

**Table. S1 Sequences of primers and fluorescent probes for CRBP1 gene and  $\beta$ -actin**

|                        | Forward primer (5'-3')  | Reverse primer (3'-5')     | Fluorecent probe (5'-3')                 | Annealing temperature (°C) | Number of cycles |
|------------------------|---|----------------------------|--|----------------------------|------------------|
| RT-PCR and qRT-PCR     |   |                            |  |                            |                  |
| CRBP1 RT-PCR           | ccttaaaggctgctgaggtg  | ttcagcaatcatgggttca        |  | 58                         | 30               |
| CRBP1 qRT-PCR          | ccttaaaggctgctgaggtg  | ttcagcaatcatgggttca        | FAM-agagcaggccactgaccta-TAMRA            | 60                         | 40               |
| $\beta$ -actin RT-PCR  | tcaccacactgtgccatctacga   | cagcggaaaccgctcattgccaatgg |  | 58                         | 28               |
| $\beta$ -actin qRT-PCR | gccaacacagtgtgtctg  | cacatctgctggaaggtgg        | FAM-aggagcaatgatcttgatcttca-TAMRA        | 58                         | 40               |
| Bisulfite sequece      |   |                            |  |                            |                  |
| CRBP1                  | gtttggaggagtgtagtggta   | cactacaacctttatctaaaacct   |  | 52                         | 40               |
| qMSP                   |   |                            |  |                            |                  |
| CRBP1                  | ggattataggcgttcgcgattacg  | ctaaaacctcgcgccgataaac     | FAM-agtgtgggattataggcgtgagtcgtcgtg-TAMRA | 62                         | 40               |
| $\beta$ -actin         | tggtgatggaggaggttagtaagt  | aaccaataaacctactcctccctaa  | FAM-accaccaccaacacacaataacaaacaca-TAMRA  | 62                         | 40               |
| Plasmid construction   |   |                            |  |                            |                  |
| CRBP1                  | aaagaattcatggatcctcccgcaggctttgt aaactcgagccagtgagctgagatcacgcg |                            |  | 56                         | 32               |