***TBX2* regulates proliferation, apoptosis, and cholesterol generation of bovine through maintaining mitochondrial function and autophagy in bovine cumulus cell**

Sheng-Peng Li1,\*, Wen-Yin Xie1,\*, Yan-Xia Peng1, Zi-Bin Liu1, Xiao-Shi Cai1, Hao Jiang1,§, Jia-Bao Zhang1,§

1Department of Laboratory Animals, Jilin Provincial Key Laboratory of Animal Model, Jilin University, Changchun, Jilin, 130062, People’s Republic of China

\*Sheng-Peng Li, Wen-Yin Xie contributed equally to this work.

§Corresponding authors at:

Department of Laboratory Animals, Jilin Provincial Key Laboratory of Animal Model, Jilin University, Changchun, Jilin, 130062, People’s Republic of China.

E-mail addresses: jhhaojiang@jlu.edu.cn (H. Jiang); zjb@jlu.edu.cn (J. Zhang).

**Supplementary Information:**

**Table 1**

**Primer and siRNA sequences used in this study**

|  |  |
| --- | --- |
| **Primers/siRNA namea** | **Sequence (5' to 3')b** |
| *β-actin* F | TCCTGTGGCATCCACGAAACT |
| *β-actin* R | GAAGCATTTGCGGTGGACGAT |
| *TBX2* F | CTTGCAGTGCTCCTCCTA |
| *TBX2* R | CACGCAGCTTA GATCGACA |
| *BCL2* F | TGGCCTTCTTTGAGTTCGGA |
| *BCL2* R | GGCCATACAGCTCCACAAAG  |
| *BAX* F | GGCGGCTGAAATGTTTTCTGA |
| *BAX* R | GTCCAATGTCCAGCCCATGAT |
| *CDK1* F | CATTCGCCGCGGATAAAGC |
| *CDK1* R | CCACTTGGCCTGTAGTTTTGTG |
| *CDK2* F | GAGCCTCGGTTGCATCTTTG |
| *CDK2* R | CCACTTGGGGAAACTTGGCT |
| *CDK4* F | AAGGTGACGCAGAGTGAACA |
| *CDK4* R | GAGATGAAGGCAGAGGTTGC |
| *CDK6* F | GCCTTGCTCGCATCTACAGT |
| *CDK6* R | GTCGACATCTGAACTTCCACGG  |
| *PTGS2* F | GCTGTACGTAGTCTTCAATCACAATC |
| *PTGS2* R | CTTAAACAAGAGCATCCAGAATGG |
| *PTX3* F | GCTTGTCCCACTCGGAGTTC |
| *PTX3* R | CATGTATGTGAATTTGGACAACGA |
| *HAS2* F | ACACAGACAGGCTGAGGACAACTT |
| *HAS2* R | AAGCAGCTGTGATTCCAAGGAGGA |
| *LC3-b* F | ATGCCGTCCGAGAAAACCTT |
| *LC3-b* R | TGACATGATCAGGCACCAGAA |
| TBX2-siRNA-708 | Sense-CCGGUAUAAAUUCCAUAATT |
| TBX2-siRNA-708 | Antisense-UUAUGGAAUUUAUACCGGCTT |
| NC-siRNA | Sense-UUCUCCGAACGUGUCACGUTT |
| NC-siRNA | Antisense-ACGUGACACGUUCGGAGAATT |

a F: Forward primer; R: Reverse primer.

b Additional “TT” was added to 3’-end region to enhance the silencing effect and the stability of siRNA.

**Figure 1**

**Expression of TBX2 after siRNA transfection**



**Figure 1. Transfection efficiency detection after siRNA transfection**

Expression of *TBX2* after siRNA transfection was determined by qRT-PCR. The mRNA expressions of *TBX2* with different siRNAs. The error bars in the histogram represent the SD.