

1 **Title page**

2 **A novel *PAX7* 10-bp indel variant modulates promoter activity, gene
3 expression and contributes to different phenotypes of Chinese cattle**

4 Yao Xu^{1,2}, Tao Shi¹, Yang Zhou¹, Mei Liu¹, Sebastian Klaus³, Xianyong Lan¹,
5 Chuzhao Lei¹, Hong Chen^{1*}

6 ¹ College of Animal Science and Technology, Northwest A & F University, Shaanxi Key
7 Laboratory of Molecular Biology for Agriculture, Yangling, Shaanxi 712100, China

8 ² Institute of Biology and Medicine, College of Life Science and Health, Wuhan University of
9 Science and Technology, Wuhan, Hubei 430081, China

10 ³ Chengdu Institute of Biology, Chinese Academy of Sciences, Chengdu, Sichuan 610041, China

11 *Corresponding Author: Hong Chen

12 Tel: +86-029-87092012.

13 Fax: +86-029-87092164.

14 E-mail: chenhong1212@263.net

15 Address: No.22 Xinong Road,

16 College of Animal Science and Technology,

17 Northwest A&F University,

18 Yangling, Shaanxi 712100, P. R. China.

19

20

21 **Supplementary Table S1 Information of primer sets used in this study.**

Primer name	Primer sequences (5'-3')	Annealing temperature (°C)	Fragment size (bp)
P1	F: GCAGAAGGGTCCGGTCATTC R: ACCTTCCAGGGAAACCCC	61.6	1868
P2	F: CGCGTTACAACCAGCACTTC R: GCCTTCTTCTCCGACCAC	59.2	208/218
pGL3-pro1	F: <u>CTAGCTAGCAAATGGGGCTCCCTCCT</u> R: <u>CTAAGCTTAAAACCGCTTCCGTCC</u>	60.5	1680
pGL3-pro2	F: <u>GTGGTACCCGGCAAGAACAGGACA</u> R: <u>CTAAGCTTAAAACCGCTTCCGTCC</u>	66.3	1355
pGL3-pro3	F: <u>GTGGTACCCCTACCCGGCGATCGCTCT</u> R: <u>CTAAGCTTAAAACCGCTTCCGTCC</u>	61.7	743
pGL3-pro4	F: <u>GTGGTACCCCCGATCCCCCCCCGCCA</u> R: <u>CTAAGCTTAAAACCGCTTCCGTCC</u>	68.9	400
pGL3-pro5	F: <u>GTGGTACCTGTTGTTGAACTCCTC</u> R: <u>CTAAGCTTAAAACCGCTTCCGTCC</u>	64.0	266
pEGFP-ZNF219	F: <u>GGAATTCTATGGAGGGCTACGTCCC</u> R: <u>GGGATCCCTACTTCTGGCCCCCT</u>	66.2	2166
pcDNA3.1-ZNF219	F: <u>GGGATCCATGGAGGGCTCACGTCCC</u> R: <u>GGAATT CCTACCTTCTGGCCCCCT</u>	66.2	2166
qPCR primer			
<i>Pax7</i>	F: GAGGACGAAGCGGACAAGAA R: TACGTTCAAGAGGGAGGTG	60	139
<i>Id2</i>	F: ATCGTTAGCCTGCACCACC R: TCAGCCACAGAGAGCTTGC	60	153
<i>Id3</i>	F: CGCGTCATCGACTACATCCT R: GATCACAAGTCCGGAGCGA	60	117
<i>CXCR4</i>	F: TCTCCTGCCTGGTATCGTCA R: AATGTAGTAGGGCAGCCAGC	60	148
<i>Myf5</i>	F: CCCACCTCAAGTTGCTCTGA R: AGGAGCTTTATCCGTGGCA	60	127
<i>MRF4</i>	F: GGCTGGATCAGCAGGACAAA R: CAGTTATCACGAGCCCCCTG	60	153
<i>MyoD</i>	F: GAACACTACAGCGGCAGTC R: GCTGTAGTAAGTGCGGTG	60	126
<i>MyoG</i>	F: GCAGCGCCATCCAGTACATA R: GAGCTGCATTCACTGGGCA	60	124
<i>GAPDH</i>	F: AATGAAAGGCCATCACCATC R: GTGGTTCACGCCATCACA	60	204

22 The italic and bold bases indicate recognition sites of restriction endonucleases, and the underlined
23 bases were attached nucleotides

24

25