

**Table S1.** Whey proteins overexpressed in the XJ and SD samples.

<b>Proteins overexpressed in the XJ samples</b>	<b>Fold Change (XJ/SD)</b>
WAP four-disulfide core domain protein 2 isoform X1	4.63
elafin	4.18
IgGFc-binding protein	3.77
uncharacterized protein LOC106840848	3.70
deleted in malignant brain tumors 1 protein-like, partial	3.32
tissue-type plasminogen activator	3.31
neutrophil gelatinase-associated lipocalin	3.02
prostaglandin-H2 D-isomerase	2.82
clusterin	2.76
ly6/PLAUR domain-containing protein 3	2.76
antileukoproteinase-like	2.61
laminin subunit gamma-1, partial	2.39
probable ATP-dependent RNA helicase YTHDC2 isoform X1	2.29
beta-defensin 1	2.26
protein CYR61	2.23
deleted in malignant brain tumors 1 protein-like isoform X1	2.21
C-reactive protein	2.17
stanniocalcin-2	2.14
thrombospondin-1	2.13
serum amyloid A protein-like	2.01
<b>Proteins overexpressed in the SD samples</b>	<b>Fold Change (SD/XJ)</b>
GDP-mannose 4,6 dehydratase	3.54
protein S100-G	3.40
major allergen Equ c 1-like	2.11
heart-type fatty acid-binding protein	2.09
WAP four-disulfide core domain protein 2-like	2.08
lactoperoxidase	2.01

Note: The level of significance was evaluated based on  $P < 0.05$  and the fold change 2 times cut-off.

**Table S2** Information of potential factors on expression of proteins

<b>Sample</b>	<b>Donkey breed</b>	<b>Lactation period</b>	<b>Climate</b>	<b>Feed</b>
<b>XJ</b>	Jiangyue donkey, which is a hybrid breed by crossing local donkeys with the introduced Guanzhong donkey from Shanxi province	Mature milk	Yopurga County in Xinjiang Province is located in Western China with a relatively dry climate.	Contains alfalfa; does not contain soybean meal and peanut seeds; Calcium and vitamin D3 were not added
<b>SD</b>	Dezhou donkey, which is produced in the counties along the Bohai Sea in the northern Shandong plain	Mature milk	Dong'e County in Shandong Province is located in Eastern China with a humid climate.	Contains soybean meal and peanut seeds; does not contain alfalfa; Calcium and vitamin D3 were added