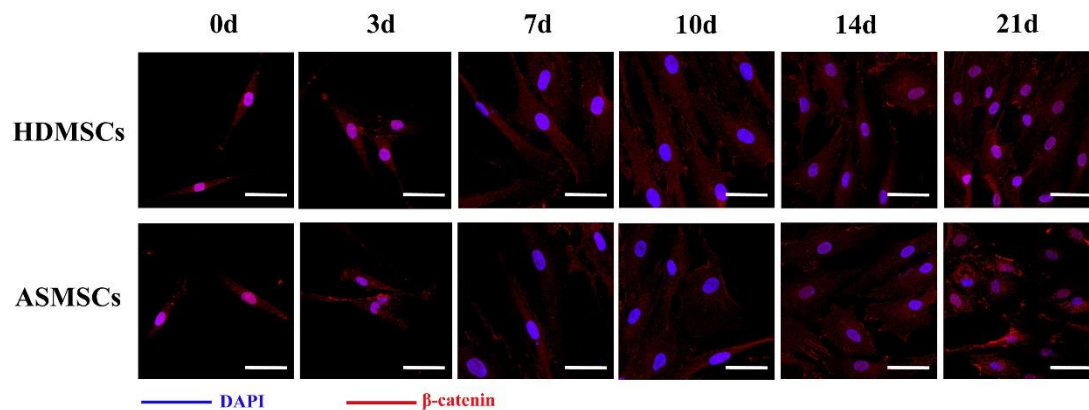


Supplemental Figure 1. HDMSCs and ASMSCs had comparable β -catenin expression in both the cytoplasm and nucleus during adipogenesis



Expression of β -catenin in both the cytoplasm and nucleus during adipogenesis were determined by immunofluorescence assay (200 \times , the white bars indicate 50 μ m). Nucleus was stained with DAPI (blue), whereas the expression of β -catenin (red) in both the cytoplasm and nucleus were detected by anti- β -catenin. HDMSCs (n = 6) and ASMSCs (n = 6) had comparable β -catenin expression in both the cytoplasm and nucleus during adipogenesis.

Supplemental Table 1. Characteristics of the study subjects who donated bone marrow

	samples	
	Healthy donors	Patients with AS
Number	30	25
Age (years)	30.5 \pm 10.2	32.3 \pm 13.1
Males, No. (%)	19 (63.3%)	17 (68.0%)
HLA-B27-positive, No. (%)	0	23 (92.0%)*
Disease duration (years)	NA	6.94 \pm 6.3
CRP (mg/L)	3.5 \pm 1.4	18.8 \pm 13.3*
ESR (mm/h)	10.5 \pm 3.6	28.2 \pm 14.8*
BASDAI	0.92 \pm 0.88	4.72 \pm 1.03*

Means \pm SDs. AS, ankylosing spondylitis; HLA-B27, human leukocyte antigen B27; CRP,

C-reactive protein; ESR, erythrocyte sedimentation rate; BASDAI, Bath ankylosing

spondylitis disease activity index; * $P < 0.05$ compared to healthy donors.

Supplemental Table 2. Primers used for qRT-PCR

Gene	Accession No.	Forward primer (5'-3')	Reverse primer (5'-3')	Product size (bp)
GAPDH	NM_001256799	GGAGCGAGATCCCTCCAAAAT	GGCTGTTGTCATACTTCTCATGG	197
PPAR-γ	NM_138711	GGGATCAGCTCCGTGGATCT	TGCACTTTGGTACTCTTGAAGTT	186
FABP4	NM_001442	ACTGGGCCAGGAATTTGACG	CTCGTGGAAGTGACGCCTT	183
Adiponectin	NM_001177800	AACATGCCCATTCGCTTTACC	TAGGCAAAGTAGTACAGCCCA	107
BMPR1A	NM_004329	AGATGACCAGGGAGAAACCAC	CAACATTCTATTGTCCGGCGTA	111
BMPR1B	NM_001256792	CTTTTGC GAAGTGCAGGAAAAT	TGTTGACTGAGTCTTCTGGACAA	130
BMPR2	NM_001204	CACTCAGTCCACCTCATT CATT	TTGTTTACGGTCTCCTGTCAAC	131
BMP2	NM_001200	GCCAAACACAAACAGCGGAA	GGGAGCCACAATCCAGTCAT	102
BMP4	NM_001202	ATGATTCTGGTAACCGAATGC	CCCCGTCTCAGGTATCAA ACT	93
BMP6	NM_001718	TGTTGGACACCCGTGTAGTAT	AACCCACAGATTGCTAGTGGC	80
BMP7	NM_001719	GGAACGCTTCGACAATGAGAC	GCAGGAAGAGATCCGATTCCC	86
BMP9	NM_016204.2	GCTTCAGCATGGAAGATGCC	CCACGCTTCCTTTCAGGTCA	180

GAPDH, glyceraldehyde-3-phosphate dehydrogenase; **PPAR- γ** , peroxisome proliferator-

activated receptor gamma; **FABP4**, fatty acid binding protein 4; **BMPR**, bone morphogenetic

protein receptor; **BMP**, bone morphogenetic protein.

Supplemental Table 3. Characteristics of the study subjects who donated bone marrow tissues

	Healthy donors	Patients with AS
Number	11	10
Age (years)	28.9 ± 11.0	29.7 ± 12.5
Males, No. (%)	8 (72.7%)	8 (80.0%)
HLA-B27-positive, No. (%)	0	9 (90.0%)*
Disease duration (years)	NA	4.84 ± 3.2
CRP (mg/L)	3.3 ± 1.5	18.4 ± 11.2*
ESR (mm/h)	12.8 ± 4.2	31.2 ± 15.1*
BASDAI	0.95 ± 0.87	4.67±1.02*

Means ± SDs. AS, ankylosing spondylitis; HLA-B27, human leukocyte antigen B27; CRP, C-reactive protein; ESR, erythrocyte sedimentation rate; BASDAI, Bath ankylosing spondylitis disease activity index; * P < 0.05 compared to healthy donors.