

Supplementary Tables:

Supplementary table 1. siRNA oligo sequences.

| Gene           | Species | Sense                          | Antisense                     |
|----------------|---------|--------------------------------|-------------------------------|
| AGRN siRNA1    | Human   | CAUACGGCAACGAGUGUCAGCUGAA      | UUCAGCUGACACUCGUUGCCGUAUG     |
| AGRN siRNA2    | Human   | CCUUUGUCGAGUACCUCAACGUCUGU     | ACAGCGUUGAGGUACUCGACAAAGG     |
| LRP4 Scrambled | Bovine  | AAUAAUUGUUCAGCACUGACUGCCUGUCUC | AACAGUCAGUGCUGAACAAUACCUGUCUC |
| LRP4 siRNA     | Bovine  | AAGUUCUUGCCAGUAAAUUUGCCUGUCUC  | AACAAAUUUACUGGCAAGAACCUGUCUC  |

A Stealth™ RNAi negative control duplex of low GC content was used as a negative control (Invitrogen).

Supplementarytable 2. Real-time PCR primer sequences.

| Gene   | Species | Sense                         | Antisense                     | Amplicon (bps) |
|--------|---------|-------------------------------|-------------------------------|----------------|
| ACTIN  | Human   | TGACGGGGTCACCCACACTGTGCCATCTA | CTAGAAGCATTTGCGGTGGACGATGGAGG | 661            |
| ACTIN  | Bovine  | AGGAGTCGGTTGGATCGAGCA         | GGGAAGGCAAAGGACTTCTGTAAAC     | 136            |
| AGRN   | Human   | CCTGACCCTCAGCTGGCCCT          | AGATACCCAGGCAGGCGGCA          | 136            |
| AGRN   | Bovine  | GGCCAAGGAGCAGGTGCAGG          | GTTGCCACCCCACCACGAG           | 127            |
| ACAN   | Human   | GTTGTCATCAGCACCAGCATC         | ACCACACAGTCTCTCCAGC           | 509            |
| ACAN   | Bovine  | GATGCTTCTATCCAGCCTCCGC        | CGGTCCGGGAAGTGGCGGTAA         | 125            |
| COL2A1 | Human   | CTGCTCGTCGCCGCTGCCTT          | AAGGGTCCCAGGTTCTCCATC         | 432            |
| COL2A1 | Bovine  | ACGTCCAGATGACCTTCTG           | GGATGAGCAGAGCCTTCTTG          | 126            |
| COLX   | Bovine  | AAAGGTCTAAGTGGCCCTTTTGTC      | GAGGTTTCATGACAAAAGCACCTTGC    | 138            |
| LRP4   | Bovine  | CCTTGGTGGACTCCCGTCTCT         | GGGGAGCAGTTAACGGGGTGG         | 99             |
| MMP-13 | Bovine  | TTGAGGATTCAGGGAAGACG          | TCACCAATTCTGGGAAGAC           | 124            |
| SOX9   | Human   | GAACGCACATCAAGACGGAG          | TCTCGTTGATTCGCTGCTC           | 631            |
| SOX9   | Bovine  | ACTCTGGGCAAGCTCTGGAGACT       | GGCGCGGCTGGTACTTGTAGTCC       | 121            |

Supplementary table 3. Splice variant sequencing primer sequences.

| <b>Gene</b> | <b>Species</b> | <b>Sense</b>         | <b>Antisense</b>        | <b>Amplicon (bps)</b> |
|-------------|----------------|----------------------|-------------------------|-----------------------|
| AGRN        | Human          | GGGTGCCCTGCGTGTGGGCG | CGCAGGCTCAGTTCAAAGTGGTT | 489                   |