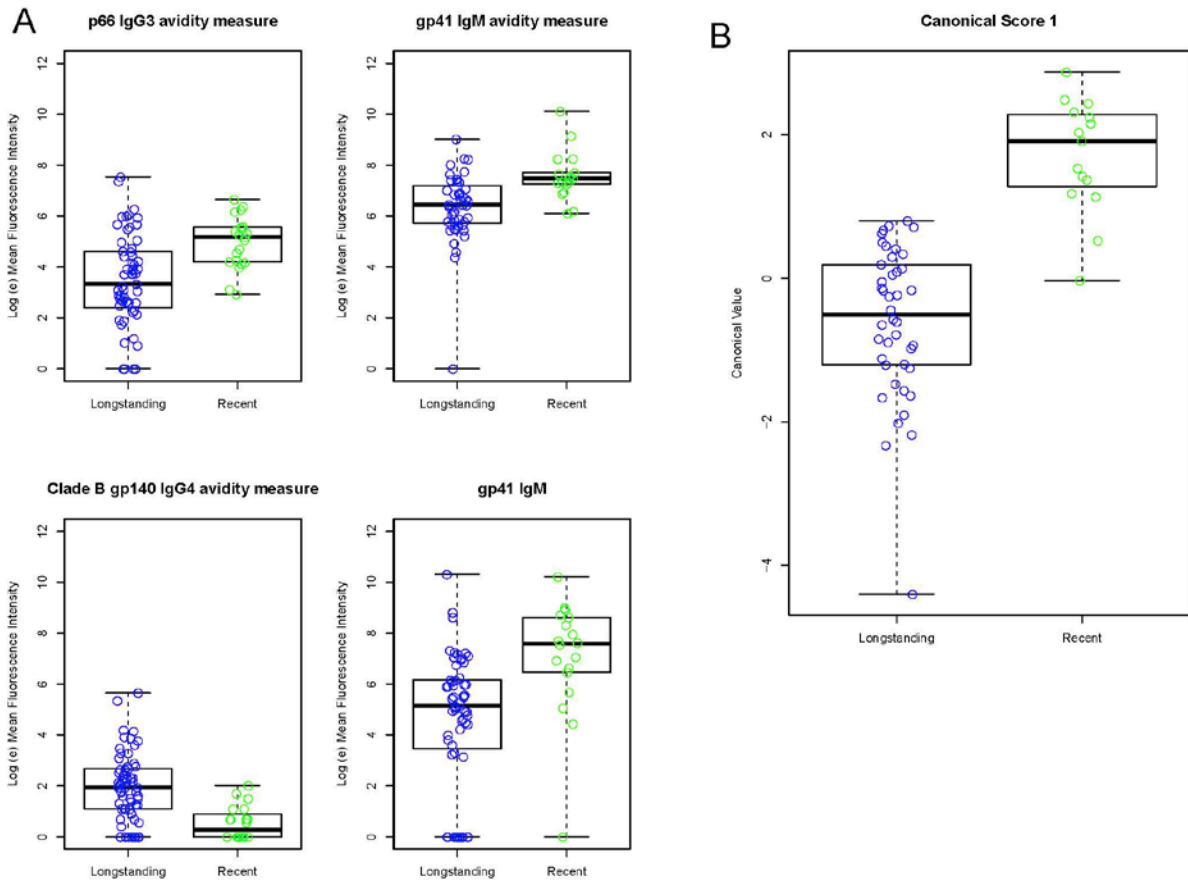


Several cohorts contributed specimens to this study through contributions to the CEPHIA specimen repository: UCSF Options and Scope Studies (San Francisco, US); AMPLIAR study group (Porto Alegre and Sao Paulo, Brazil); IAVI protocol C, ¿Sabes? (IMPACTA, Lima, Peru); CAPRISA (KwaZulu Natal, South Africa); GAMA (Manhica, Mozambique).

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C

		Assigned Group		
		Longstanding	Recent	Total
Group	Longstanding	42	0	42
	Recent	2	13	15
	Total	44	13	57

Total misclassification

3.5% (2/57)

Supplemental Figure 1. Multiple sets of 4 HIV-1 specific analytes classify recent infection with 0% False Recent Rate

An array of 282 antigen-antibody combinations was tested via Binding Antibody Multiplex Assay (BAMA) and subsequently analyzed using discriminant function analysis. **A.** The top measurements resulting in an False Recent Rate (FRR) of 0%, **B.** Canonical 1 Score for one of the top solutions includes p66 IgG3 avidity, subtype B Transmitted Founder (T/F) WITO gp140 IgG4 avidity, gp41 IgM binding, and gp41 IgM avidity. **C.** Group = Classification based on days from Estimated Date of Seroconversion (EDSC) less than or greater than 270 days. Assigned group = classification predicted by canonical values obtained via BAMA.

	gp140	gp120	C1/V1	V2
Subtype A/AE	9004S,	A244, 254008, 51802	A244	A244, C2101, 06RUSPR163lorII3V2, 191084, 254006P00Ra, 9004SS, C3347
Subtype B	WITO4160, SC42261 RHPA4259	6240, 63251, MN, TT31, BORI	MN	WITO4160, BCaseA_V1_V2, 700010058, REJO4541
Subtype C	1086, CH505 BF1266	1086, 96ZM651, TV1c8		96ZM9651, 1086, BF1266, Ce704010042, 001428
CRF07 B/C		CNE20 BJOX002000		BJOX002000
Consensus	A1 Con, AE Con, B Con, C Con, ConS	Con6	BC AE	AE, B, C

Supplemental Table S1. HIV-1 envelope sequence names and subtypes for down-selected envelope proteins (i.e. gp140, gp120) and epitopes (C1/V1 and V2) regions. In addition to multiple subtypes (A, CRF01-AE, B, C, CRF07-BC) and both genders (M, F), envelope sequences represent infections from multiple transmission routes (i.e. heterosexual transmission, homosexual transmission, breastfeeding, and IV drug use), multiple regions (China, India, Kenya, Malawi, Russian Federation, South Africa, Thailand, Trinidad and Tobago, Uganda, United States, Zambia) and Fiebig Stage of infection (i.e. I, I/II, II, III, IV, V, and VI)

	gp140	gp120	C1/V1	V2	V3	C5	gp41*
Consensus	A1 Con, AE Con, B Con, C Con, ConS	Con6	BC AE	AE, B, C	A, B, C, CRF01AE, D, M	AE, B, C	AE, B, C

Supplemental Table S2. Consensus sequence names for down-selected proteins (*i.e.* gp140, gp120) and C1/V1, V2, V3, C5 and gp41 peptide regions. CD4BS and CD4i antigens also included (HxB2new8bcore1420R, RSC3, RSC3delta371, RSC3delta371_P363N, provided by Dr. John Mascola, Vaccine Research Center). *

Sequences within the gp41 region also included the following:

KQLQARVLAVERYLKDQQLLG; LQARVLAVERYLKDQKFLGLWGCSGKIICTTAAP;

KQLQARVLAVERYLKDQQLLGIWGCSGKLICTTAV;

LQARILAVERYLKDQQLLGIWGCSGKLICTTTAP; and KQLQARVLAIERYLKDQQLLG)

Protein	Supplier
p31	Jena Biosciences
p66 (RT)	Protein Sciences
p24 (Gag)	BD Biosciences

Supplemental Table S3. Non-Envelope sequences for down-selected antigen panel.