



**Supplementary Fig. 1** - Morphology of smooth (A-C) and rough (D-E) surfaces of collagen membranes observed by SEM.

**Supplementary Table 1 - Primers applied for RT-qPCR**

Genes	Primer sequences
IL-1ra	<b>Forward:</b> 5'-CTCCAGCTGGAGGAAGTTAAC-3' <b>Reverse:</b> 5'-CTGACTCAAAGCTGGTGGTG-3'
TNF $\alpha$	<b>Forward:</b> 5'-CTGAACTTCGGGGTGATCGG-3' <b>Reverse:</b> 5'-GGCTTGTCACTCGAATTTTGAGA-3'
IL-18	<b>Forward:</b> 5'-TGGCCGACTTCACTGTACAAC-3' <b>Reverse:</b> 5'-TGGGGTTCCTGGCACTTTG-3'
IL-1 $\beta$	<b>Forward:</b> 5'-TGGAGAGTGTGGATCCCAAG-3' <b>Reverse:</b> 5'-GGTGCTGATGTACCAGTTGG-3'
IL-6	<b>Forward:</b> 5'-ATAGTCCTTCCCTACCCCAATTTCC-3' <b>Reverse:</b> 5'-GATGAATTGGATGGTCTTGGTCC-3'
CD86	<b>Forward:</b> 5'-CTGCTCATCATTGTATGTCAC-3' <b>Reverse:</b> 5'-ACTGCCTTCACTCTGCATTG-3'
CCR7	<b>Forward:</b> 5'-ATGACGTCACCTACAGCCTG-3' <b>Reverse:</b> 5'-CAGCCCAAGTCCTTGAAGAG-3'
WNT5A	<b>Forward:</b> 5'-CAACTGGCAGGACTTTCTCAA-3' <b>Reverse:</b> 5'-CCTGATACAAGTGGCAGAGTTTC-3'
Fz5	<b>Forward:</b> 5'-AAGTCCATTACGGCGCTG-3' <b>Reverse:</b> 5'-AGCCTCGTAGTGAGTTCAGG-3'
BMP2	<b>Forward:</b> 5'-GCTCCACAAACGAGAAAAGC-3' <b>Reverse:</b> 5'-AGCAAGGGGAAAAGGACACT-3'
BMP6	<b>Forward:</b> 5'-TGGCAGGACTGGATCATTGC-3' <b>Reverse:</b> 5'-ACCAAGGTCTGTACAATGGCG-3'
WNT10b	<b>Forward:</b> 5'-CCAGGTGGTAACGGAAAACC-3' <b>Reverse:</b> 5'-TGCCCTCCAACAGGTCTTG-3'

OSM	<b>Forward:</b> 5'-ACGGTCCACTACAACACCAG-3' <b>Reverse:</b> 5'-CCATCGTCCCATTCCCTGAAG-3'
TRAP	<b>Forward:</b> 5'-CACTCCCACCCTGAGATTTGT-3' <b>Reverse:</b> 5'-CATCGTCTGCACGGTTCTG-3'
RANK	<b>Forward:</b> 5'-GCAGCTCAACAAGGATACGG-3' <b>Reverse:</b> 5'-GGTGCAGTTGGTCCAAGGTT-3'
MMP9	<b>Forward:</b> 5'-GGGCGTGTCTGGAGATTCG-3' <b>Reverse:</b> 5'-CACCTGGTTCACCTCATGGTC-3'
CTSK	<b>Forward:</b> 5'-CCAGTTTTACAGCAGAGGTGTG-3' <b>Reverse:</b> 5'-CTTGCTTCCCTTCTGGGTG-3'
CA2	<b>Forward:</b> 5'-AGCAGCGAGCAGATGTCTC-3' <b>Reverse:</b> 5'-TGAGCTGGACGCCAGTTG-3'
CR	<b>Forward:</b> 5'-CTTAGCTGCCAGAGGGTGAC-3' <b>Reverse:</b> 5'-TGCAACTTATAGGATCCCGCC-3'
MCSF (mouse)	<b>Forward:</b> 5'-AGCAGAACAAGGCCTGTGTC-3' <b>Reverse:</b> 5'-AAGCTGTTGTTGCAGTTCTTG-3'
SMAD1	<b>Forward:</b> 5'-GTATGAGCTTTGTGAAGGGC-3' <b>Reverse:</b> 5'-TAAGAACTTTATCCAGCCACTGG-3'
SMAD4	<b>Forward:</b> 5'-CTCCAGCTATCAGTCTGTGTCAG-3' <b>Reverse:</b> 5'-CCCGGTGTAAGTGAATTTCAAT-3'
SMAD5	<b>Forward:</b> 5'-TCATCATGGCTTTCATCCCACC-3' <b>Reverse:</b> 5'-GCTCCCAACCCTTGACAAA-3'
BMPR2	<b>Forward:</b> 5'-GGCAGCAGTATACAGATAGGTG-3' <b>Reverse:</b> 5'-CTGCCCTGTTACTGCCATTATT-3'
BMPR1a	<b>Forward:</b> 5'-CCTGGGCCTTGCTGTAAATTCA-3' <b>Reverse:</b> 5'-TCCACGATCCCTCCTGTGAT-3'
$\beta$ -catenin	<b>Forward:</b> 5'-CATTGGTGCCAGGGAGAAG-3' <b>Reverse:</b> 5'-CCACCCATCTCATGCTCCATC-3'
LRP5	<b>Forward:</b> 5'-CCGTCATTGGCATCATCCTC-3' <b>Reverse:</b> 5'-GTCCATGTTGTACAGGGAGG-3'
OSMR	<b>Forward:</b> 5'-CCCTTTGGAATGTGCCACAC-3' <b>Reverse:</b> 5'-GTACACTGACTTCCTCCCAGG-3'
IL6st	<b>Forward:</b> 5'-AGAGGGAAGTTAGCAGAGAGC-3' <b>Reverse:</b> 5'-AGGTCCTTTGGAAGGTGGAGC-3'
STAT3	<b>Forward:</b> 5'-AGCCAATTGTGATGCTTCCC-3' <b>Reverse:</b> 5'-GGCAAGGAGTGGGTCTCTAG-3'
OPG	<b>Forward:</b> 5'-CGCTCGTGTTTCTGGACATCT-3' <b>Reverse:</b> 5'-CACACGGTCTTCCACTTTGC-3'
RANKL	<b>Forward:</b> 5'-AGAGCAGAGAAAGCGATGGTG-3' <b>Reverse:</b> 5'-GAACCAGATGGGATGTCCGGT-3'
MCSF (human)	<b>Forward:</b> 5'-AGCATGACAAGGCCTGCGTC-3' <b>Reverse:</b> 5'-AAGCTGTTGTTGCAGTTCTTGC-3'
ALP	<b>Forward:</b> 5'-TCAGAAGCTAACACCAACG-3'

---

---

	<b>Reverse: 5'-TTGTACGTCTTGGAGAGGGC-3'</b>
OPN	<b>Forward: 5'- TCACCTGTGCCATACCAGTTAA-3'</b> <b>Reverse: 5'-TGAGATGGGTCAGGGTTTAGC-3'</b>
OCN	<b>Forward: 5'-GCAAAGGTGCAGCCTTTGTG-3'</b> <b>Reverse: 5'-GGCTCCCAGCCATTGATACAG-3'</b>
COL1A1	<b>Forward: 5'-AGAACAGCGTGGCCT-3'</b> <b>Reverse: 5'-TCCGGTGTGACTCGT-3'</b>
IBSP	<b>Forward: 5'-TTTCTGCTACAACACTGGGCTATG-3'</b> <b>Reverse: 5'-TTGTTATATCCCCAGCCTTCTTG-3'</b>
18S	<b>Forward: 5'-CGGAACTGAGGCCATGATTAAG -3'</b> <b>Reverse: 5'-GTATCTGATCGTCTTCGAACCTCC -3'</b>

---