

Analytical and Bioanalytical Chemistry

Electronic Supplementary Material

Design and application of GB virus C (GBV-C) peptide microarrays for diagnosis of GBV-C / HIV-1 co-infection

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Table S1. Description of fluorescence values of microarray assays for the three groups of sera by antigenic zone. Median and Interquartile Range (IR)

	Peptide	Sera					
		Negative controls n=38		HIV-1+/E2 GBV-C- n=38		HIV-1+/E2 GBV-C+ n=38	
		Median	IR	Median	IR	Median	IR
Zone I	P1	1	39	-37	98	-70	151
	P2	15	445	185	1480	359	1459
	P3	-427	1336	959	2298	2160	2099
	P4	-317	1093	2249	3355	3661	3353
	P5	-425	1041	400	1023	656	919
	P6	12	855	285	1562	1060	1857
	P7	37	755	203	657	187	1019
	P8	-11	90	-60	199	-84	241
	P9	-4	80	-113	231	-154	265
Zone II	P10	773	1153	1156	2420	1571	3982
	P11	250	246	783	1349	1130	1099
	P12	912	650	4383	6182	6184	3975
	P13	81	167	547	930	1014	942
	P14	391	1463	1427	3419	3232	5373
	P15	413	417	6088	9051	8277	10297
	P16	263	458	2557	4147	4078	3638
	P17	159	316	2453	4475	4156	3130
	P18	133	194	1011	1648	1687	1294
	P19	159	184	423	781	800	1232
	P20	296	330	742	1964	1573	4453
	P21	-3	88	-130	328	-76	507
	P22	-49	110	-150	230	-177	342
	P23	-92	221	-134	316	-170	356
	P24	-255	795	878	1313	2087	2922
	P25	-86	366	-278	548	-18	754
	P26	86	210	-11	243	-17	221
P27	13	327	55	547	208	753	
Zone III	P45	47	68	-88	172	-94	243
	P46	203	436	43	744	155	669
	P47	67	119	8	196	20	192
	P48	71	107	-18	148	39	248
	P49	246	422	551	1188	738	1606
	P50	-59	199	593	2412	887	2619
	P51	-248	3187	826	2712	1216	4028
	P52	763	859	1799	2573	3550	6006
	P53	191	186	183	912	165	871
	P54	-25	46	96	1369	536	2945
	P55	45	510	-233	790	-142	943
Controls	C1	59	77	-18	253	-3	330
	C2	27	186	3	141	5	192

Table S2. Second Selection: fluorescence comparison between pairs of panels. Results of Wilcoxon Rank-Sum Test (p-values). Multiple comparison adjustment using *False Discovery Rate* (FDR) correction with Simes's method. A comparison is considered statistically significant if the corresponding p-value is lower or equal the specific $\alpha_{corrected}$ for this comparison. Selected peptides(shadowed) were those peptides with greater fluorescence values in HIV-1+/E2GBV-C- panel than in Negative Controls panel AND greater values in HIV-1+/E2GBV-C+ panel than in HIV-1+/E2GBV-C- panel AND with a median of fluorescence greater than 1,000 in HIV-1+/E2GBV-C+ panel

Peptide		Negative controls vs HIV-1+/E2GBV-C-		HIV-1+/E2GBV-C- vs HIV-1+/E2GBV-C+	
		p-value	\square corrected	p-value	\square corrected
Zone I	P1	---		---	
	P2	0,0239*	0,0350	0,4907	0,0457
	P3	0,0000*	0,0007	0,0000*	0,0129
	P4	0,0000*	0,0014	0,0000*	0,0136
	P5**	0,0000*	0,0021	0,0003*	0,0236
	P6	0,0175*	0,0343	0,0000*	0,0143
	P7	0,0008*	0,0257	0,9316	0,0500
	P8	0,0008*	0,0264	0,1433	0,0379
	P9	---		0,1125	0,0364
Zone II	P10	0,0007*	0,0250	0,0001*	0,0221
	P11 ^o	0,0000*	0,0029	0,0128*	0,0336
	P12	0,0000*	0,0036	0,0009*	0,0271
	P13	0,0000*	0,0043	0,0000*	0,0150
	P14	0,0000*	0,0050	0,0000*	0,0157
	P15	0,0000*	0,0057	0,0000*	0,0164
	P16	0,0000*	0,0064	0,0000*	0,0171
	P17	0,0000*	0,0071	0,0000*	0,0179
	P18	0,0000*	0,0079	0,0000*	0,0186
	P19 ^{oo}	0,0000*	0,0086	0,0000*	0,0193
	P20	0,0268*	0,0357	0,0000*	0,0200
	P21	0,0000*	0,0093	0,3264	0,0421
	P22	0,0000*	0,0100	0,1823	0,0407
	P23	0,0064*	0,0321	0,2023	0,0414
	P24	0,0000*	0,0107	0,0000*	0,0207
P25**	0,0027*	0,0286	0,0039*	0,0293	
P26	---		0,6538	0,0464	
P27	0,3617	0,0429	0,1809	0,0400	
Zone III	P45	---		0,0900	0,0493
	P46	---		0,3993	0,0436
	P47	---		0,4277	0,0450
	P48	---		0,0054*	0,0314
	P49	0,0005*	0,0243	0,7403	0,0471
	P50	0,0000*	0,0114	0,9233	0,0486
	P51	0,0002*	0,0229	0,0044*	0,0307
	P52	0,0000*	0,0121	0,0000*	0,0214
	P53	0,1500	0,0386	0,7815	0,0479
	P54 ^{oo}	0,0016*	0,0279	0,0042*	0,0300
	P55	---		0,1570	0,0393

--- Inconsistent comparison: inconsistent fluorescence values between panels (greater values of fluorescence in Negative control panel than in HIV-1+/E2GBV-C- AND/OR greater values of fluorescence in HIV-1+/E2GBV-C- panel than in HIV-1+/E2GBV-C+).

* Comparison statistically significant ($p\text{-value} \leq \alpha_{\text{corrected}}$).

** Median of fluorescence less than 1,000 in HIV-1+/E2GBV-C+ panel.

° P11: special case of a non selected peptide because even though meeting all the criteria, the 75th percentiles of fluorescence in HIV-1+/E2GBV-C- and HIV-1+/E2GBV-C+ panels were almost identical (1,749 and 1764,5).

°° P19 and P54: special cases of selected peptides even though not meeting one criteria. Median of fluorescence less than 1,000 but with 75th percentile values high (1,661.5 and 2,902 respectively).

Fig. S1. ROC curves

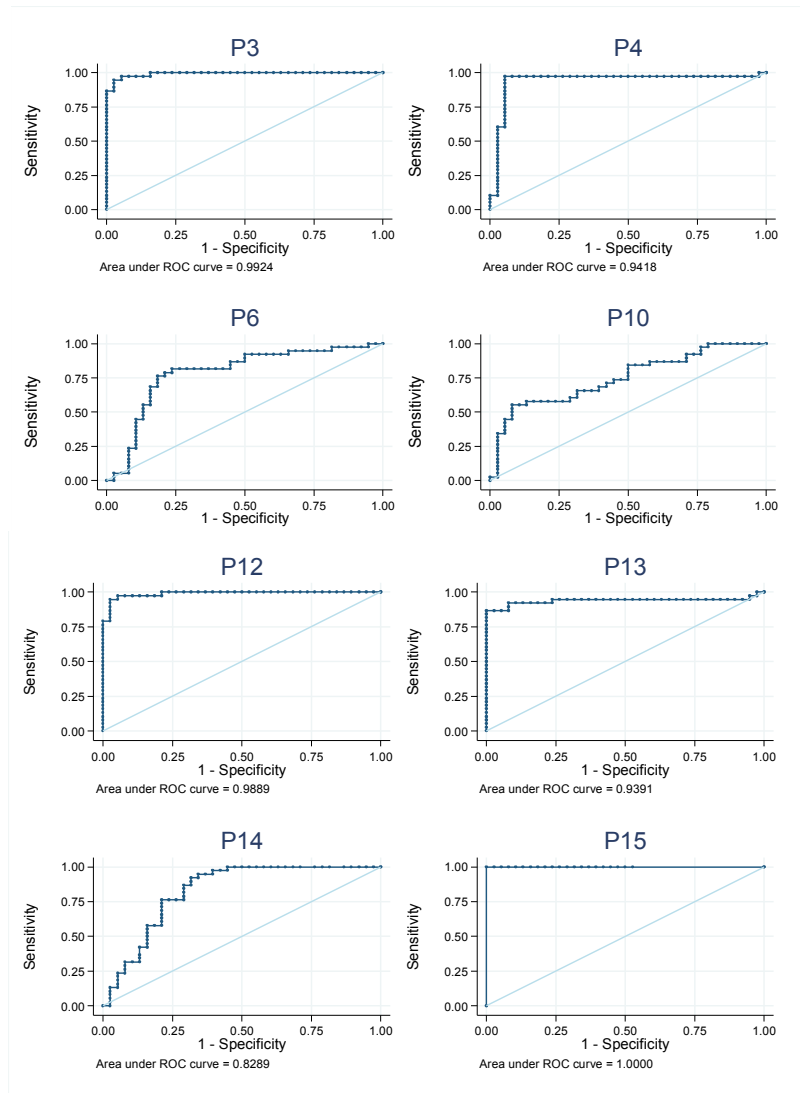


Fig. S1. (continued) ROC curves

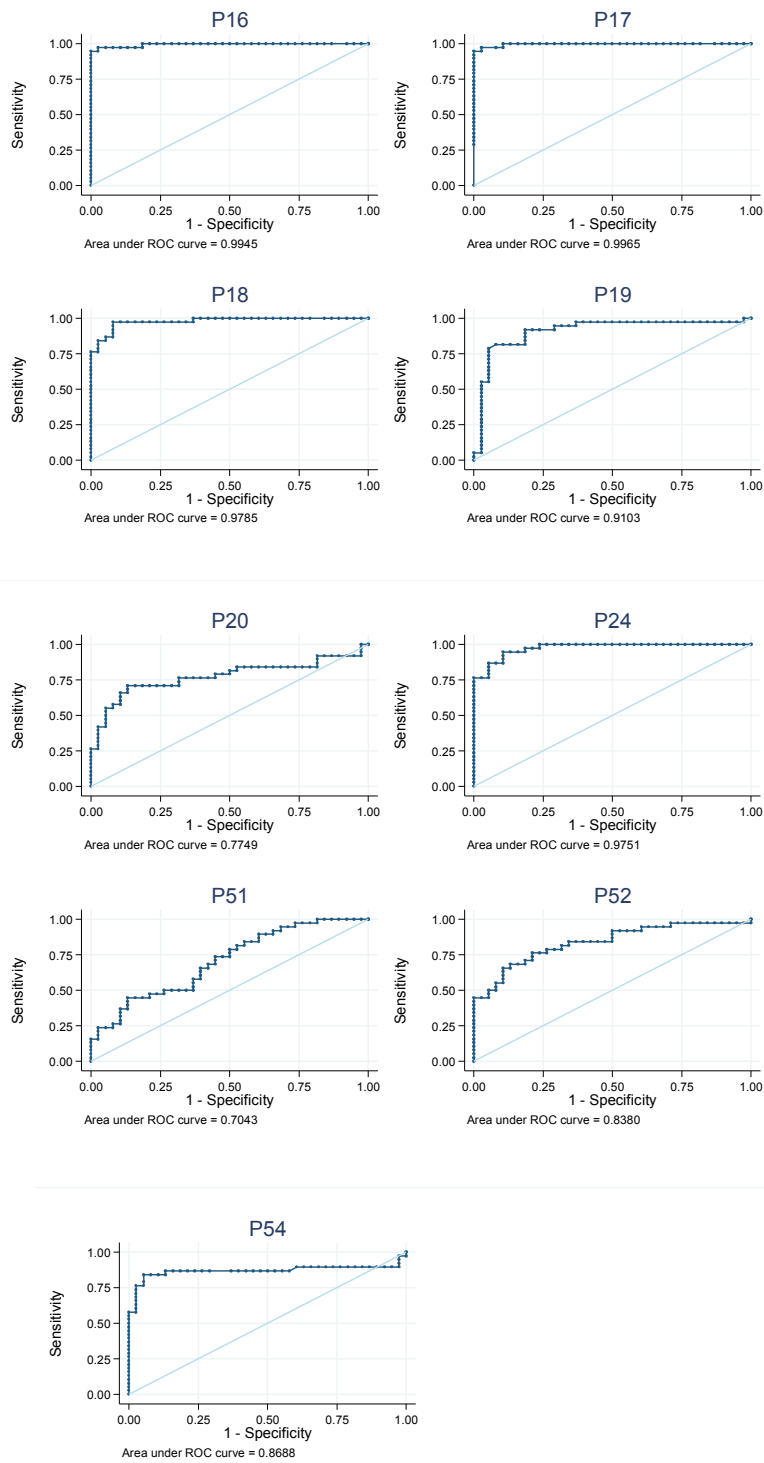


Fig. S2. Distribution of fluorescence values for HIV-1+/E2 GBV-C+ group (as positive control) and negative controls serum samples by peptide. The cut-off value of each peptide is the horizontal red line

