**Additional file: supplementary experimental method and sequence of primers for qPCR in ATDC5 (mouse cell line)**

**RNA isolation and real time quantitative PCR (RT-qPCR) for ATDC5 samples**

Gene expression of *Col10a1* in ATDC5 experiments was evaluated by RT-PCR. For RNA isolation, chloroform was added to the TRIzol samples (TRIzol 5: Chlororform 1), which were subsequently centrifuged for 15min at 15000 rpm (i.e., RCF = 218849) and 4°C. RNA was isolated by collecting the aqueous phase and precipitated with isopropanol (aqueous phase 1: ispropanol 1) for 30min at -80°C. After centrifugation at 15000rpm (i.e., RCF = 218849) and 4°C for 30 min, supernatant was removed, and the resulting pellet was washed with 80% Ethanol. RNA pellets were dried for 10min in desiccator and dissolved in 15µl RNase free water. Finally, RNA content and purity was determined with Nanodrop. RNA was converted to cDNA with the Revert Aid H Minus First strand cDNA synthesis kit (Thermo Scientific) according to the manufacturer’s protocols. Quantification of gene expression was done using Syber Select Master Mix (Applied Biosystems) adding 400nM forward and reverse oligonucleotides primers as listed in **Additional file 17:** **supplementary experimental method**. The StepOne Plus System (Applied Biosystems) was used for amplification using the following protocol: denaturation cycle at 95°C for 10min followed by 40 cycles of amplification (15 seconds 95°C and 1 min 60°C), followed by a melting curve. Expression levels were analyzed using the 2−ΔCt method and normalized for the expression of the reference gene *Hprt*. This housekeeping (HK) gene was determined after verification of multiple HK genes and selecting the one that remained most constant throughout the procedure.

**Mouse oligonucleotides used for qRT-PCR reaction with ATDC5 samples.** Primers were designed by the Primer Design tool of NCBI:

|  |  |  |
| --- | --- | --- |
| **Gene** | **Forward primer** | **Reverse primer** |
| m*Hrpt* | GAGCGTTGGGCTTACCTCAC | ATCGTAATCACGACGCTGG |
| m*Col10a1* | TCCCAGCACCAGAATCTATCTGA | TTATGCCTGTGGGCGTTTGG |