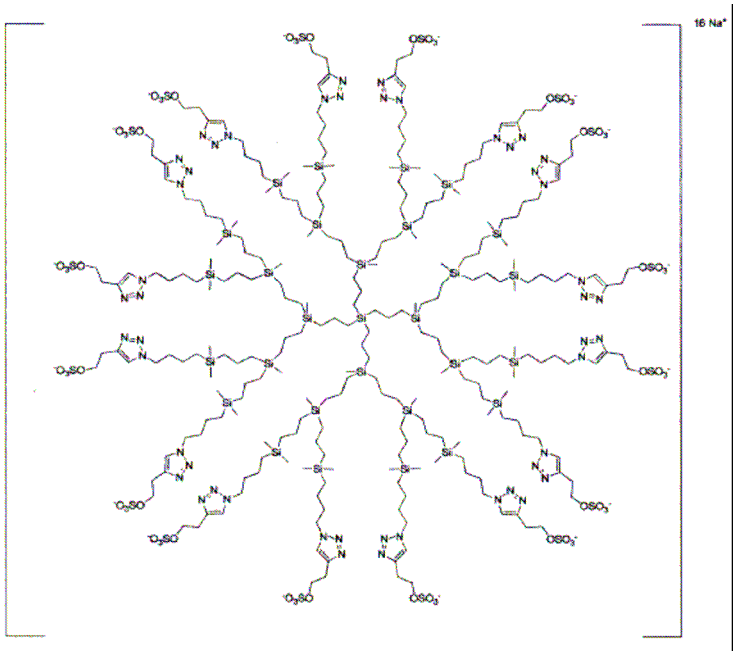
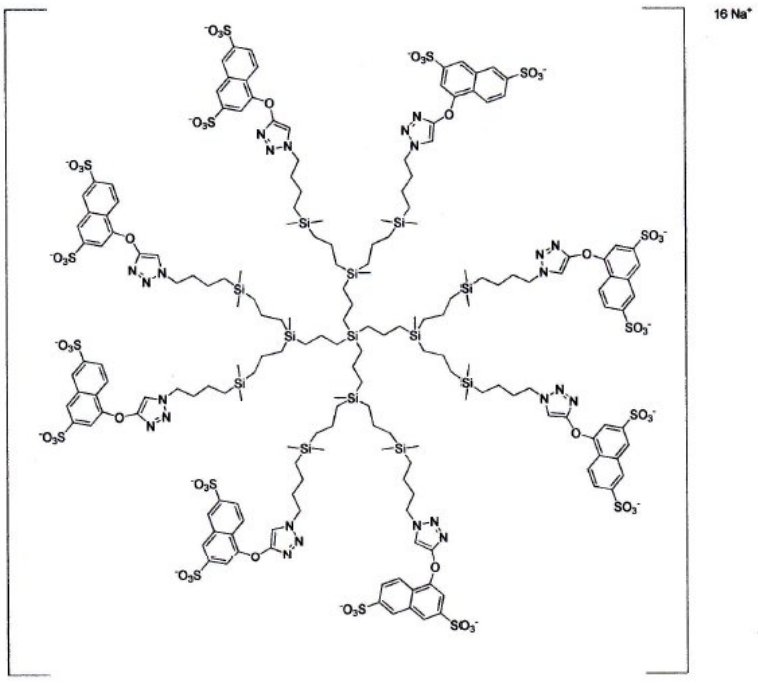
Supplemental data

A

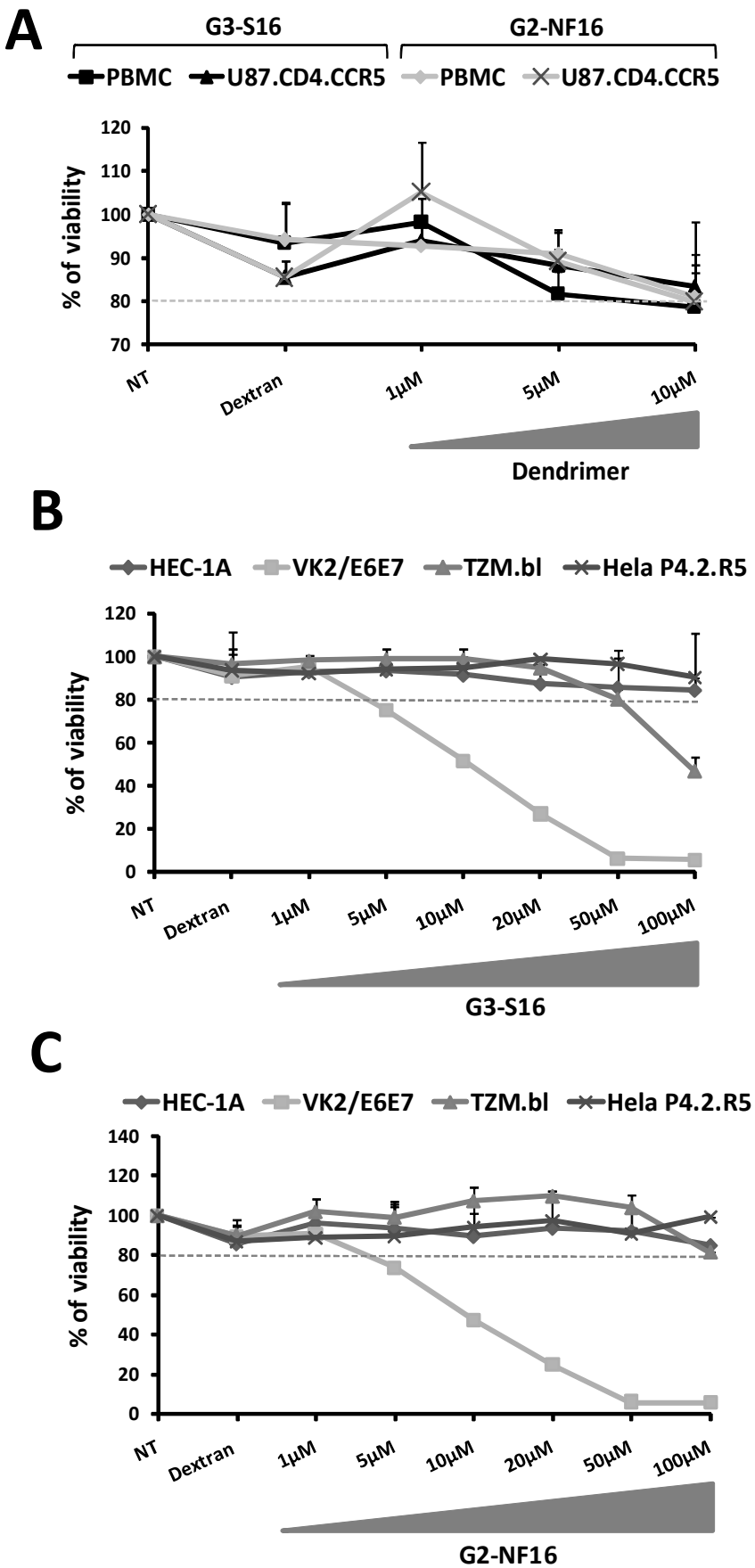


B

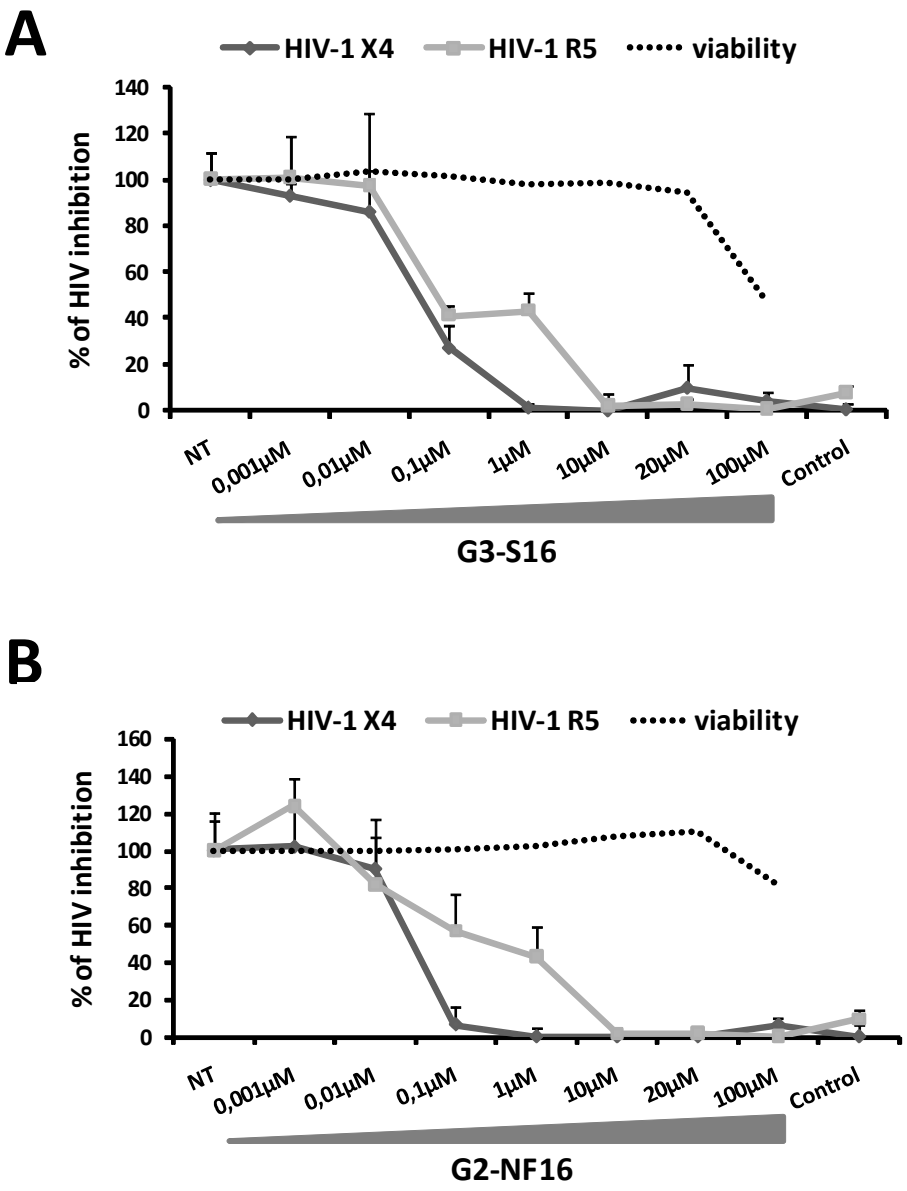


Supplemental figure 1. Structure of polyanionic carbosilane dendrimers.

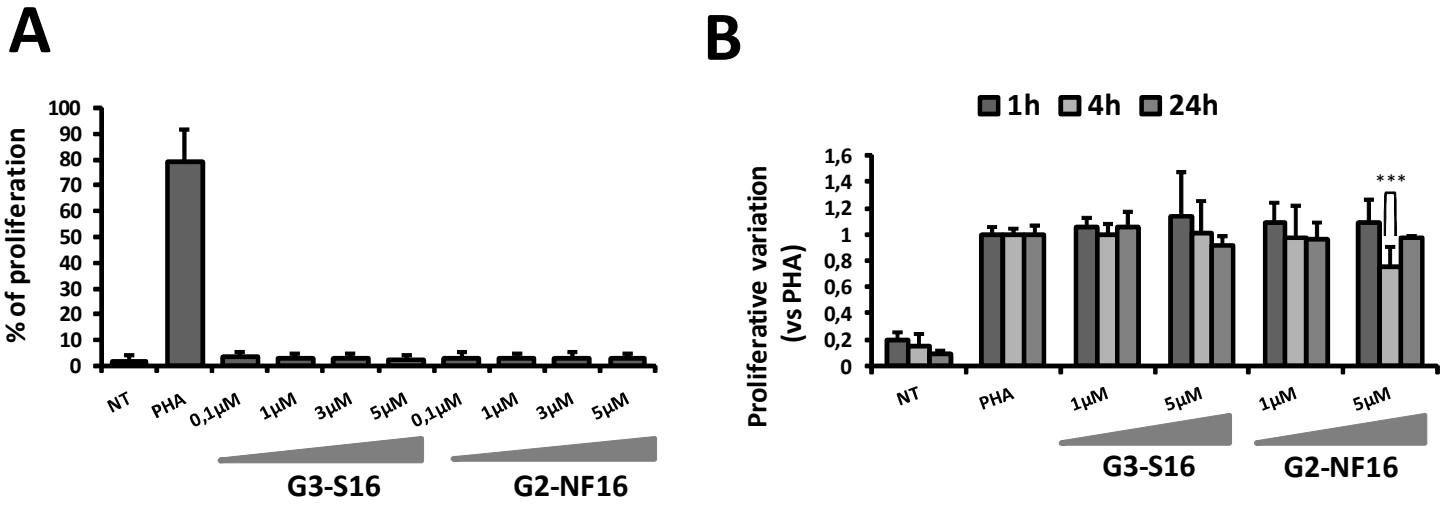
(A) Third-generation G3-S16, with 16 sulphated end groups. $C_{256}H_{508}N_{48}Na_{16}O_{64}S_{16}Si_{29}$; Pm: 6978.41 g/mol.**(B)** Second-generation G2-NF16, with 16 naphthylsulfonated end groups. $C_{184}H_{244}N_{24}Na_{16}O_{56}S_{16}Si_{13}$; Pm: 4934.02g/mol.



Supplemental figure 2. Viability studies of polyanionic carbosilane dendrimers G3-S16 and G2-NF16 in primary cell cultures and different human cell lines. **(A)** MTT assay on PBMC and U87.CD4.CCR5 after 24h of G3-S16 (black lines) or G2-NF16 (grey lines) exposure. A range from 1μM to 10μM was used. Dextran 10μM was used as negative control of cellular death. 80% of viability was set as limit of toxicity. **(B)** MTS assay on HEC-1A, HELA MAGIP4.2.R5,TZM.bl and VK2/E6E7 after 24h of G3-S16 exposure. **(C)** MTS assay after 24h of G2-NF16 exposure. Data arerepresented as mean ± SD of three independent experiments.



Supplemental figure 3. Inhibition of X4 and R5 HIV-1 replication by G3-S16 and G2-NF16 in TZM.bl human cell line. TZM.bl were treated with increased concentrations of G3-S16 **(A)** and G2-NF16 **(B)** 1h before HIV-1 infection. After 3 days viral infection and replication were quantified measuring luciferase expression levels. Cytotoxicity and efficacy were evaluated in parallel by MTS assay. EC_{50} values, were calculated by linear regression analysis using CalcuSyn software. Data are represented as mean ± SD of two independent experiments.



Supplemental figure 4. Effect of G3-SF16 and G2-NF16 on PBMC proliferation. **(A)** Intrinsic effect of anionic dendrimers on PBMC proliferation. PBMC treated with PHA were used as proliferative positive control. Proliferation was determined as loss of CFSE at day 5. **(B)** Dendrimer-pretreated PBMC proliferation after PHA stimulus at day 5. PBMC were pretreated with dendrimers for 1, 4 or 24h previous to 2µg/mL PHA stimulus. (*:$p < .05$, ***:p< .001 vs control). Data are represented as mean ± SD of three independent experiments.

Supplemental table 1. Profile of cytokines produced by HEC-1A . HEC-1A cells were treated or not (control condition) with G3-S16 and G2-NF16 dendrimers (5µM) at the indicated times. Cytokine expression levels were determined as pg/ml on culture supernatant by flow cytometry. Data are represented as mean of two experiments.

		Time (h)			
Cytokine	**Condition**	**0,5**	**1**	**3**	**24**
IL12p70	**Control**	ND	ND	ND	ND
	G3-S16	ND	ND	ND	ND
	G2-NF16	ND	ND	ND	ND
TNF-α	**Control**	31,345	31,345	31,345	31,345
	G3-S16	31,345	31,345	31,345	31,345
	G2-NF16	31,345	31,345	31,345	31,345
IL-1β	**Control**	ND	ND	ND	ND
	G3-S16	ND	ND	ND	ND
	G2-NF16	ND	ND	ND	ND
IL-17A	**Control**	ND	ND	ND	ND
	G3-S16	ND	ND	ND	ND
	G2-NF16	ND	ND	ND	ND
IL-4	**Control**	13,3075	13,3075	13,26	13,285
	G3-S16	13,2375	13,2375	13,2125	13,26
	G2-NF16	13,285	13,1675	13,2375	13,2825
IL-6	**Control**	ND	ND	ND	ND
	G3-S16	ND	ND	ND	ND
	G2-NF16	ND	ND	ND	ND
IL-8	**Control**	ND	ND	ND	ND
	G3-S16	ND	ND	ND	ND
	G2-NF16	ND	ND	ND	ND
IL-10	**Control**	ND	ND	ND	ND
	G3-S16	ND	ND	ND	ND
	G2-NF16	ND	ND	ND	ND
IL-2	**Control**	8,055	8,1925	8,1425	8,545
	G3-S16	8,275	8,4025	8,3675	8,075
	G2-NF16	8,125	8,2275	8,5025	8,0975
IFN-g	**Control**	ND	ND	ND	ND
	G3-S16	ND	ND	ND	ND
	G2-NF16	ND	ND	ND	ND

Supplemental table 2. Cytokines production by VK2/E6E7 cells. VK2/E6E7 epithelial cells were treated with polyanionic carbosilane dendrimers G3-S16 and G2-NF16 (3µM) during 0.5, 1, 3 or 24h. Cytokines production was determined as pg/ml and followed in supernatants by flow cytometry analysis. Data are represented as mean of two experiments.

		Time (h)			
Cytokine	**Condition**	**0,5**	**1**	**3**	**24**
IL12p70	**Control**	ND	ND	ND	ND
	G3-S16	ND	ND	ND	ND
	G2-NF16	ND	ND	ND	ND
TNF-α	**Control**	31,345	31,345	31,345	31,345
	G3-S16	31,345	31,345	31,345	31,345
	G2-NF16	31,345	31,345	31,345	31,345
IL-1β	**Control**	32,9775	27,18	27,595	27,455
	G3-S16	30,265	28,2925	25,1575	27,18
	G2-NF16	29,805	29,2325	24,09	22,3225
IL-17A	**Control**	ND	ND	ND	ND
	G3-S16	ND	ND	ND	ND
	G2-NF16	ND	ND	ND	ND
IL-4	**Control**	14,0075	14,2675	14,1025	14,2175
	G3-S16	14,1025	14,0325	14,055	14,1025
	G2-NF16	13,845	14,01	14,1275	13,7975
IL-6	**Control**	ND	ND	ND	ND
	G3-S16	ND	ND	ND	ND
	G2-NF16	ND	ND	ND	ND
IL-8	**Control**	1,0225	0,985	1,03	1,9575
	G3-S16	0,5025	0,6025	0,94	2,915
	G2-NF16	1,165	1,795	4,5775	3,28
IL-10	**Control**	220,08	199,13	211,5625	179,065
	G3-S16	177,5275	181,3625	170,14	165,115
	G2-NF16	179,7275	183,8775	179,065	154,7625
IL-2	**Control**	9,92	10,225	10,3675	10,8625
	G3-S16	8,415	8,51	8,315	8,27
	G2-NF16	8,08	8,0125	8,0775	7,9625
IFN-g	**Control**	ND	ND	ND	ND
	G3-S16	ND	ND	ND	ND
	G2-NF16	ND	ND	ND	ND