

Supplemental information

Supplemental Table 1

Supplemental Table 1: Number of regulated genes in HIV infected RTECs

Hours P.I	Free-HIV infection		Cell-associated HIV infection	
	up-regulated	down-regulated	up-regulated	down-regulated
12	69	90	141	205
24	87	61	173	136
72	137	77	600	570

Supplemental Table 2

Supplemental Table 2: Top 100 genes differentially regulated in HIV-1 infected RTECS

up- regulated	CCL20 CXCL6 CSF2 IL8 C15orf48 CXCL1 ELF3 CXCL5 CLEC4E CEBPD CXCL2 CXCL3 PTX3 CCL2 POU2F2 ICOSLG SLCO2B1 PAPP A CDKN2B SAA1 RNF144B DLX2 ZNF107 SAA2 C3 ANGPTL7 AR SIRPB1 GDA PPP1R14D IQCD GATA1 LCN2 CLDN11 TUBA8 TNFRSF11B PLAT PDZK1IP1 PPAP2B NTN1 TMPRSS2 PNMA6A AKR1B1 GDF15 VCAM1 C4orf26 GPR110 DCN SLC34A2 SERPINA1 PTGES TNC SH2D2A CYP1B1 P4HA2 TMEM159 TNFAIP6 EREG FN1 GCNT3 BNIPL FAM20A CRTAC1 SLC7A14 SLC6A19 CTSS DCST2 IGDCC4 SH3RF3 LOX ABCA12 PLOD2 GJA1 KYNU MED22 KCTD4 B3GNT4 STAT1 BTN2A3 HAVCR1 CLDN1 NYNRIN MXRA5 CD40 MT1L TMEM2 SDC4 TPBG RWDD2A ANO1GPR68 BAIAP2L2 ABLIM3 AMPD3 SEMA3A CD83 OAF TGFB1 TXNIP IRAK3 PTGER2
down- regulated	HLA-DQA1 BATF HLA-DRB5 CD5 IRF4 RGS1 SH2D1A RUNX3 IL2RB CD86 CXCL9 TP63 IL2RG TPRG1 CD74 HLA-DRB1 FAM43A CD4 CCR7 HLA-DRA LCP1 RARRES3 IL2RA PTPN7 CD6 HLA-DQB1 CD53 LSP1 CYTIP HLA-DRB3 CD48 NRN1 SERPING1 TMEM155 ITGAL WAS RASSF5 HCLS1 EGR2 FCGR2B DUSP2 LAMP3 CYP1A1 ATF3 ELMO1 MMP9 BEX2 LAPTM5 EBI3 CCND2 IL18BP IFI30 HLA-B GALM JAKMIP1 TRPC6 DERL3 CTH SLC27A2 HLA-DPB1 PRDM1 C17orf28 PTPRN2 LOXL3 RASGRP4 DDIT3 IKZF1 MYO1G ATP1A3 CHN1 S100A4 IFITM1 RGS4 WARS CORO1A ALDH5A1 KCNAB2 BST2 INPP5D LCP2 MAP2 VAV1 ASB2 C1S ITGB2 KRT81 RLTPR MAP4K1 CLEC18BFLRT2 C1R PLCB2 MAOB H1FO STX11 HLA-A NCF2 B2M HLA-C CIITA CITED2

Supplemental Table 3

Supplemental Table 3: qRT-PCR primer sets for human cytokines/chemokines

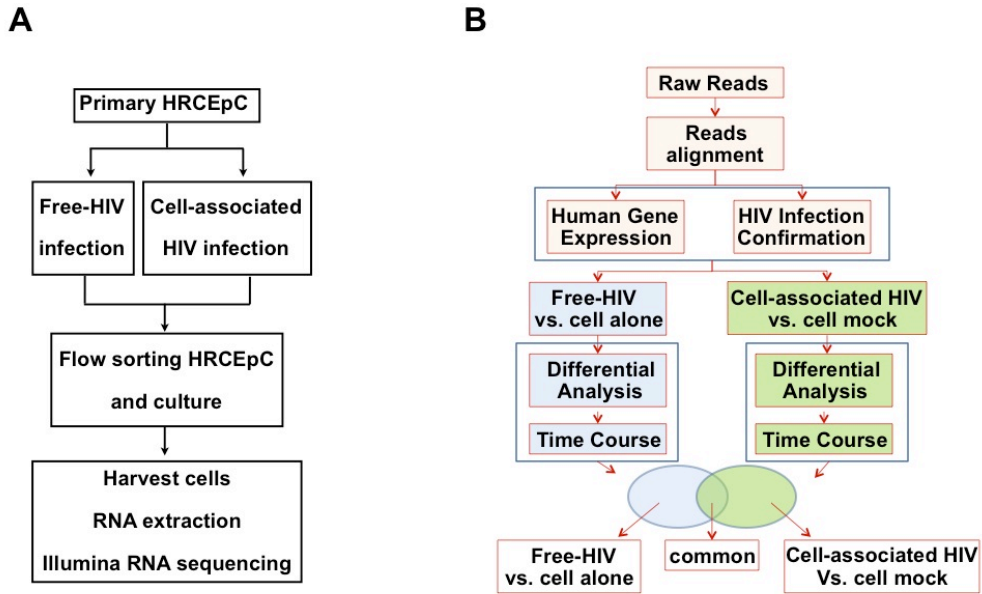
	<u>forward (5' - 3')</u>	<u>reverse (5' - 3')</u>
IL-6	GGTACATCCTCGACGGCATCT	GTGCCTCTTTGCTGCTTTCAC
IL-8	AAGGAACCATCTCACTGTGTGTAAC	ATCAGGAAGGCTGCCAAGAG
CXCL1	AACCGAAGTCATAGCCACAC	GTTGGATTTGCTACTGTTTCAGC
CXCL2	TGCAGGGAATTCACCTCAAG	TGAGACAAGCTTTCTGCCCA
CXCL3	TTGTGATTGTTTGCTCTGAGAGTTC	CGGTCGTCACCAGACACACT
CXCL5	GAGAGCTGCGTTGCGTTTG	TTTCCTTGTTTCCACCGTCCA
CXCL6	CGCTGGTCCTGTCTCTGCT	GTTTTTCTTGTTTCCACTGTCC
CCL4	CCCTGGCCTTTCCTTTCAGT	AGCTTCTCGCGGTGTAAGA
CCL20	ATGTGCTGTACCAAGAGTTT	CAAGTCTGTTTTGGATTGTC
GAPDH	CAACGGATTTGGTCGTATTGG	GGCAACAATATCCACTTTACCAGAGT

Supplemental Table 4

Supplemental Table 4: Human CD4 T cell phenotype Ab panels

Antibody	Clone	CDs	Conjugate	Source
CXCR1	8F1	CD181	Alexa Fluor 488	Biolegend (#320616)
CXCR2	5E8	CD182	APC	Biolegend (#320710)
CCR7	G043H7	CD197	PE	Biolegend (#353204)
CD45RA	HI100	CD45	Pacific Blue	Biolegend (#304118)
CD45RO	UCHL1	CD45	PerCP/Cy5.5	Biolegend (#304222)
CD162L	DREG56	CD162	Alexa Fluor 488	Biolegend (#304816)

Supplemental Figure 1



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Figure S1. Schematic of experimental design

(A) Strategy of HIV infection of RTECs, RNA extraction for Illumina RNA deep sequencing.

(B) Workflow chart for differential analysis of gene expression on Illumina sequencing data.

Supplemental Figure 2

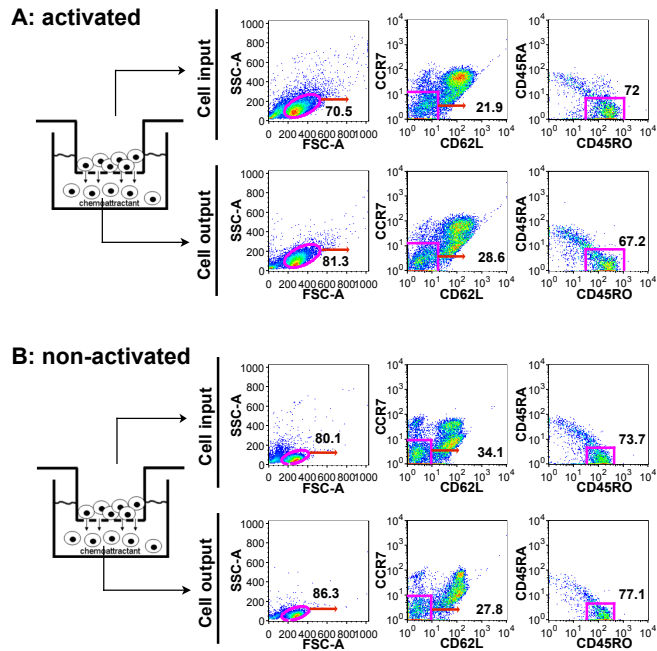


Figure S2. HIV infection induced effector memory CD4⁺ T cell chemotaxis

Supernatants collected from cultured RTECs at day 3 post HIV infection (cell-associated infection) were tested as chemoattractants. PHA activated (A) or non-activated (B) CD4⁺ T cells were placed at the top chamber. Cell migration was terminated after incubation at 37°C for three hours. Migrated cells were washed once with PBS and stained with a panel of cell marker antibodies T_{CM} (CCR7⁻CD62L⁻CD45RO⁺CD45RA⁻) and analyzed by flow cytometry using FlowJo software.