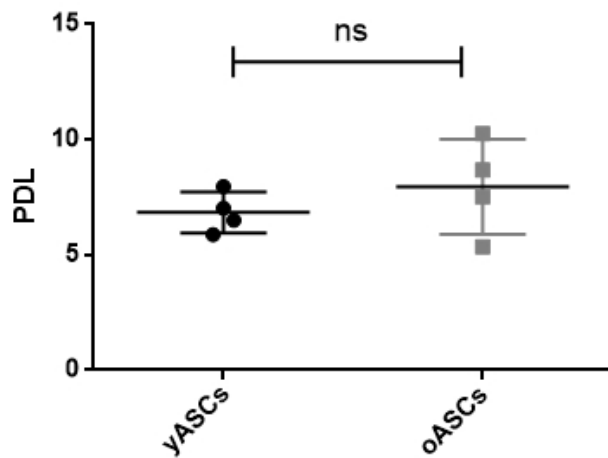


Supplementary Figure 1 Age and body mass index distributions from young and elderly donors. Data was compared using a *t*-test, ^a $P < 0.001$; ^b $P < 0.01$. yASC: Young human adipose-derived stromal/stem cell; oASC: Old human adipose-derived stromal/stem cell.



Supplementary Figure 2 Population doubling level of human adipose-derived stromal/stem cell from different age groups. Human adipose-derived stromal/stem cells from four young and four old donors were maintained in culture during 4 passages. Each cell culture was realized in triplicate and the number of cells were counted using Trypan Blue stain and a hemocytometer (Neubauer chamber). The population doubling level (PDL) was calculated using the following formula: $PDL = 3.32 (\log N - \log N_0) + PDL_0$, as previously described by Hayflick^[29]. The results are expressed as the mean \pm SD. Data were compared using a *t* test, ns: Nonsignificant differences; PDL: Population doubling level; yASC: Young human adipose-derived stromal/stem cell; oASC: Old human adipose-derived stromal/stem cell.

Supplementary Table 1 Percentage of immunophenotypical markers for positive young and old adipose derived mesenchymal stem cells

	yAS C 01	yAS C 02	yAS C 03	yAS C 04	yAS C 05	yAS C 06	yAS C 07	yAS C 08	yAS C 09	oAS C 01	oAS C 02	oAS C 03	oAS C 04	oAS C 05	oAS C 06	oAS C 07	oAS C 08	oAS C 09
Isotype																		
FITC	1.73	1.12	2.63	1.04	3.88	0.46	0.82	2.74	1.03	2.14	2.76	2.05	0.88	1.12	2.43	1.16	1.71	0.8
Isotype																		
APC	0.65	0.85	0.85	0.69	1.39	0.91	0.5	1.37	1.4	1.1	0.62	2.39	1.68	0.41	0.5	0.72	0.97	1.08
Isotype PE	1.75	0.94	1.21	0.7	3.09	0.94	0.87	2.12	3.06	1.85	0.73	2.8	1.07	0.69	1.65	1.07	1.67	1.3
CD90 FITC	90.4	92	95.1	96.2	86.6	97.3	85.4	82.3	97	94.3	86.3	94.7	90	98.4	89.5	90.1	91.4	97.9
CD73 APC	93.7	98.8	98.4	91.7	96.5	99.9	99.9	98.6	99.7	86.3	91	90.9	99.1	99	99.4	86.9	86.3	99.8
CD105 PE	97.7	99.7	91.3	94.6	90.4	99.9	96.5	91.8	93	98	92.7	93.6	92	97.6	95.3	97.1	91.5	99.4
CD34 FITC	1.88	5.19	4.89	4.66	4.52	4.46	5.96	8.67	1.58	3.18	0.066	1.43	2.86	3.09	4.59	4.44	3.19	4.86
		0.07		0.09														
CD45 APC	0.16	3	0.53	2	0.38	1.15	1.14	0.57	1.17	1.03	0.65	0.18	1.06	0.16	0.66	0.56	0.18	1.48
CD11b PE	1.52	1.35	1.32	4.56	3.48	1.52	1.2	2.07	1.85	1.61	0.93	0.69	1.46	1.17	1.78	1.46	2.14	1.99
CD19 FITC	1.33	2.43	3.11	1.66	3.8	1.11	2.76	2.18	2.08	1.85	2.88	0.42	0.52	1.31	1.51	1.16	1.67	0.88
HLA-DR																		
APC	1.35	0.16	4.45	1.75	1.27	1.69	1.16	0.98	1.35	2.94	4.63	0.87	3.1	3.28	3.1	3.86	4.66	0.87

CD140b PE	99.1	98.5	98.2	99.9	97.3	99.6	99.6	98.9	98.1	92.8	99.9	99	99.8	98.9	99.5	99.6	95.9	99.7
CD31 FITC	1.67	0.66	2.74	0.76	3.67	1.05	3.29	2.35	1.3	1.68	2.69	0.42	0.79	1.35	2.11	1.2	1.86	0.74

yASC: Young human adipose-derived stromal/stem cell; oASC: Old human adipose-derived stromal/stem cell.