







Fig. S1. High cell density promoted myogenic differentiation of bone marrow mesenchymal stem cells. BM-MSCs were seeded at low density (LD: 3×10^3 cells/cm²) or high density (HD: 30×10^3 cells/cm²) and 5 days later they were evaluated. **(A)** Immunostaining for α SMA or CNN1 (green); The nuclei were stained with DAPI (blue); Bar=200 μ m. **(B)** WB for myogenic proteins α SMA, CNN1 and MYH11. (*) denotes $p < 0.05$ between HD and LD cells.

Fig. S2. High cell density does not induce differentiation into osteogenic or chondrogenic lineages. RT-PCR for chondrogenic (ACAN, SOX9) or osteogenic (RUNX2, SPARC) genes in low densities or high densities cultures in growth medium. RPL32 served as housekeeping gene. HF-MSCs that were coaxed to differentiate into the chondrogenic (Chondro) or osteogenic (Osteo) lineage using well-established differentiation factors served as positive control.

Fig. S3. High cell density induced α SMA expression. HF-MSCs were seeded at low density (LD: 3×10^3 cells/cm²) or high density (HD: 30×10^3 cells/cm²) in presence or absence of TGF- β 1 (10ng/ml) and 5 days later the level of α SMA was measured using western blotting; GAPDH served as loading control.

Table S1. Cloning of different siRNAs

	Accession number	Gene	Sense sequence (5'-3')
control		Scramble	CAACAAGATGAAGAGCACCAA
siCDH11	NM_033664	Cadherin-11	GCGTATACCAGATGTCTGTGTCAGAA
siTGF β RII	NM_004257	TGF β RII	GGGATTTATACAGTTTGCACAACCTT
siROCK	NM_004850 NM_005406	ROCK isoforms (ROCK1 and ROCK2)	CAACGGCAAAGAATCTGTTATTACT
siCDH2	NM_001792	Cadherin-2	CAGCCTCCAACCTGGTATCTTCATTA

Table S2. Primers for (qRT)-PCR

Accession number	Gene	Sense sequence (5'-3')
NM_001792	Cadherin-2	CTGACACTGTGGAGCCTGAT GTGGAGCCACTGCCTTCATA
NM_033664	Cadherin-11	CTGGCTCAACATCACTGTCT CGGTTGTCTCTGACTGTGAA
NM_001141945	α SMA	GACAGCTACGTGGGTGACGAA GATGCCATGTTCTATCGGGTACT
NM_033138.3	CALD1	AGATTGAAAGGCGAAGAGCA TTCAAGCCAGCAGTTTCCTT

NM_001001522.1	SM22	ATGGCCAACAAGGGTCC CTTCAAAGAGGTCAACAG
NM_011577	TGF- β 1	CAACACATCAGAGCTCCGAGAA AAGGCGAAAGCCCTCAATTT
NM_000994	Ribosomal protein L32 (RPL32)	AGCGTAACTGGCGGAAAC CGTTGTGGACCAGGAACTTC
NM_001015051	RUNX2	TGTGGAGTTTGGTGTCTACTAGTGTGT GAAATCTGCCATGTGACTGCC
NM_199173	SPARC	ATCTTCCCTGTACACTGGCAGTTC CTCGGTGTGGGAGAGGTACC
NM_001135	ACAN	GTCTCACTGCCCAACTAC GGAACACGATGCCTTTCAC
NM_000346	SOX9	GAGCAGACGCACATCTC CCTGGGATTGCCCGA