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Supplemental Information

Vectofusin-1 Promotes RD114-TR-Pseudotyped Lentiviral Vector Transduction of Human HSPCs and T Lymphocytes

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Table S1: Lack of toxicity of Vectofusin-1 on VSV-G and RD3-MolPack transduced CD34$^+$ cells

	VSV-G				RD3-MolPack			
	Retronectin		Vectofusin-1		Retronectin		Vectofusin-1	
	Mock	Transduced	Mock	Transduced	Mock	Transduced	Mock	Transduced
Cord blood derived CD34$^+$ HSPCs								
Total colonies (CFU-GM, BFU-E+CFU-E, CFU-GEMM)/10^6 cells	1.68E+05	2.94E+05	1.80E+05	3.03E+05	1.04E+05	1.29E+05	1.10E+05	1.29E+05
Bone marrow derived CD34$^+$ HSPCs								
Total colonies (CFU-GM, BFU-E+CFU-E, CFU-GEMM)/10^6 cells	7.25E+04	7.92E+04	1.15E+05	8.04E+04	7.25E+04	5.88E+04	1.15E+05	9.00E+04

The data derive from a single donor of CB and from the best donor of the three BM CD34$^+$ HSPCs tested

Table S2: LV supernatant lots

LOT				Potency		
			Concentration	Titer (TU/ml)[a]	p24 gag (µg/ml)	Infectivity (TU/ng)
VSV-G SIN-GFP LV[b]	Transient	Cell Factory	Anion exchange gel filtration chromatography	2.2×10^8	5.5	4.0×10^4
VSV-G SIN-GFP LV[c]	Transient	Cell Factory	Anion exchange gel filtration chromatography	3.5×10^8	1.1	3.3×10^5
RD114-TR SIN-GFP LV	Stable	Bioreactor[d]				
LOT 1[b]			High Speed[e]	1.9×10^8	18.1	1.0×10^4
LOT 2[c]			Low speed[f]	1.4×10^8	15.7	9.2×10^3
LOT 3[g]			High Speed	5.5×10^7	18.7	2.9×10^3
LOT 4[g]			Low speed	3.6×10^7	16.1	2.2×10^3
LOT 5[g]			Low speed	1.6×10^8	27.6	5.7×10^3
LOT 6[h]			Low speed	2.0×10^7	17.2	1.2×10^3
LOT 7[h]			Low speed	2.5×10^7	32.0	7.9×10^2
LOT 8[h]			Low speed	2.0×10^7	17.7	1.1×10^3

[a] On CEM A3.01 cells
[b] Lots used for CB-derived hCD34+ transductions (Figure 1-2)
[c] Lots used for BM-derived hCD34+ transductions (Figure 1-2)
[d] Disposable two compartment bioreactor, CELLine AD1000 (Integra Bioscience, Zizers, Switzerland)
[e] 50,000 g at 4°C for 2 hours in a Beckman L-80 ultracentrrifuge SW32Ti rotor (Beckman Coulter, Brea, CA)
[f] 3,000 g at 4°C for 16 hours in a Multifuge 32-R
[g] Lots used for small-scale T lymphocyte transductions (Figure 3-4-5)
[h] Lots used for large-scale T lymphocyte transductions (Figure 5)