

Supplementary Information

Lin28a promotes self-renewal and proliferation of dairy goat spermatogonial stem cells (SSCs) through regulation of mTOR and PI3K/AKT

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Figure S1 The sequence of *Capra hircus* Lin28a

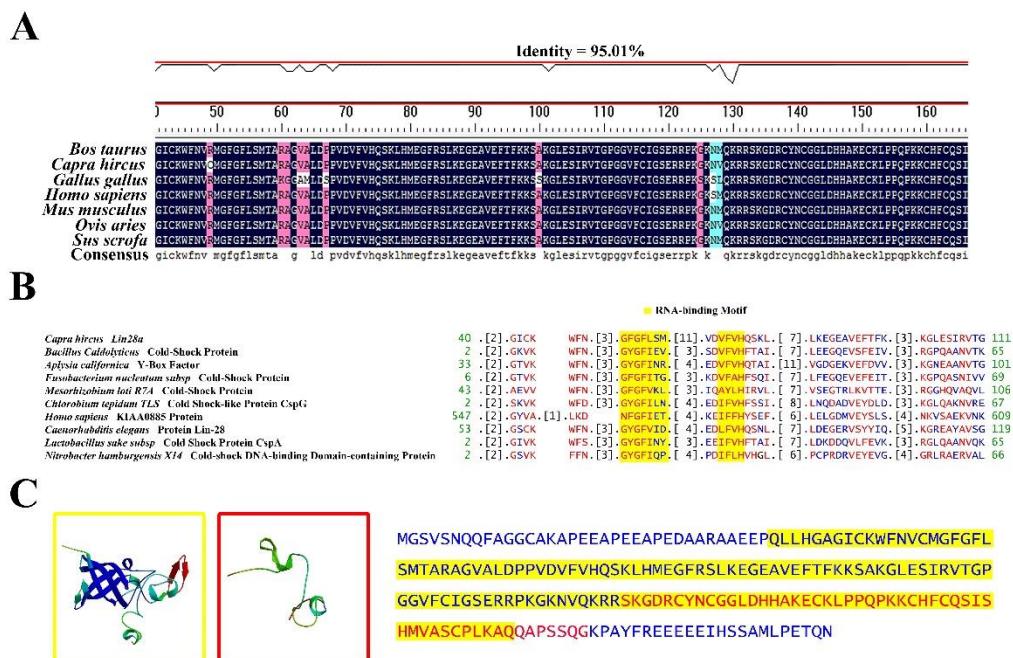


Figure S2 Bioinformatic analysis of Lin28a.

A, Similarity comparison of Lin28a amino acid sequence showed that Lin28a is conserved; B, Multiple sequence alignment of *Capra hircus* Lin28a and the protein sequences used to curate the domain model, where yellow marks overlapping the aligned sequences show the location of the conserved feature residues of RNA-binding Motif; C. The predicted model in yellow box of *Capra hircus* Lin28a from 34 to 179 amino acids, which contains an S1-like cold-shock domain (CSD), are thought to bind mRNA and regulate ribosomal translation, mRNA degradation, and the rate of transcription termination. Red box model is the two Zinc-finger domains of *Capra hircus* Lin28a from 134 to 186 amino acids, recognised to bind downstream target mRNA.

Table S1 The length comparison of Lin28a of CDS and amino acid

Species	Length of CDS	Length of amino acid	Homology (%)
<i>Capra hircus</i>	630	209	100%
<i>Bos taurus</i>	618	205	95.61%
<i>Gallus gallus</i>	609	202	75.24%
<i>Homo sapiens</i>	630	209	90.84%
<i>Mus musculus</i>	630	209	89.52%
<i>Ovis aries</i>	630	209	99.52%
<i>Sus scrofa</i>	618	205	92.38%

Table S2 The primer sequences

Gene name	Primer	Tm/°C	Size/bp
Lin28a	Forward: GGTCGGCTTCCTGTCCAT Reverse: CAACTGCCTCACCCCTCCTT	58	126
Plzf	Forward: CACCGAACAGCCAGCACTAT Reverse: CAGCGTACAGCAGGTCACTCCAG	58	127
Gfra1	Forward: GGACAGGCAGCAGGAAATA Reverse: GTCTCCTGTCCCAGTCAAA	58	200
Sox2	Forward: GGCGGCAACCAGAAGAACAG Reverse: GCATCTGGGGTTCTCCTGG	58	109
Oct4	Forward: AAGCAGTGACTACTCCAACG Reverse: GGGAAATGGGACCGAAGAGTA	58	155
Pcna	Forward: AGTGGAGAACTTGGAAATGGAA Reverse: GAGACAGTGGAGTGGCTTTGT	58	154
Gapcdh	Forward: CCACGCCATCACTGCCACCC Reverse: CAGCCTTGGCAGCGCCAGTA	58	116