

1 **Supplemental files**

2

3 **Table S1. Primers used for Real time PCR.**

Gene Name	Sense (5'to 3')	Anti-sense(5'to 3')
CDK1	GAAGTGTGGCCAGAAGTGGA	CGAGAGCAGATCCAAGCCAT
CDK2	TCTTTGCTGAGATGGTGACCC	TAACTCCTGGCCAAACCACC
CDK4	GAGCTGGAGGAATCTGGAGCAC	AGGGCTCGGAAGGCAGAGAT
CDK6	CGGAAGTCCTGCTTCAGTCCA	TAGGGCAACATCTCTAGGCCAGTC
CyclinA2	CCCTGCATTTGGCTGTGAACTA	CTGCTACTTCTGGCGGGTATATCTC
CyclinD2	CTCCTGGCAAAGATCACCAACA	GCTATTCAGCAGCACCACCTCA
CyclinE2	GGGACAAGCACCTTATGCAAC	GTGTTGCCATATAACCGATCAAAGA
CDKN1A (p21)	TTGCACTTTGAATAACAGCTGAAGG	CAAGTGGTTCAGCGCAAGGA
CDKN1B (p27)	GAAGGCGTCAGACGTAAACCAC	GTCCATTCTTGGAGTCAGCGATA
CDKN1C (p57)	CCGCACCTTTCCCATGATCG	AAGTTGTAGTCCCAGCGACG
CDKN2A (p16)	AGCTCGGACCTAAAGAAAGATTGA	GGACACCTGGGAAGAACTGG
CDKN2B (p15)	GGACCCGGAAGTCACCTCAA	CTCGCCGTAACAACAGCAAATG
CDKN2C (p18)	GAACCTGCCTTTGCACTTGG	TCCCTCCATCAGGCTAACGA
CDKN2D (p19)	GCACTGGATTCTCGACACT	GAAGTGTGGCCCTCTCTCAC
SMAD3	GGAAAAAGGGCGAGCAGAAC	GGGATGGTGATGCACTTGGT
GAPDH	AAATGGTGAAGGTCGGTGTGAAC	CAACAATCTCCACTTTGCCACTG

NFKBIZ	CCTGGCCTACTTCTATGGCG	CTGCTGCCTTACAACCTCCCA
NCAM1	TGGAGGGCATTGTCACCATC	TTCGAGCTTAGGTGCACTGG
ADGRL2	GCCAGTGTTTGCTGGTGATG	TGCCTTAAGGTAAGCCCTGC
RPS6KL1	TGGAGTCTGAAGGAGGAGCA	TAGGGCCCACTCATCTGCC
NAALAD2	ATTCTGGGAGGTCATCGGGA	CACTTCGCTCCTGGAGTGTT
FOS	AGAAGTCGGCTTTGCAGACA	GGCTCAGGGTCATTGAGGAG
ARRDC2	TTCGTAGTGCTGCTGGATGG	CTCGCTGTAGCTCTGCGTAT
GSTZ1	CCTCATCGCCAGTGGTATCC	TGATGGTAGGGTAGGGGGTG
COQ7	ATCTATGCAGGGCAGATGGC	TGTGCGATGGACTCTTCCAC
Krt75	TATTGGCAGTGGAAGCCTGG	GGACGTGGTGGAGACAAACT
POLD3	CCAGAACAAGATCGTGACATACA	GTCACCGCTAGCTTGGACTT
TMEM206	GAAATCCGCCCTGATTGTGC	ATGAAGCCAGCTCTGTCTGG

1 **Table S2. Primers used for ChIP- qPCR**

Gene Name	Sense (5' to 3')	Anti-sense(5' to 3')
ChCDKN1C	AGTGACGTGATAGGCACAGC	TTGAGGGCCAGCTGTAATCG

2

3 **Table S3. Summary of transcripts of cattle muscle tissues**

Sample	Clean reads	Total mapped	Multiple mapped	Uniquely mapped
A1	50 490 082	48 376 558 (96.25%)	1 470 893 (2.93%)	46 905 665 (93.32%)
A2	45 893 720	42 500 571 (93.65%)	1 330 621 (2.93%)	41 169 950 (90.72%)
A3	48 796 472	46 783 195 (96.71%)	1 379 968 (2.85%)	45 403 227 (93.86%)
B1	45 036 260	43 247 609 (96.41%)	1 308 220 (2.92%)	41 939 389 (93.49%)
B2	56 484 008	54 395 228 (96.72%)	1 620 120 (2.88%)	52 775 108 (93.84%)
B3	53 854 798	51 292 113 (96.25%)	1 644 735 (3.09%)	49 647 378 (93.16%)

4

5 A:MSTN mutant cattle muscle tissues; B:Wild type controls.