGACACGGA	NM_174443.2
	Reverse	CCAGAAAGGAGTAGACGAAGCC	
RAC1	Forward	CGGTGAATCTGGGCTTATGGGA	NM_174163.2
	Reverse	GGAGGTTATATCCTTACCGTACG	
RHEB	Forward	CTATCTTTCCTCAGACATACTCCA	NM_001031764.2
	Reverse	CACCATATCCAACAATTTGCCATG	
RHOA	Forward	TCTGTCCCAACGTGCCCATCAT	NM_176645.3
	Reverse	CTGCCTTCTCAGGTTTCACCG	
RSP9	Forward	GGAGACCCTTCGAGAAGTCC	NM_001101152.2
	Reverse	CTTCTCATCCAGCGTCAGC	
SOCS2	Forward	GGGAACCTCAGTCACACAGGTTGG	NM_177523.2
	Reverse	TGTTAGTAGGTAGTCTGAATGCGAAC	
SOCS3	Forward	AGAAGATCCCCTCTGGTGTGAGC	NM_174466.2
	Reverse	GTGACTTTCCTCGTAGGAGTCCAGG	
SQSTM1	Forward	TGTGTAGCGTCTGCGAGGGAAA	NM_176641.1
	Reverse	AGTGTCCGTGTTTCACCTTCCG	
STAT1	Forward	ATGGCAGTCTGGCGGCTGAATT	NM_00107790.1
	Reverse	CCAAACCAGGCTGGCACAATTG	
STAT3	Forward	CTTGAGACCGAGGTGTATCACC	NM_001012671.2
	Reverse	GGTCAGCATGTTGTACCACAGG	
STAT5A	Forward	GAAACATCACAAAGCCCCATT	NM_001012673.1
	Reverse	TGAAGCGCAACAAGAAGGTA	
STAT5B	Forward	GTTTCGTGAACAAGCAACAGGC	NM_174617.4
	Reverse	GGCATCAGATTCCAAAACATTCCTTCC	
TEAD4	Forward	GAAGGTCTGCTCTTTCGGCAAG	XM_010805630.3
	Reverse	GAGGTGCTTGAGCTTGTGGATG	
TEKT3	Forward	GGACAAGACTGCCTTCTGAAG	NM_001099019.2
	Reverse	GTCTGGATGGTGTCTGCAACCT	
TFEB	Forward	CCTGGAGATGACCAACAAGCAG	NM_001205666.1
	Reverse	TAGGCAGCTCCTGCTTACCAC	

TGFB1	Forward	CCTGAGCCAGAGGGGACTAC	NM_001166068.1
	Reverse	GCTCGGACGTGTTGAAGAAC	
TGFB3	Forward	CTAAGCGGAATGAGCAGAGGATC	NM_001101183.1
	Reverse	TCTCAACAGCCACTCACGCACA	
TLR4	Forward	ACTGCAGCTTCAACCGTATC	NM_174198.6
	Reverse	TAAAGGCTCTGCACACATCA	
TNF	Forward	TAACAAGCCGGTAGCCCACG	NM_173966.3
	Reverse	TCTTGATGGCAGACAGGATG	
TNFR1	Forward	CCGCTTCAGAAAACCACCTCAG	NM_174674.2
	Reverse	ATGCCGGTACTGGTTCTTCCTG	
ULK1	Forward	GCAAGGACTCTTCCTGTGACAC	NM_001205927.1
	Reverse	CCACTGCACATCAGGCTGTCTG	
VEGFA	Forward	TTGCCTTGCTGCTCTACCTCCA	NM_001316956.1
	Reverse	GATGGCAGTAGCTGCGCTGATA	
WIF1	Forward	GGTGCCGAAATGGAGGCTTTTG	NM_001075996.1
	Reverse	GATGCAGAAACCAGGAGTCACAC	
