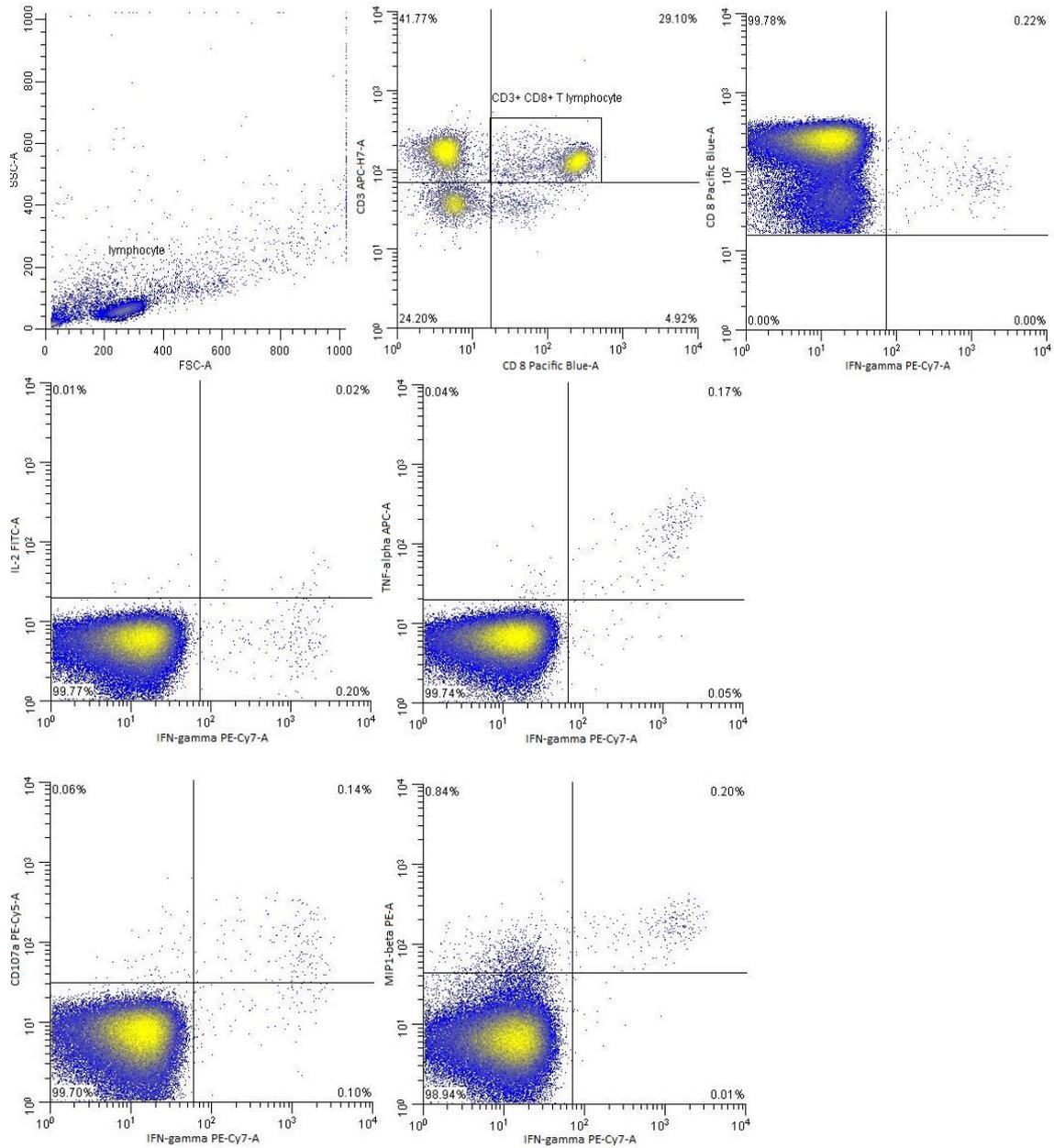


Supplementary figure 1. Neighbor-joining phylogenetic tree of 10 HIV gag gene from Thai donors with reference Thailand HIV sequence (subtype B, CRF01_AE, CRF01_B, CRF01_C, CRF15_01B and CRF34_01B) Sequences derived from 10 chronically HIV infected Thai donors were indicated with grey shading. Sequences which were genotypically related were group together within black box. Nine sequences (NKP, PSH, S74, S155, SBP, S52, TPT, VPC and S59) were genetically related to CRF_01AE subtype, while one sequence (AJT) was related to Clade B.



Supplementary figure 2. Gating strategy for identification of high functional quality

responding CD8⁺ T cells Plots shown were a representative data from OLP18-specific CD8⁺ T cell response from subject HN30, a viraemic controller. Upper column showed a gating scheme for CD3⁺CD8⁺ T cell population. The upper rightmost plot and 4 lower plots showed a gating scheme for CD3⁺CD8⁺ T cells responded with IFN- γ , IL-2, TNF- α , CD107a and MIP-1 β , respectively.

Supplementary table 1. HIV-1 Gag p24 overlapping peptides (OLPs) and HLA-B27, -57 and -58 restricted epitopes

Peptide names	Amino acid sequences
OLP1	PIVQNAQGQMIHQSLSPRTL
OLP2	IHQSLSPRTLNAWVKVVEEK
OLP3	NAWVKVVEEKGFSPEVIPMF
OLP4	GFSPEVIPMFSALSEGAVPQ
OLP5	SALSEGAVPQDLNMMLNIVG
OLP6	DLNMMLNIVGGHQAAMQMLK
OLP7	GHQAAMQMLKETINEEAAEW
OLP8	ETINEEAAEWDRLHPVHAGP
OLP9	DRLHPVHAGPIPPGQMREPR
OLP10	IPPGQMREPRGSDIAGTTST
OLP11	GSDIAGTTSTLQEIQWMTS
OLP12	LQEIQWMTSNPPIPVGDYI
OLP13	NPPIPVGDYIKRWIILGLNK
OLP14	KRWIILGLNKIVRMYSVSI
OLP15	IVRMYSVSIILDIRQGPKEP
OLP16	LDIRQGPKEPFRDYVDRFYK
OLP17	FRDYVDRFYKTLRAEQATQE
OLP18	TLRAEQATQEVKNWMTETLL
OLP19	VKNWMTETLLIQNANPDCKS
OLP20	IQNANPDCKSILKALGTGAT
OLP21	ILKALGTGATLEEMMTACQG
OLP22	LEEMMTACQGVGGPSHKARV
OLP23	VGGPSHKARVLAEAMSHAQQ
KK10	KRWIILGLNK
LW9	LSPRTLNAW
KF11	KGFNPEVIPMF
EW10	ETINEEAAEW
QW9	QATQEVKNW
GM9	GTGATLEEM
TW10	TSTLQEIQGW