Supplemental tables

Supplemental Table 1: Compact letter display for significant differences in the growth curve. One-way ANOVA was used to compare the number of cells per well on day 8. Bone marrow-derived mesenchymal stem cells (BM-MSCs) that do not share the same letter are significantly different.

BM-MSC group	Significance
164	A
00227	A B
310264	B C
238	C D
310277	C D
172	C D
198	C D
257	D
310280	D

Supplemental Table 2: Compact letter display for significant differences in gene expression during long-term culture of bone marrow-derived mesenchymal stem cells (BM-MSCs) for p14ARF, p16INK4A, p21 Waf1, γH2AX, TP53. One-way ANOVA was used to compare the gene expression levels at each passage between BM-MSC groups. Only significant differences within the same passage are shown. BM-MSCs that do not share the same letter are significantly different.

p14 ARF						
BM-MSC group	At passage 5	At passage 7	At passage 9	At passage 11	At passage 13	At passage 15
310277	C	A B C	A B	A	B C	B
238	A B	A B	A B	A B	A	B C
198	B C	A B	A B	A B	B C	B D
257	A	A	A	A B	B C	C D
310280	D	C D	B	B	C	D
172	D	D	B	B	C	D
164	D	D	B	B	C	D
00227	D	C D	B	B	C	D

310264	C D	B D	A	A B	A B	A

p16 INK4A

BM-MSC group	At passage 5	At passage 7	At passage 9	At passage 11	At passage 13	At passage 15
310277	B	A B	A B	A	B	A
238	C	A B	A B	A	A B	A
198	B C	A	A	A	A B	A
257	A	A B	A B	A	A B	A
310280	C	B	A B	A	B	A
172	C	B	A B	A	A B	A
164	B C	B	B	A	B	A
00227	B C	B	A B	A	A	A
310264	C	B	A B	A	A B	A

p21 Waf1

BM-MSC group	At passage 5	At passage 7	At passage 9	At passage 11	At passage 13	At passage 15
310277	A B	A B	B C	C	A C	A
238	A	A	A	A	A B	A
198	A B	A B	B D	B	A	A
257	A	A B	B	B	A B	A
310280	A B	B	D	C	A C	A
172	B	B	D	D	C	A
164	B	B	D	D	B C	A
00227	A B	B	C D	C	A C	A
310264	A B	B	C D	C D	A C	A

γH2AX

BM-MSC group	At passage 5	At passage 7	At passage 9	At passage 11	At passage 13	At passage 15
310277	A B	A	A B	A B	C D	C D
238	A B	A	A B	B	A	D
198	B	A	B	B	B C	B
257	A B	A	B	B	A B	A
310280	A B	A	A	B	B D	C D
172	A B	A	B	B	D	B C
164	A B	A	A B	B	C D	C D
00227	A	A	B	B	D	D
310264	A B	A	A B	A	B D	C D

TP53

BM-MSC group	At passage 5	At passage 7	At passage 9	At passage 11	At passage 13	At passage 15
310277	A B	A B C	A	A	C D	B
238	B	C D	B C	A B	C D	B
198	A B	B D	B C	A B	C D	B
257	A B	A D	A C	A B	B C	B
310280	A	A B	B C	A	A	A
172	B	D	C	B	D	B
164	B	C D	B C	B	D	B
00227	A	A B	A B	A	A B	B
310264	A B	A	B C	A B	C D	B

Supplemental Table 3: Compact letter display for significant differences in gene expression during long-term culture of bone marrow-derived mesenchymal stem cells (BM-MSCs) for TWIST1 and TWIST2. Only significant differences within the same passage are shown. BM-MSCs that do not share the same letter are significantly different. One-way ANOVA was used to compare the gene expression levels at each passage between BM-MSC groups.

TWIST1						
BM-MSC group	At passage 5	At passage 7	At passage 9	At passage 11	At passage 13	At passage 15
310277	A B	A	A	A	B	B
238	A B	A	A	A	A	B
198	A B	A	A	A	A B	B
257	A B	A	A	A	B	B
310280	A B	A	A	A	A B	B
172	A B	A	A	A	A B	B
164	A B	A	A	A	B	B
00227	A	A	A	A	B	B
310264	B	A	A	A	A B	A
TWIST2						
BM-MSC group	At passage 5	At passage 7	At passage 9	At passage 11	At passage 13	At passage 15
310277	B	B	B	B	B	A
238	B	B	B	B	B	A
198	B	B	B	B	B	A
257	B	B	B	B	B	A
310280	A	A	A	A	A	A
172	B	B	B	B	B	A

164	B	B	B	B	B	A
00227	B	B	B	B	B	A
310264	B	B	B	B	B	A

Supplemental Table 4: GSTT1 Genotyping primers

Deletion Forward (Burchard *et al*. 2007)	5'-GAAGCCCAAGAATGGGTGTGTGTG-3'
Deletion Reverse (Burchard *et al*. 2007)	5'-TGTCCCCATGGCCTCCAACATT-3'
GSTT1 Forward	5'-TCTTTTGCATAGAGACCATGACCAG-3'
GSTT1 Reverse	5'-CTCCCTACTCCAGTAACTCCCGACT-3'

Supplemental Table 5: Primer sequences for senescence-related markers and other genes assessed by RT-qPCR

P16_CDS_INCF	5'-CGGGAGGGCTTCCTGGAC-3'
P16_CDS_INCR	5'-ATGGTTACTGCCTCTGGTGC-3'
P14F_CDS	5'-CGCAGGTTCTTGGTGACCCT-3'
P14R_CDS	5'-CTAGACGCTGGCTCCTCAGTA-3'
RPLP0 F	5'-CTGGCTCCCACTTTGTCTCC-3'
RPLP0 R	5'-GACCTCCTTTTTCCAGGCTT-3'
GSTT1Q F	5'-TTGGGCAAGTCTTAGGCAAGC-3'
GSTT1Q R	5'-TGAGGTCATTCTGAAGGCCAAG-3'
P21F	5'-CCCGTGAGCGATGGAACTT-3'
P21R	5'-GAGCAGGTGAGGTGCCAG-3'
BTG2F	5'-TTAAGGTCTTCAGCGGGGC-3'
BTG2R	5'-CCTGCTGATGATGGGGTCCA-3'
IL6 F	5'-AGTCCTGATCCAGTTCCTGC-3'
IL 6 R	5'-CAGGCTGGCATTTGTGGTTG-3'
SOD1 F	5'-GGTGTGGCCGATGTGTCTAT-3'
SOD1 R	5'-TTCCACCTTTGCCCAAGTCA-3'
EZH2 F	5'-GCACCACTCCACTCCACATT-3'
EZH2 R	5'-GAAGCAGGGACTGAAACGGG-3'
LTF F	5'-AGAAGGTTTTTGGTTTCAGACTGG-3'
LTF R	5'-AATCATGCCGTGGTGTCTCG-3'
PXDN F	5'-GCCGGAAACAGGTCGATGTT-3'
PXDN R	5'-GGGTCTACTGCAATCTATCGGC-3'
ACTA2 F	5'-CCTCTTTTGCTCTGTGCTTCG-3'
ACTA2 R	5'-CAGGGCTGTTTTCCCATCCA-3'

Supplemental Table 6: Telomere Length and hTERT Analysis Primers

Telomere Length Analysis Primers	
Tel1 (Samsonraj *et al*. 2013)	5'-GGTTTTTGAGGGTGAGGGTGAGGGTGAGGGTGAGGG-3'
Tel2 (Samsonraj *et al*. 2013)	5'-TCCCGACTATCCCTATCCCTATCCCTATCCCTATCCCTA-3'
36B4u	5'-CAGCAAGTGGGAAGGTGTAATCC-3'
36b4d	5'-CCCATTCTATCATCAACGGGTACAA-3'
hTERT Expression Analysis Primers	
hTERT-F	5'-GACGTGGAAGATGAGCGTG-3'
hTERT-R	5'-GACGACGTACACACTCATC-3'