Supplementary information

MSCs' conditioned media cytokine and growth factor profiles and their impact on macrophage polarization

Maria Peshkova [1,2,3], Alexander Korneev* [2,3,4], Shakir Suleimanov* [2,3], Irina I. Vlasova [2], Andrey Svistunov [5], Nastasia Kosheleva [2,3,6], and Peter Timashev [1,2,3]

[1] World-Class Research Center "Digital Biodesign and Personalized Healthcare", Sechenov University, 119991 Moscow, Russia

[2] Institute for Regenerative Medicine, Sechenov University, 119991 Moscow, Russia

[3] Laboratory of Clinical Smart Nanotechnologies, Sechenov University, 119991 Moscow, Russia

[4] Medical Polymer Synthesis Laboratory, Institute for Regenerative Medicine, Sechenov University Moscow 119991 Russia

[5] Sechenov First Moscow State Medical University,119991 Moscow, Russia

[6] FSBSI Institute of General Pathology and Pathophysiology, 125315 Moscow, Russia

* these authors contributed equally

** corresponding author: Peter Timashev, PhD., World-Class Research Center "Digital biodesign and personalized healthcare", Sechenov University, Moscow, Russia. Email: timashev_p_s@staff.sechenov.ru

Table S1. Immunophenotype of the MSCs isolated from human adipose tissue, bone marrow, gingiva, placenta, and umbilical cord

		AT-MSCs	BM-MSCs	G-MSCs	PL-MSCs	UC-MSCs
	Markers			***Expression, %***		
Positive	CD73	97.97	99.99	97.81	87.86	98.35
	CD44	99.95	99.98	98.84	99.99	100.00
	CD90	99.41	95.30	96.83	98.37	99.95
	CD105	99.21	99.53	91.27	91.61	99.57
Negative	CD45	0.06	0.23	0.21	0.02	0.00
	CD34	0.06	0.23	0.21	0.02	0.00
	CD19	0.06	0.23	0.21	0.02	0.00
	CD11β	0.06	0.23	0.21	0.02	0.00
	HLA-DR	0.06	0.23	0.21	0.02	0.00

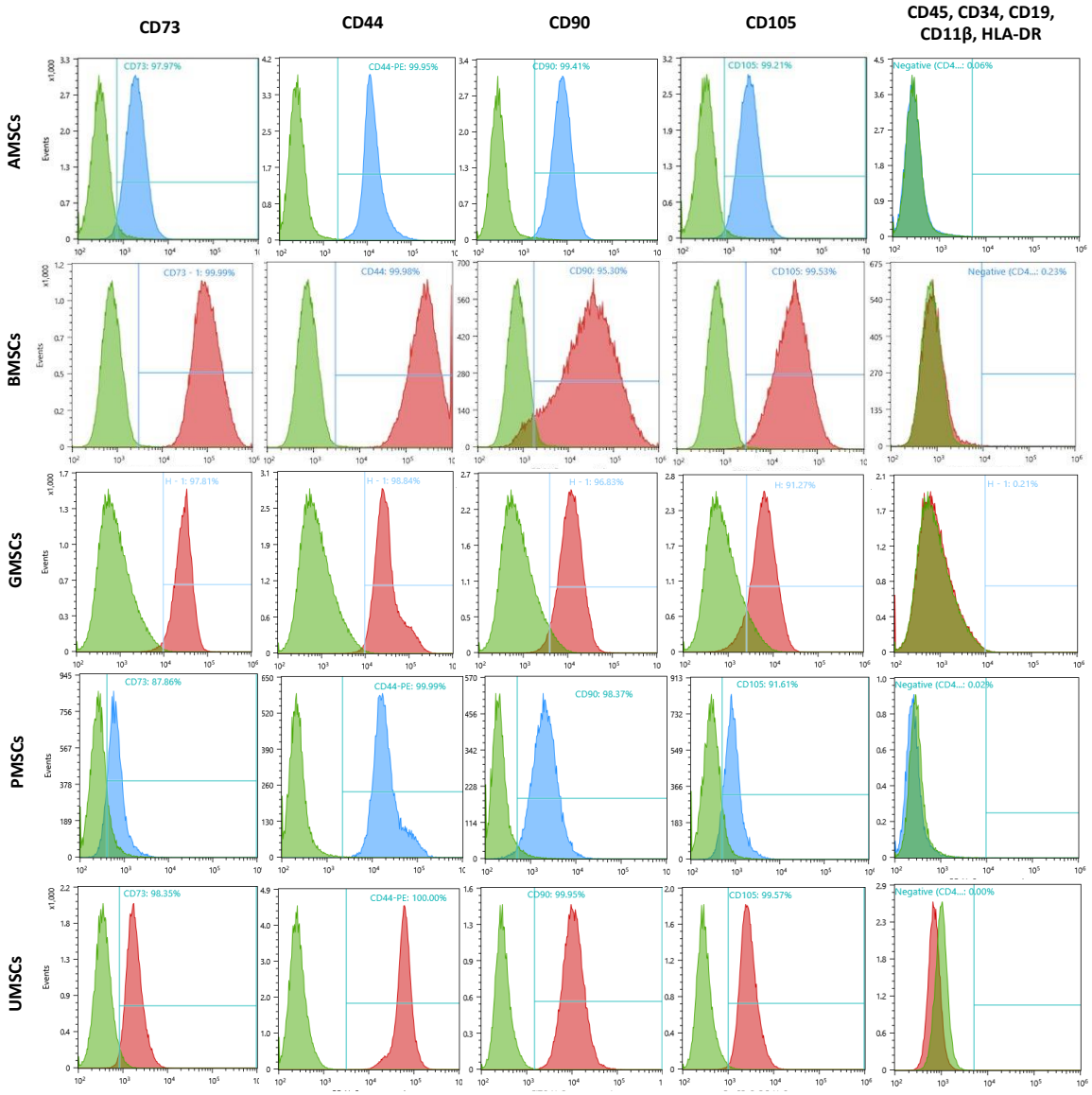

Figure S1. Characterization of AT-MSCs, BM-MSCs, G-MSCs, PL-MSCs, and UC-MSCs by flow cytometry.

The cells (passage 4) were stained for the specific surface markers as described in Materials and Methods section. Expanded cells demonstrated the expression of CD73, CD44, CD90, CD105 and were negative for CD45, CD34, CD19, CD11beta and HLA-DR. Isotype controls (green) were run for comparison.

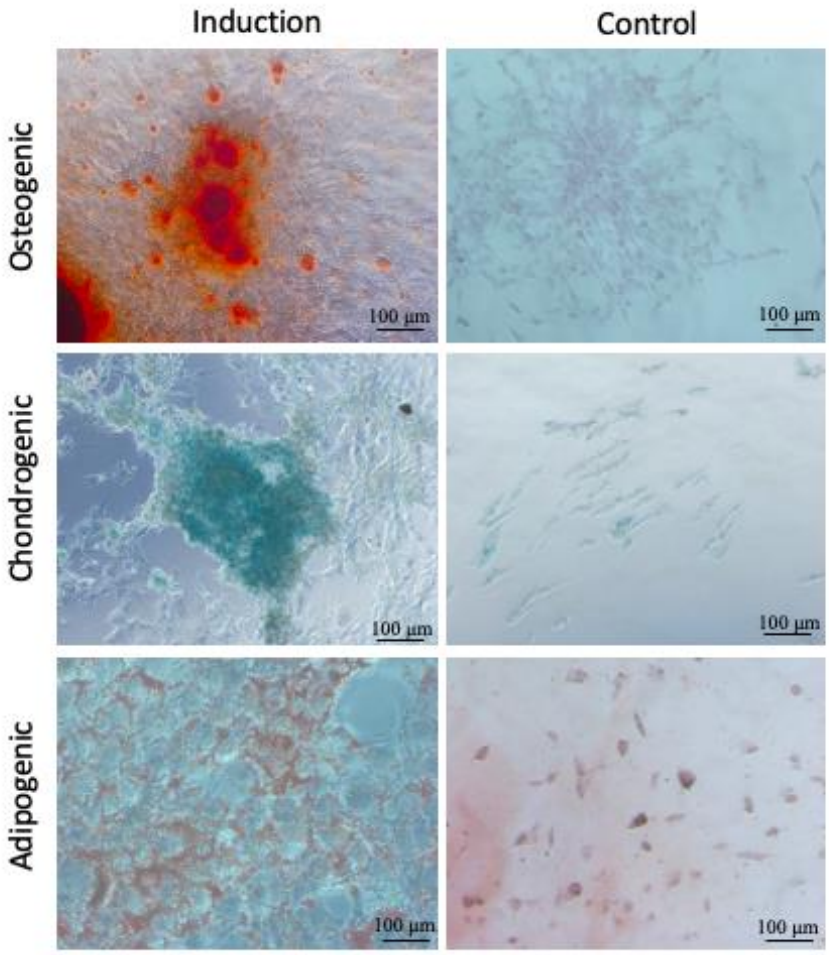

Figure S2. The differentiation potential of the isolated cells

Induction: 21st day of culturing in differentiation media; control: 21st day of culturing in full growth medium; osteogenic differentiation: calcium deposits are stained red with Alizarin Red; osteogenic differentiation: mucopolysaccharides and glycosaminoglycans are stained blue with Alcian Blue; adipogenic differentiation: lipid droplets are stained red with Oil Red O. Phase-contrast microscopy; scale bar = 100 µm.