

Supplemental Results

Supplemental Table 1 Antibodies and FACS staining protocol to assess lymphocytes subsets

Category	tube	Antibody panel				Cell number (thousand)
DC subsets	tube 1	CD11c-APC	DR-PerCP	CD123-PE	Lin1-FITC	500
	Dose (μl)	5	5	5	5	
	Company	BD Biosciences	BD Biosciences	BD Biosciences	BD Biosciences	
	Cat No	340544	347364	340545	340546	
Regulatory T cells	tube 2	CD25-APC	CD4-PerCP	CD127-PE	CD3-FITC	250
	Dose (μl)	5	5	5	3	
	Company	BD Pharmingen	BD Biosciences	BD Pharmingen	BD Pharmingen	
	Cat No	556027	347344	555349	555339	
NK, γδT, B cells	tube 3	CD56-APC	CD3-PerCP	CD19-PE	γδTCR-FITC	250
	Dose (μl)	2	3	5	5	
	Company	BD Biosciences	BD Biosciences	BD Pharmingen	BD Biosciences	
	Cat No	341025	347344	555407	347903	
T cell co-inhibitory molecules	tube 4	CD3-APC	CD8-PerCP	BTLA-PE	PD-1-FITC	250
	Dose (μl)	2	3	2	5	
	Company	BD Biosciences	BD Biosciences	BD Biosciences	eBioscience	
	Cat No	340443	347344	340334	11-9969-73	
T cell activation	tube 5	CD3-APC	DR-PerCP	CD8-PE	CD38-FITC	250
	Dose (μl)	2	5	5	5	
	Company	BD Biosciences	BD Biosciences	BD Pharmingen	BD Biosciences	
	Cat No	340440	347364	555347	340927	
Ki67 expression	tube 6	CD56-APC	CD3-PerCP	Ki67-PE	CD8-FITC	500
	Dose (μl)	2	3	5	2	
	Company	BD Biosciences	BD Biosciences	BD Biosciences	BD Pharmingen	
	Cat No	347313	347344	348047	555349	
Memory T cell subsets	tube 7	CD45RA-APC	CD3-PerCP	CD4-FITC	CD27-PE	250
	Dose (μl)	5	3	5	5	
	Company	BD Biosciences	BD Biosciences	BD Biosciences	BD Biosciences	
	Cat No	340425	347344	340133	340425	
T cell generation and senescence	tube 8	CD3-APC	CD8-PerCP	CD31-PE	CD57-FITC	250
	Dose (μl)	2	3	5	5	
	Company	BD Biosciences	BD Biosciences	BD Pharmingen	eBioscience	
	Cat No	347313	347344	555446	17-0458-73	
HIV-specific pentamer	tube 9	CD38-APC	CD8-PerCP	pentamer-PE	PD-1-FITC	1500
	Dose (μl)	5	3	2	5	
	Company	eBioscience	BD Biosciences	Proimmune	eBioscience	
	Cat No	17-0458-73	347314	555446	11-9969-73	

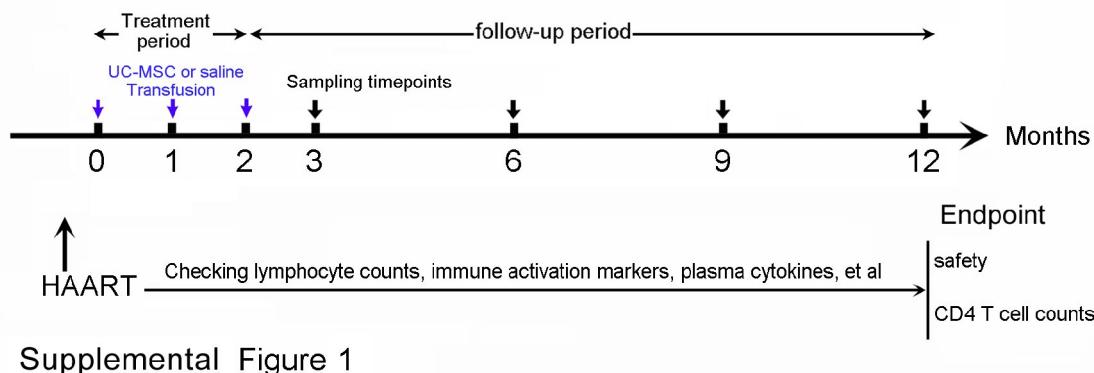
Supplemental Table 2 Safety and tolerability of UC-MSC transfusions in HIV-1-infected patients

Category	0	3	6	9	12
White blood cells ($10^9/L$)	4.7±1.6	4.3±1.2	4.7±1.6	5.3±1.4	4.6±1.5
Neutrophil ($10^9/L$)	2.4±1.16	2.3±1.0	2.2±0.9	2.8±1.0	2.3±1.1
Lymphocyte ($10^9/L$)	1.8±0.5	1.5±0.4	1.7±0.6	1.9±0.6	1.8±0.5
Hemoglobin (g/L)	144±14	139±9	145±11	144±9	143±12
Platelet counts ($10^9/L$)	207±46	201±43	219±48	239±46	216±48
Total protein (g/L)	76±6.1	76±3.3	77±3.2	76±3.4	74±4.3
Serum albumin (g/L)	45±4.2	45±3.2	46±3.3	45±1.1	44±2.2
Serum globulins (g/L)	31±3.2	31±3.3	31±4.2	31±3.4	30±4.5
Total bilirubin ($\mu\text{mol}/L$)	9.8±2.6	10.3±1.9	7.9±2.6	8.6±2.3	7.8±3.3
Alanine aminotransferase (IU/L)	30±20	23±18	26±20	30±17	28±21
Aspartate aminotransferase (IU/L)	35±20	26±16	28±18	29±14	25±10*
Cholinesterase (U/L)	9041±1832	8702±1296	8339±1350	8749±1352	8586±1323
HIV-1 load (copies/ml)	< 50	< 50	< 50	< 50	< 50

* $P < 0.05$ vs. baseline data

Supplemental Figure Legends

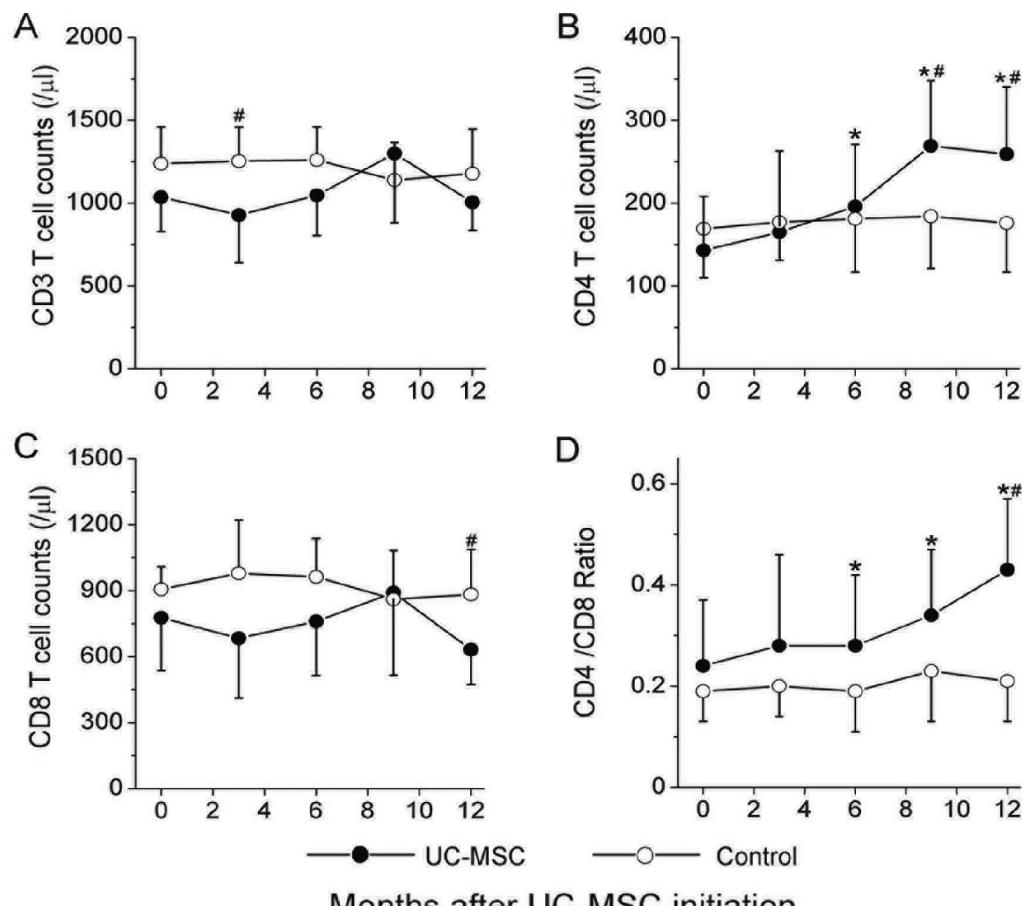
Supplemental Figure 1 Study protocol.



Supplemental Figure 1

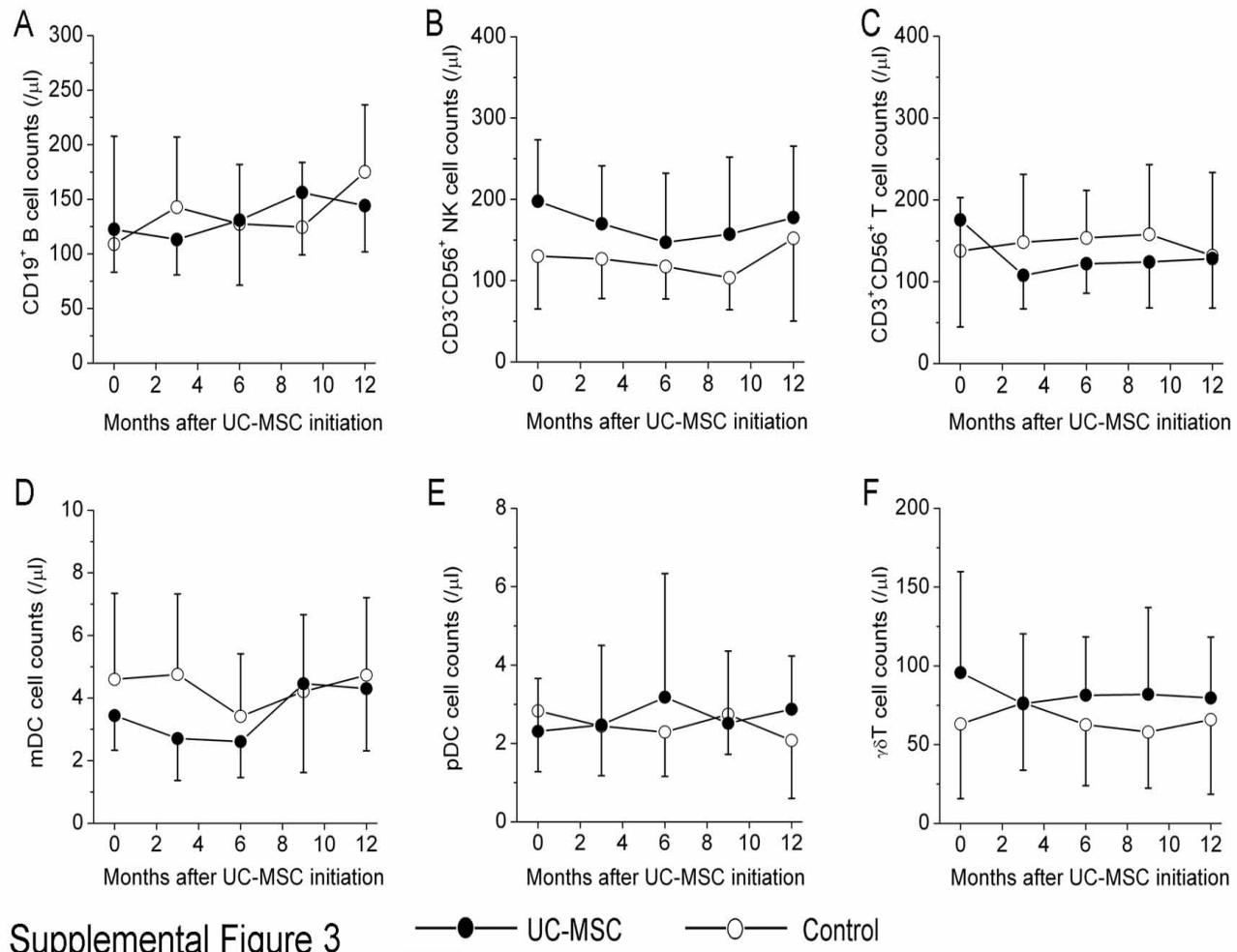
Supplemental Figure 2 Effects of UC-MSC transfusion on peripheral blood T cell subsets.

Absolute counts of CD3 T cells (A), CD4 T cells (B), CD8 T cells (C) and ratios of CD4 and CD8 T cell counts (D) are shown for UC-MSC-treated patients (dots) and control patients (circles). Means \pm SD for each cohort are shown. * P < 0.05 vs. baseline data, Wilcoxon paired T test. # P < 0.05 vs. control, Mann-Whitney U test. UC-MSC transfusions were initiated at month 0.



Supplemental Figure 2

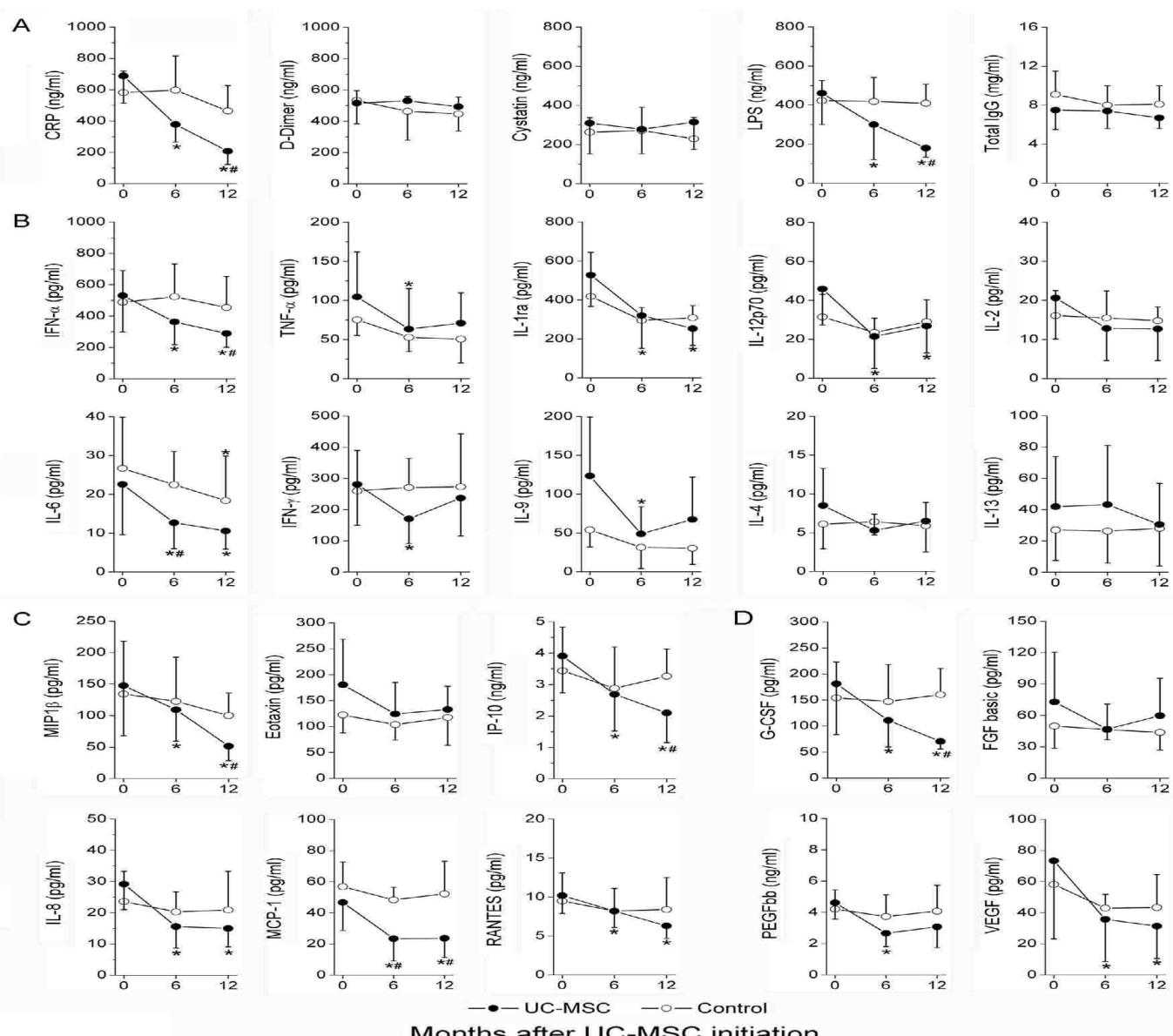
Supplemental Figure 3 Effects of UC-MSC therapy on peripheral blood lymphocyte subsets. Absolute lymphocyte cell counts from complete blood counts and flow cytometry-based frequencies were used to determine evolution of absolute counts of CD3⁺CD19⁺ B cells (A), CD3⁺CD56⁺ NK cells (B), CD3⁺CD56⁺ NKT cells (C), Lin-1⁻HLA-DR⁺CD11c⁺ mDCs (D), Lin-1⁻HLA-DR⁺CD123⁺ pDCs (E) and CD3⁺TCRγδ⁺ T cells (F) in UC-MSC-treated patients (dots) and control patients (circles). Means ± SD for each cohort are shown. UC-MSC transfusions were initiated at month 0.



Supplemental Figure 3

Supplemental Figure 4 UC-MSC treatment and reduction of systemic inflammation.

Effects of UC-MSC transfusions on plasma levels of (A) inflammatory markers including CRP, D-dimer, cystatin, LPS and total IgG levels, (B) inflammatory cytokines including IFN- α 2, TNF- α , IL-1Ra, IL-12p70, IL-2, IL-6, IFN- γ , IL-9, IL-4 and IL-13, (C) chemokines including MIP-1 β , eotaxin, IP-10, IL-8, MCP-1 and RANTES, and (D) growth factors including G-CSF, FGF and PDGF-bb in UC-MSC-treated patients (dots) and control patients (circles). Means \pm SD for each cohort are shown. * P < 0.05 vs. baseline data, Wilcoxon paired T test. # P < 0.05 vs. control, Mann-Whitney U test. UC-MSC transfusions were initiated at month 0.



Supplemental Figure 4