

Supplemental Table 1.

Clinical Parameters of HIV-infected patients

	HIV-infected patients (n = 231)
CD4+ cell count (cells/mm ³)	438 ± 265
CD4+ cells (%)	24.4 ± 11.2
Log Viral load (copy/ml)	4.3 ± 0.8
IL-6 levels (pg/ml)	4.9 ± 8.3

Values are mean ± SD.

Supplemental Table 2. Clinical and biological characteristics of HIV-infected patients according to their CD4+ T-cell counts.

	<200 cells/mm³ (n=41)	201-350 cells/mm³ (n=45)	351-500 cells/mm³ (n=63)	> 500 cells/mm³ (n=82)
CD4+ cell count (cells/mm ³)	93.5±62.8***	280.6±44.1***	414.9±43.6***	717.2±204.9
CD4+ cells (%)	8.9±6.1***	20.8±6.8***	25.9±7.5***	33.2±8.0
Log Viral Load (copy/ml)	4.9±0.8***	4.3±0.7***	4.4±0.7**	3.9±0.8
IL6 (pg/ml)	7.3±8.2**	3.3±3.1	5.6±12.8	3.8±5.4
Age (y)	40.5±10.3**	36.6±9.7	38.4±9.8*	35.0±7.9
BMI (kg/m ²)	22.6±3.1	23.9±4.3	24.2±3.8	23.3±4.3
CETP activity (%)	29.6±9.1	26.1±7.5	27.7±6.8	27.3±6.9
TC (mg/dl)	161.9±45.0*	166.1±40.6*	172.7±36.3	182.7±44.8
TG (mg/dl)	138.4±87.5**	112.6±81.8	90.0±44.4	93.7±52.6
HDLC (mg/dl)	39.9±14.2	45.7±17.8	43.4±12.7	46.4±11.4
LDLC (mg/dl)	96.3±37.7**	97.3±32.1**	111.6±31.7	117.4±37.0
APOB (mg/dl)	76.0±23.9**	77.9±23.1	83.9±24.5	85.2±23.7
APOA1 (mg/dl)	101.8±25.7**	110.4±30.5	104.8±18.2*	113.0±20.5

BMI: Body Mass Index; TC: Total Cholesterol; TG: Triglycerides; LDLC: low density lipoprotein cholesterol; HDLC: high density lipoprotein cholesterol. No significant difference in plasma CETP activity was observed in each CD4+ subgroups (<200 CD4+/mm³ or 201-350 CD4+/mm³ or 351-500 CD4+/mm³) as compared to the highest CD4+ count subgroup (>500 CD4+/mm³) in unadjusted analysis or following adjustment for plasma lipids levels, BMI, sex and age.

Values are mean ± SD. ***p<0.0001, **p<0.007 and *p<0.04 versus subgroup of HIV-infected patients displaying the highest circulating levels of CD4+ (>500 cells/mm³).

Supplemental Table 3:

Pearson's correlation and partial correlation coefficients with CD4+ cell count in HIV-infected patients

Parameters	r unadjusted	<i>p value</i>	r adjusted for age	<i>p value</i>
Age	0.05	<i>0.47</i>	-	-
IL-6	-0.08	<i>0.31</i>	-0.19	<i>0.02</i>
BMI	-0.12	<i>0.06</i>	0.02	<i>0.72</i>
CETP activity	-0.06	<i>0.37</i>	0.02	<i>0.79</i>
TC	0.17	<i>0.007</i>	0.24	<i>0.0002</i>
logTG	-0.39	<i>0.55</i>	-0.11	<i>0.09</i>
HDL-C	0.13	<i>0.04</i>	0.15	<i>0.02</i>
LDL-C	0.20	<i>0.0017</i>	0.26	<i><0.0001</i>
ApoB	0.11	<i>0.08</i>	0.17	<i>0.009</i>
ApoAI	0.12	<i>0.05</i>	0.16	<i>0.01</i>

Supplemental Table 4. Percentage Weight Chemical Composition of HDL Subfractions isolated from HIV-uninfected controls, HIV-infected patients before and after HAART

	Patient group	FC (%)	PL (%)	P (%)	TG (%)	CE (%)	CE/TG	FC+PL/ CE+TG
HDL2b	HIV-Uninfected	5.6± 1.2	22.7 ± 1.3	40.6 ± 3.3	5.5 ± 0.7	25.5± 1.9	4.6	0.9
	HIV-Infected	5.2 ± 0.6	21.2 ± 1.5	41.5 ± 3.7	7.6 ± 0.8***	24.4 ± 3.8	3.2***	0.8
	HIV-Treated	5.0 ± 0.2	21.2 ± 0.7	43.1 ± 3.1	6.4 ± 0.7‡	24.3 ± 1.1	3.8**	0.9
HDL2a	HIV-Uninfected	4.0 ± 1.6	21.8 ± 1.4	44.6 ± 3.0	4.7 ± 0.6	24.9 ± 2.2	5.3	0.9
	HIV-Infected	3.4 ± 0.3	20.9 ± 1.5	45.0 ± 2.8	6.2 ± 0.5***	24.6 ± 2.6	4.0**	0.8
	HIV-Treated	3.0 ± 0.3	20.6 ± 1.5	46.7 ± 2.6	5.6 ± 0.7	24.1 ± 1.8	4.3	0.8
HDL3a	HIV-Uninfected	2.5 ± 0.7	19.7 ± 2.4	51.9 ± 4.9	4.5 ± 0.5	21.4 ± 3.0	4.8	0.9
	HIV-Infected	2.7 ± 0.2	19.1 ± 0.4	50.4 ± 3.0	5.7 ± 0.6***	22.1 ± 2.8	3.9*	0.8
	HIV-Treated	2.5 ± 0.2	18.4 ± 0.4	54.5 ± 2.0	5.3 ± 0.5	19.3 ± 2.2	3.6	0.8
HDL3b	HIV-Uninfected	1.9 ± 0.4	16.1 ± 2.8	63.1 ± 6.7	5.0 ± 1.0	13.9 ± 3.3	2.8	1.0
	HIV-Infected	2.2 ± 0.3	17.2 ± 0.7	59.7 ± 2.7	6.0 ± 0.9*	15.0 ± 3.3	2.5	0.9
	HIV-Treated	2.4 ± 0.3	17.0 ± 0.7	63.8 ± 2.8	5.9 ± 0.9	11.0 ± 3.3‡	1.9*	1.1
HDL3c	HIV-Uninfected	2.6 ± 1.1	15.4 ± 2.2	72.8 ± 4.0	5.6 ± 1.1	5.6 ± 2.7	1.0	1.6
	HIV-Infected	2.5 ± 0.9	15.5 ± 1.3	69.5 ± 1.8	6.2 ± 1.1	6.3 ± 2.5	1.0	1.4
	HIV-Treated	2.6 ± 0.9	14.9 ± 1.8	74.0 ± 3.1	5.4 ± 1.1	3.2 ± 1.5‡	0.6	2.0

* $P < 0.05$, ** $P < 0.005$ versus control, *** $P < 0.0005$ versus HIV-uninfected patients. ‡ $p < 0.05$ and ‡‡ $p < 0.005$ versus HIV-infected patients before treatment.

Supplemental Table 5

Percentage Weight Chemical Composition of apoB containing Subfractions isolated from HIV-uninfected controls, HIV-infected patients before and after HAART

	Patient group	FC (%)	PL (%)	P (%)	TG (%)	CE (%)	CE/TG	FC+PL/ CE+TG
VLDL	HIV-Uninfected	10.5±1.4	14.5 ± 1.7	15.6 ± 2.8	27.3 ± 7.0	32.1 ± 3.2	1.2	0.4
	HIV-Infected	9.0 ± 3.4	12.2 ± 2.2*	15.0 ± 3.2	33.2 ± 8.5	30.6 ± 4.1	0.9	0.3
	HIV-Treated	9.4 ± 0.9	13.5 ± 1.0	15.9 ± 0.8	27.9 ± 3.1	33.3 ± 4.4	1.2	0.4
IDL	HIV-Uninfected	9.3 ± 0.9	16.7 ± 3.9	17.9 ± 4.2	24.7 ± 7.8	31.5 ± 3.9	1.3	0.5
	HIV-Infected	8.5 ± 0.8*	15.5 ± 2.6	17.2 ± 1.8	27.9 ± 1.9	30.9 ± 2.9	1.1	0.4
	HIV-Treated	8.0 ± 0.6*	15.9 ± 3.0	18.6 ± 2.3	25.5 ± 3.7	32.1 ± 6.2	1.3	0.4
LDL-1	HIV-Uninfected	10.1 ± 0.7	16.3 ± 0.9	21.3 ± 3.5	12.7 ± 3.2	39.5 ± 3.3	3.1	0.5
	HIV-Infected	8.9± 0.7***	18.4 ± 1.5***	20.5± 2.2	18.1 ± 2.5***	34.0 ± 3.6***	1.9***	0.5
	HIV-Treated	8.6 ± 0.5**	17.2 ± 1.6	21.7 ± 0.7	14.1 ± 1.5‡	38.4 ± 3.1‡‡	2.7‡	0.5
LDL-2	HIV-Uninfected	10.3 ± 0.6	14.6 ± 0.5	19.9 ± 2.0	8.3 ± 1.5	46.8 ± 1.4	5.6	0.5
	HIV-Infected	9.3± 0.5***	15.3 ± 0.6**	21.2 ± 1.9	12.9 ± 1.7***	41.4 ± 2.8***	3.2**	0.5
	HIV-Treated	9.0 ± 1.0**	14.6 ± 0.5‡	21.2 ± 0.9	9.8 ± 0.9‡‡	45.4 ± 1.6‡	4.6*,‡	0.4
LDL-3	HIV-Uninfected	10.1 ± 0.8	14.7 ± 0.4	20.8 ± 2.7	7.4 ± 0.9	47.0 ± 2.3	6.4	0.5
	HIV-Infected	9.3 ± 0.6*	14.3± 0.5*	21.2 ± 1.9	9.2 ± 0.9***	46.0 ± 1.7	5.0	0.4***
	HIV-Treated	8.4 ± 1.2**	14.5 ± 0.5	22.0 ± 2.0	8.6 ± 0.6‡	46.5 ± 0.8	5.4*	0.4*
LDL-4	HIV-Uninfected	9.2 ± 0.9	15.8 ± 1.1	25.5 ± 3.0	8.6 ± 1.2	41.0 ± 3.8	4.8	0.5
	HIV-Infected	8.6 ± 0.7	14.8 ± 1.0*	24.5 ± 2.1	9.4 ± 1.8	42.7 ± 3.7	4.5	0.4**
	HIV-Treated	7.6 ± 1.0*,‡	16.1 ± 0.3‡	27.2 ± 2.4	9.8 ± 0.9	39.3 ± 2.0	4.0	0.5
LDL-5	HIV-Uninfected	7.7± 1.0	20.0 ± 1.9	30.0 ± 4.0	7.9 ± 0.8	34.0 ± 4.1	4.3	0.7
	HIV-Infected	7.8 ± 0.7	18.2 ± 2.4	30.8 ± 2.6	10.1± 1.4***	33.2 ± 4.5**	3.3**	0.6
	HIV-Treated	6.9 ± 0.4*,‡	20.6 ± 0.7	28.1 ± 3.0	9.2 ± 0.8*	35.2 ± 2.5	3.8	0.6

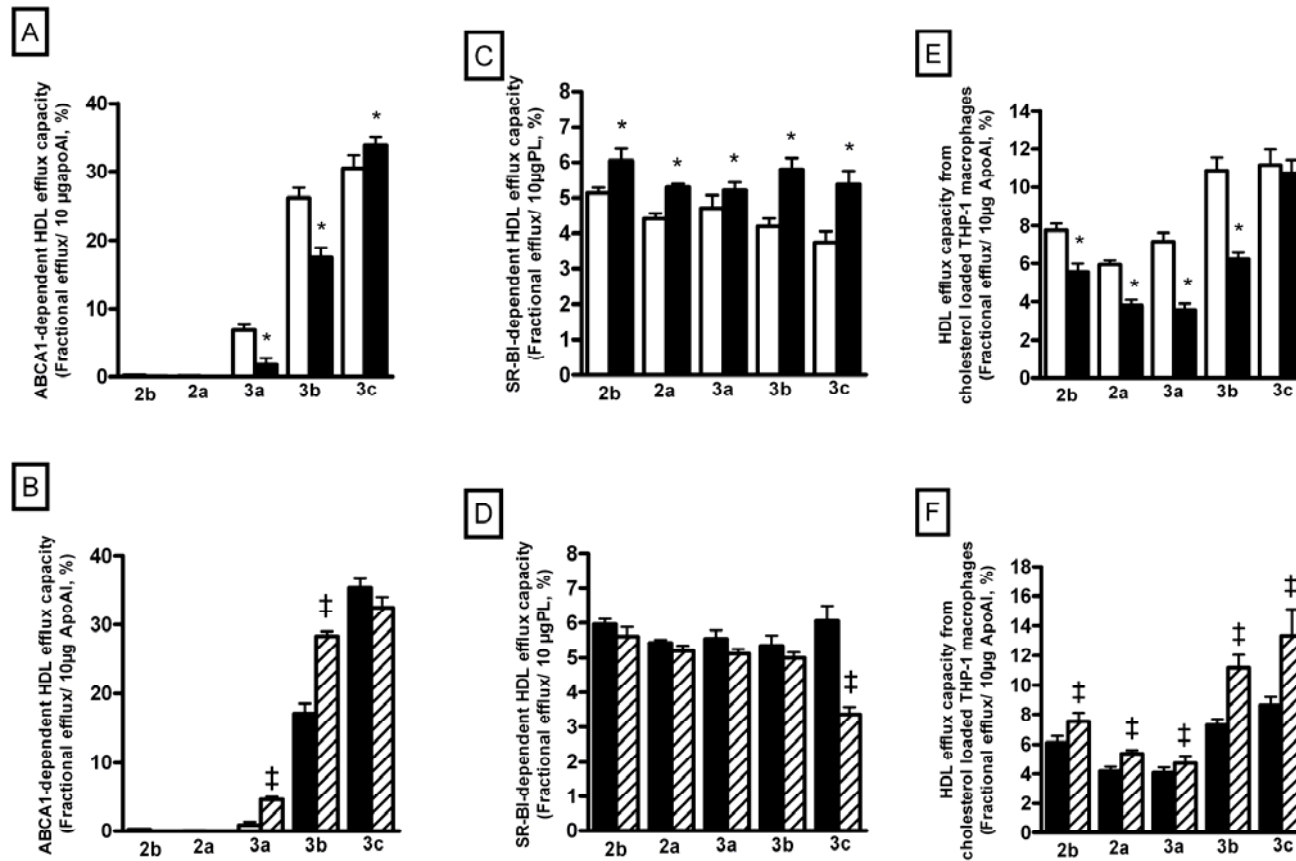
FC: free cholesterol; PL: phospholipids, P: total protein, TG: triglycerides, CE: Cholesteryl esters. Values are mean ± SD.

*p < 0.05, **p < 0.005 versus control, *** p < 0.0005 versus HIV-uninfected controls. ‡p<0.05 and ‡‡p<0.005 versus HIV-infected patients before treatment.

**Supplemental Table 6:
Impact of HAART duration on plasma cholesterol efflux capacity and major biological parameters**

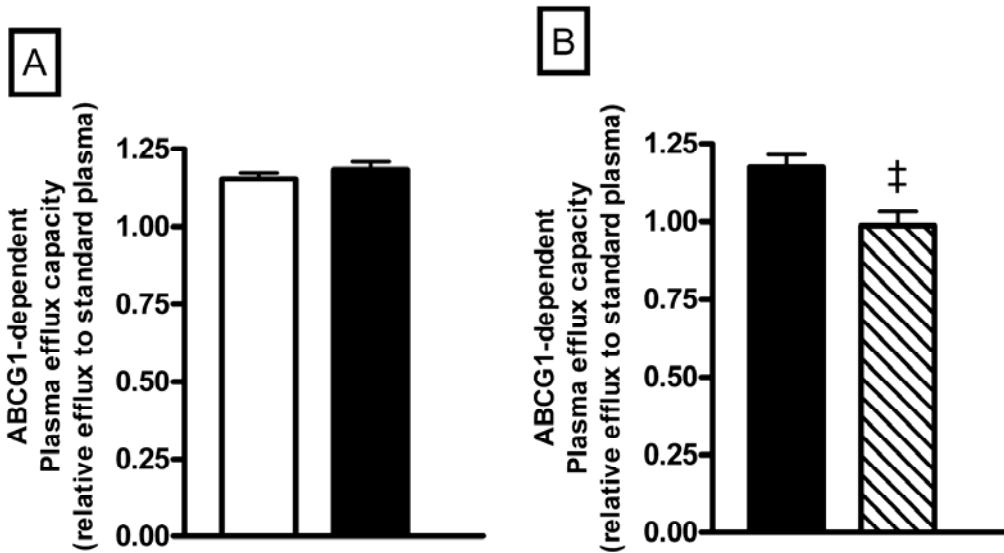
Parameters	β	P Value
Plasma efflux capacity from THP-1	-0.002	0.24
Plasma efflux capacity via ABCA1	-0.0009	0.48
Plasma efflux capacity via SR-BI	0.002	0.18
Plasma efflux capacity via ABCG1	-0.0008	0.75
Endogenous plasma CETP activity	-0.001	0.72
HDL-C	0.14	0.18
LDLC	0.23	0.44
TG	-0.12	0.63
CT	0.33	0.32
apoB	-0.0009	0.55
apoA1	0.0008	0.67
CRP	0.96	0.86
IL-6	-0.36	0.04

Supplemental Figure 1



Bar graphs showing efflux capacity of isolated HDL subspecies determined in HIV-infected subjects (n=231; closed bars) and HIV-uninfected controls (n= 200; open bars) (panels A-C-E) and in a subset of HIV-infected patients before (n= 41; closed bars) and after HAART (n= 41; hatched bars) (panels B-D-F). Fractional cholesterol efflux is expressed as a function of fixed concentrations of HDL-apoAI for ABCA1-dependent efflux (panels A and B) or HDL efflux to THP-1 macrophages (panels E and F) and of HDL-PL for SR-BI-dependent efflux (panels C and D) Values are mean \pm SEM. *P<0.05 versus controls and †p<0.05 versus HIV-infected patients before treatment.

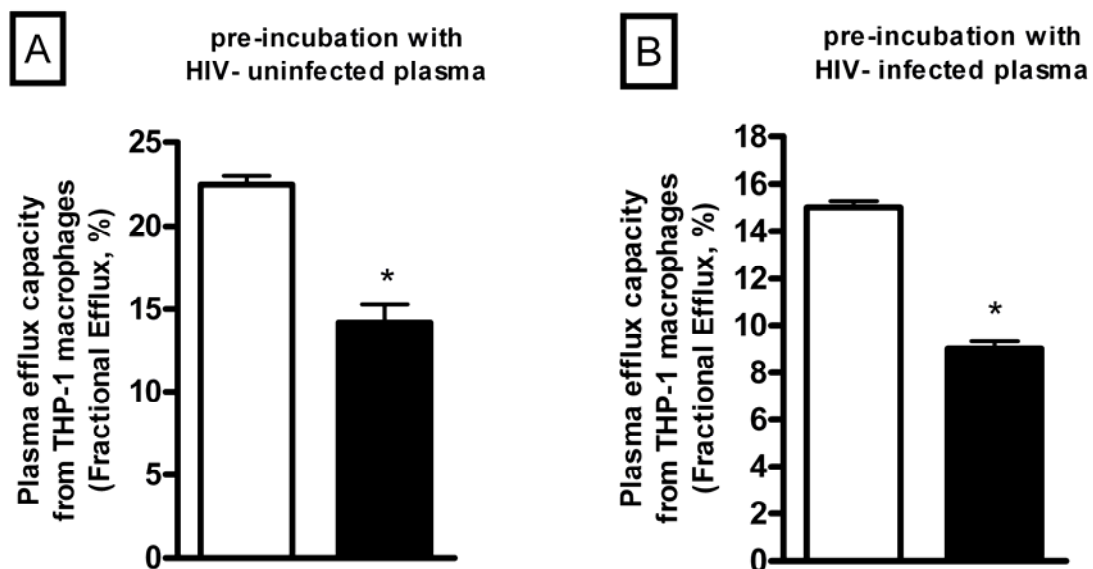
Supplemental Figure 2



Panel A: Bar graphs showing plasma efflux capacities determined in HIV-infected patients (closed bars) and HIV-uninfected controls (open bars).

Panel B: Bar graphs showing plasma efflux capacities determined in HIV-infected subjects before (closed bars) and after HAART (hatched bars). The ABCG1-dependent efflux was calculated as the difference between cholesterol efflux to human ABCG1-transfected Chinese hamster ovary-K1 cells and cholesterol efflux to wild-type Chinese hamster ovary-K1 cells after 4 h incubation in the presence of 40-fold-diluted plasma. Values are mean \pm SEM. ‡ $p < 0.002$ versus HIV-infected patients before treatment.

Supplemental Figure 3



Prior to efflux experiment, human THP-1 macrophages were incubated for 24h in the presence of 10% plasma from either HIV-uninfected patients (Panel A) or HIV-infected control subjects (panel B) diluted in RPMI media. Then efflux experiments were performed during 4hours incubation in the presence of 40-fold diluted total plasma from HIV-uninfected patients (n=6; open bars) and HIV-infected patients (n=6; closed bars). Values are mean \pm SEM. Experiments were performed in triplicate and values correspond to the mean of two independent experiments. * $p < 0.05$ versus HIV-uninfected control subjects.