Goat milk derived small extracellular vesicles ameliorate LPS-induced intestinal epithelial barrier dysfunction, oxidative stress, and apoptosis by inhibiting the MAPK signaling pathway

Feng Gao[a, b], Xin Zhang[a, b], Zhiming Xu[a, b], Kang Zhang[a, b], Fusheng Quan[a, b, *]

[a] College of Veterinary Medicine, Northwest A&F University, Yangling, 712100, China.

[b] Key Laboratory of Animal Biotechnology of the Ministry of Agriculture and Rural Affairs, College of Veterinary Medicine, Northwest A&F University, Yangling, 712100, China

Supplementary Material

***** Corresponding authors at: College of Veterinary Medicine, Northwest A&F University, Key Laboratory of Animal Biotechnology of the Ministry of Agriculture and Rural Affairs, Yangling, 712100, China.

E-mail address: quanfusheng@nwsuaf.edu.cn (F. Quan)

Table S1 Primer sequences for RT-qPCR.

Genes	Forward primer	Reverse primer
ZO-1	GAAGCTGGATTCCTAAGACCTG	CCTCCCTTGCTAACTTTTCTCTG
Claudin-1	TCGACTCCTTGCTGAATCTG	GGACACAAAGATTGCGATCAG
Occludin	AAAGCAGGGAAGGCGAAG	TGTTGATCTGAAGTGATAGGTGG
SOD1	GGTGAACCAGTTGTGTTGTC	CCGTCCTTTCCAGCAGTC
GPX4	ATACGCTGAGTGTGGTTTGC	CTTCATCCACTTCCACAGCG
NOX1	AATTCCAGCGTGCACACAAC	GACGTCAGTGGCTCTGTCAA
Mapk7	ACACGACAACATCATCGCCA	TCCAGGACCACGTAGACAGA
Mapk14	CCCGAGCGATACCAGAACCT	TGGCGTGAATGATGGACTGA
Mapk15	TGTTTGAGTCCATGGACACC	GCATCCAATAGAACGTTGGC
Tgfbr3	CTTCCAGGCCACTTTCGCT	TTTCATGGGGTTGACTGGGC
Raf1	GGGACTCCACTGCACTTGC	ACGATCAGCAATGGTTTCGG
Srf	GGCCGCGTGAAGATCAAGAT	CACATGGCCTGTCTCACTGG
GAPDH	TGAAGCAGGCATCTGAGGG	CGAAGGTGGAAGAGTGGGAG

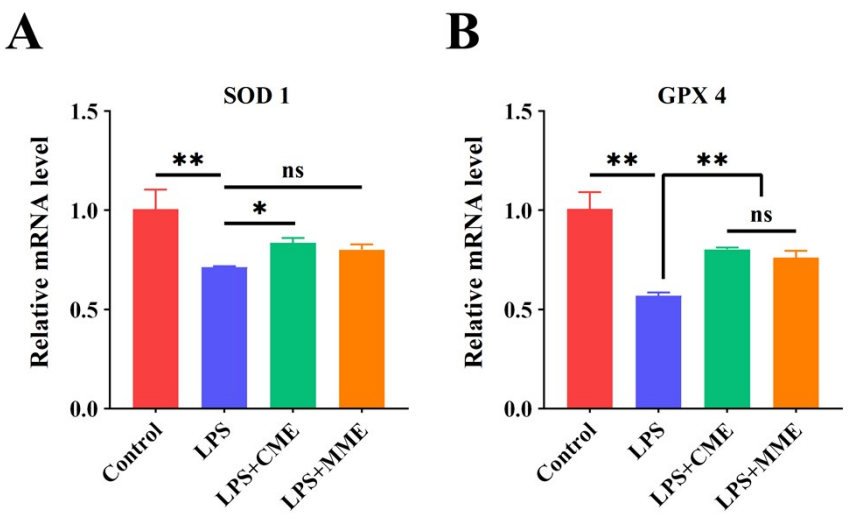

Fig. S1 Effects of CME and MME on LPS-induced oxidative stress in IEC-6. (A) mRNA expression of SOD 1 in IEC-6. (C) mRNA expression of GPX 4 in IEC-6. *, $P<0.05$; **, $P<0.01$.

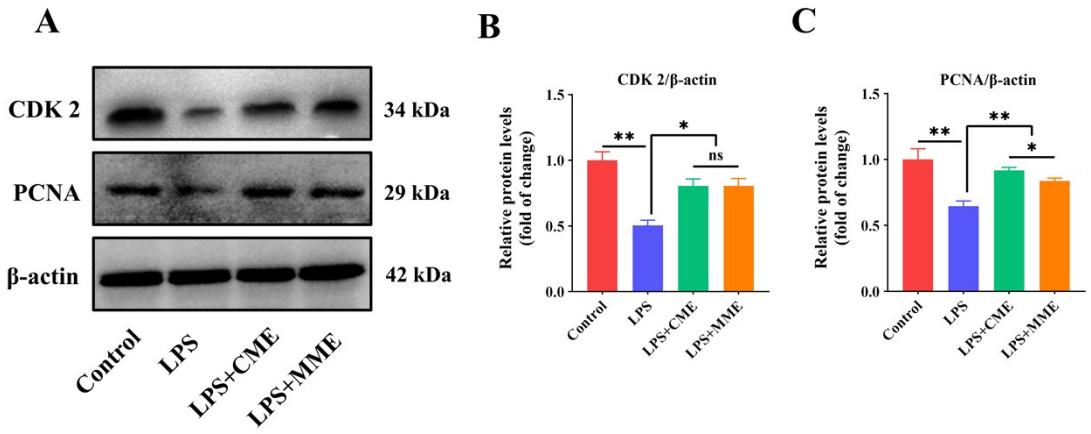

Fig. S2 Effects of CME and MME on LPS-induced proliferation of IEC-6. (A) Western blot analysis of protein expression levels of CDK 2 and PCNA in IEC-6. (G-I) Quantitative analysis of CDK 2 and PCNA protein bands using Image J. *, $P<0.05$; **, $P<0.01$.