Supplementary data

Supplemental Figure 1.

A) Passage three MDS and HD-MSCs were differentiated into osteoblasts or adipocytes using adipogenric induction medium DMEM (high glucose) supplemented with 10% FBS, 1% PS, 1% LG 1uM Dexamethasone, 1uM Indomethacin, 500 uM 3-isobutyl-1-methylxantine (IBMX), 10 ug/mL human recombinant insulin, alternatively ostegenic induction medium DMEM (low glucose) supplemented with 10% FBS, 1% PS, 1% LG with 100 nM Dexamethasone, 10 mM B-glycerol-phosphate, 0.05 mM 2-phosphate-ascorbic acid for 21 days prior to staining with oil red. **B)** HD-MSC and MDS-MSC were detached and counted by automated cell counter. Pooled data (n=11) are shown as million cells/ml, mean ± SEM. **C)** Monocytes were cultured alone or with HD-MSCs and MDS-MSCs in direct contact for 7 days and assessed for viability by flow cytometry. **D)** Total RNA (n=3) was isolated from HD-MSCs and MDS-MSCs, and the total mRNA was reverse transcribed into cDNA and analyzed by real-time quantitative PCR for ALS2CL.

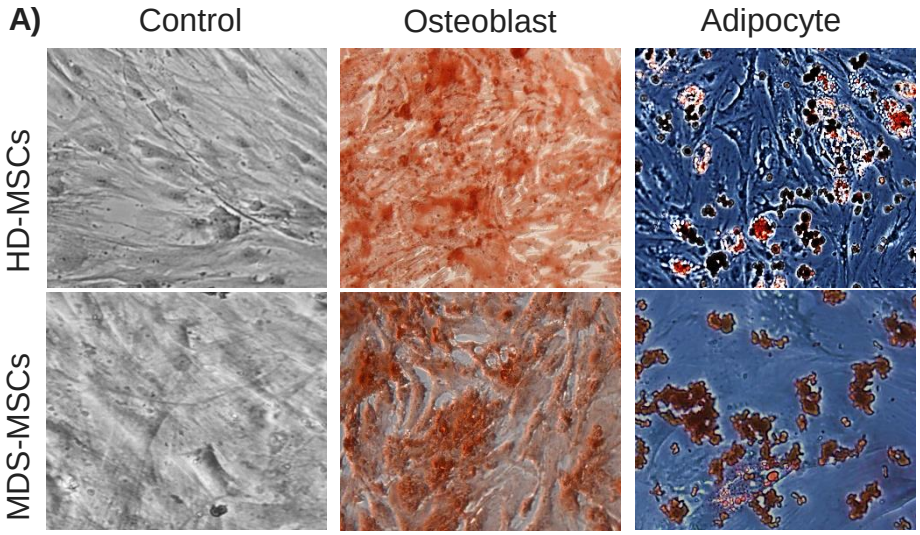
Supplemental Table 1.

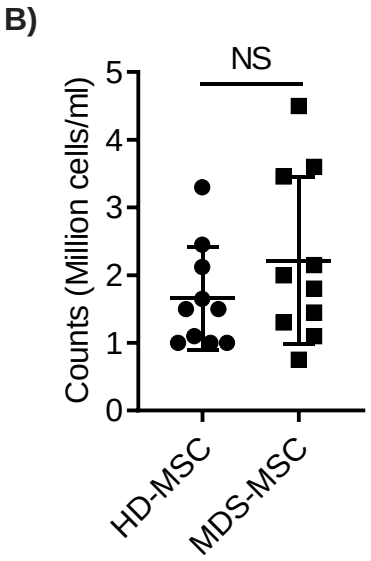
A gene list of over top 100 significant differentially expressed genes comparing MDS (n=5) and HD (n=5) groups.

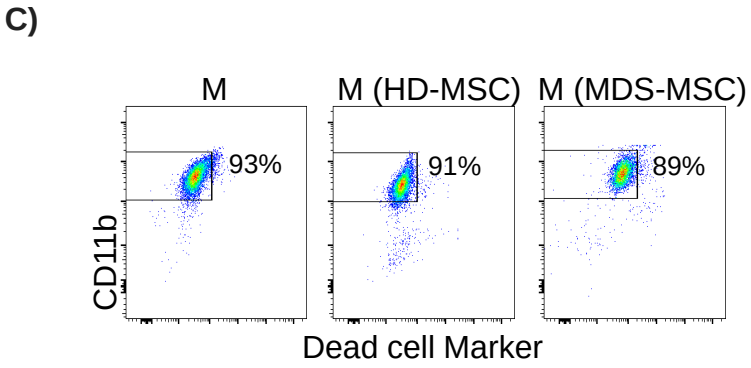
Supplemental Table 2.

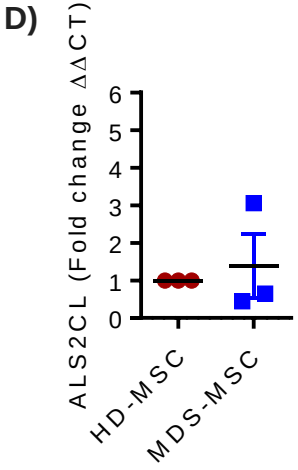
Hip bone replacement Patient characteristics.

Supplementary Figure 1. Sarhan et al.









Supplemental Table 1.

Feature ID	HD-MSCs (Average n=5)	MDS-MSCs (Average n=5)
CALD1	49450,4	102050
SERPINE1	29366,4	69271,2
COL6A3	165683,2	61981,4
CTGF	32411,6	61859,6
TIMP3	33626,6	60625,2
TPM1	30660,2	54280,2
LOX	23310,4	42178,8
COL4A1	17523,4	41777,2
IGFBP7	18152,2	37157,8
COL4A2	18301,8	34168,8
TPM2	13633,4	25978,8
PLOD2	11353,6	21798
NEAT1	10491	20816,4
ACTA2	6271,6	13827,8
NEK7	5892,2	12115,8
ANKRD1	2349,6	8931,8
LEPR	2472,8	8501,8
KCTD20	4326,2	8363,4
TNC	28021,6	8011,8
ALPK2	3614,8	7295
MEG3	2993,8	6998,6
MALAT1	2841,8	6813
ENC1	1352,8	5854,6
KIAA1462	2642,8	5726,6
LIF	1767,6	5679
FLG	195,4	5205,2
INHBA	2353,6	4883,8
SYNPO2	1288,8	4867,6
CTSL	11763	4609
SMURF2	2581,6	4552
FAM198B	2380,8	4385,4
UCHL1	2354	4362,4
ALDH1A3	1068,2	4138,2
CA12	10731,2	4046
CD109	9969,4	3710,8
SNX9	8827,4	3400,6
CHI3L1	32278,4	3343,2
SERPINB2	804,8	3339,8
FADS3	1385	3011
LENG8	1349,8	2991,2
WSB1	1678,4	2927
PLAU	1579,4	2800,4
IER3	1581	2716,6
IL1R1	7340	2678
ITGA7	1316,2	2662,6
LGMN	1034	2525,8
IL6	1125,2	2522,6
PPP1R3C	1361	2442,6

LGALS3	5872,8	2433
DNAJB4	1081,6	2410,2
LIMCH1	1298,2	2353,6
PDE1C	1088,2	2269,6
HMOX1	7819,6	2260,4
BDNF	916,4	2213,2
LACC1	1011,2	2142,8
LMOD1	1186,6	2124,8
SNX25	952,2	2123,2
PTGES	835,4	2100,2
MIR22HG	1062,2	2087,2
PEAR1	759,4	2036,2
IGFBP2	368,2	1943
TINAGL1	255,8	1930,2
NRBP2	940,8	1838,6
ALDH1B1	928,2	1808,6
GADD45A	1014,4	1774,4
NPC1	4926,8	1769,4
MAPK8IP3	851	1767,2
PTPRF	949,6	1720,2
DMPK	829,4	1720
IFITM10	990,8	1708
CDH6	371,2	1693,6
TMEM119	4146	1662,4
SNED1	5351	1629,8
SLC17A9	710,2	1551,2
MCAM	378,4	1511,2
SLC5A3	6429	1471,8
SNHG5	448,2	1447,2
GFRA1	10546	1440,8
CDKN2B	496,4	1423,2
ADARB1	713	1419,4
C15orf52	814	1416,4
TOP2A	3912,4	1386,8
DEPTOR	505,6	1384,4
COL7A1	660,8	1336,2
ITGA8	200,8	1310,2
NFKBIZ	612	1243,4
ERCC6	526,4	1235,6
FSTL3	584	1173,6
MOXD1	2680,4	1160,4
FAM20C	3303	1158
NEDD9	603,6	1131,8
FGF5	3736,4	1123,8
ARRDC4	607,6	1104,8
MRVI1	402	1101,8
CRLF1	3579,6	1101,2
C5orf30	625	1084,8
SLC25A4	524,4	1055,4
SLC22A3	218,4	993,2

ADAMTS12	324,4	983,6
LIMS2	521,6	976,2

Supplemental Table 2. Hb replacement Patient characteristics

Patient#	Age	Gender
1	74	Female
2	61	Male
3	55	Female
4	84	Female
5	54	Male
6	49	Male
7	62	Male
8	43	Male
9	51	Female
10	74	Female
11	60	Female