

Supplementary Information for

Analysis of CD8+ T Cell Response During the 2013-2016 Ebola Epidemic in West Africa

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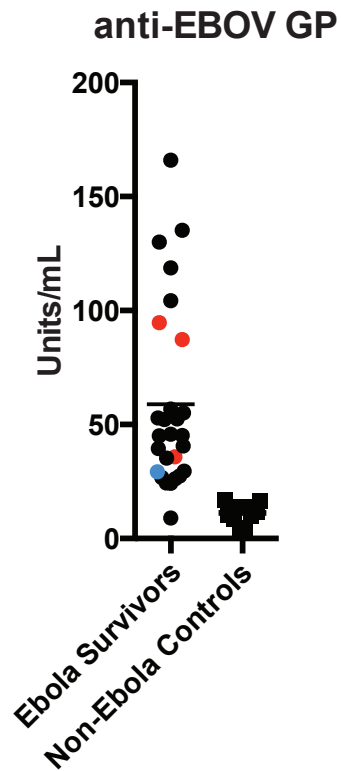


Figure S1. Results from ELISAs from 27 of 32 individuals tested and 10 non-EVD population controls. Only one individual with a history of EVD did not have EBOV GP specific responses but nevertheless had CD8⁺ T cells that responded to VP24 and NP. Three individuals that failed to respond to rscVSV encoding EBOV proteins (red) and one individual with indeterminate responses (blue) are shown.

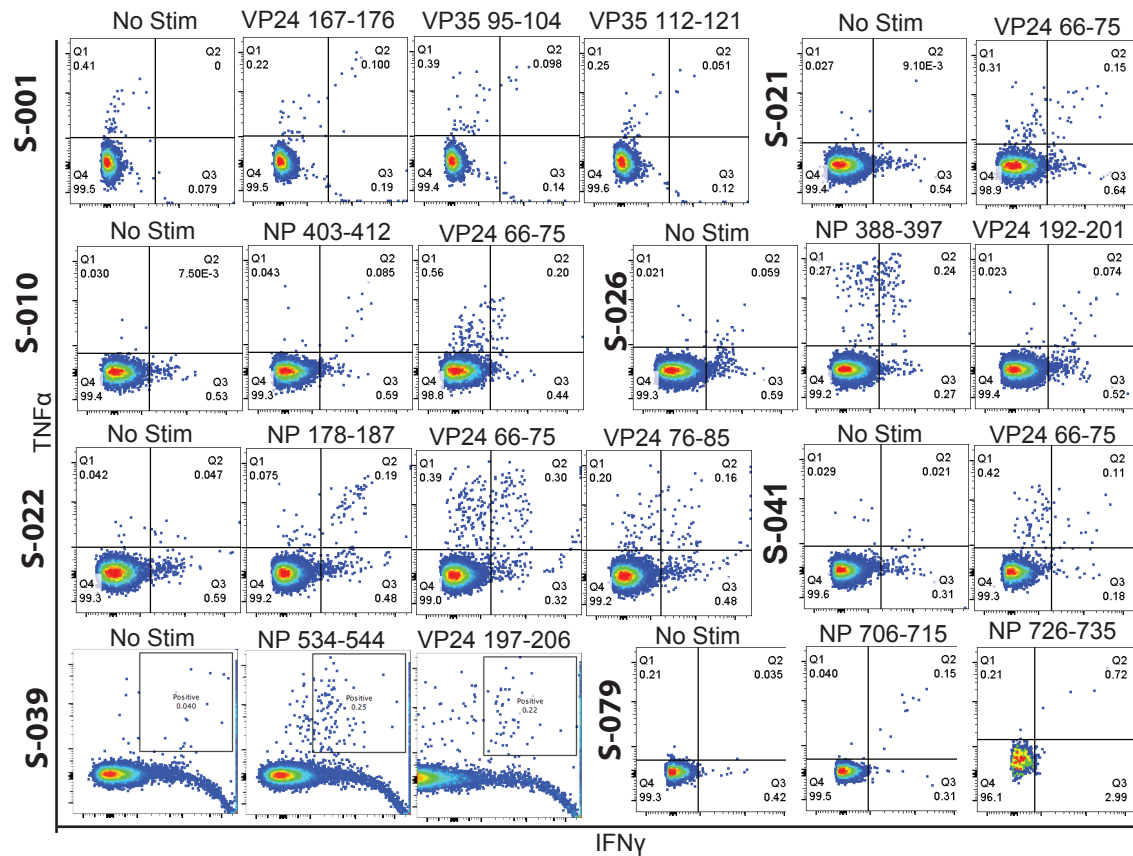


Figure S2. Results from 10a.a. epitope identification. Peptides (10 $\mu\text{g/ml}$) were added to PBMC cultures and stimulated for 5 hours. Brefeldin A was added after the first hour of incubation. Intracellular levels of IFN- γ and TNF- α of CD8+ T cells were assessed by flow cytometry. Data for 12 unique epitopes from 8 subjects are shown.

Table S1. Number of observed and total number of HLA-A, -B and -C alleles sequenced from Ebola survivors (n=32).

	Observed	Total
A	20	64
B	24	64
C	18	64
Total	62	192

Table S2. Most frequent ($f > 5\%$) HLA-A, -B and -C alleles observed in EVD survivors (n=32). All alleles in the list, except for the one shown in bold font, are Common Well-Documented (CWD) alleles in the International ImMunoGeneTics Information System (IMGT)/HLA Database.

Loci	HLA	Allele	Allele Counts
A	A*300101	0.2031	13
	A*300201	0.1562	10
	A*020101	0.0938	6
	A*740101	0.0938	6
	A*680201	0.0625	4
B	B*530101	0.125	8
	B*420101	0.1094	7
	B*350101	0.0938	6
	B*070201	0.0781	5
	B*440301	0.0781	5
	B*080101	0.0625	4
C	C*160101	0.1719	11
	C*040101	0.1406	9
	C*170101	0.1406	9
	C*070201	0.0938	6
	C*030202	0.0781	5
	C*060201	0.0625	4

Table S3: Epitopes and MHC Expression

NP 41-60		
A*30:01:01	B*08:01:01	C*07:02:01
A*30:02:01	B*52:01:02	C*16:01:01
A*03:01:01:01	B*44:03:01	C*03:02:02
A*30:02:01:01	B*82:01	C*03:03:01
A*03:01:01	B*42:02:01	C*03:03:01
A*30:01:01	B*44:03:01	C*17:01:01
A*30:01:01	B*42:01:01	C*04:01:01
A*68:02:01	B*53:01:01	C*17:01:01

NP 54-81		
A*26:01:01	B*42:01:01	C*07:18
A*30:02:01	B*58:01:01	C*17:01:01
A*02:02:01	B*07:02:01	C*06:02:01
A*30:02:01	B*53:01:01	C*07:02:01
A*36:01	B*07:02:01	C*03:02:02
A*74:01:01	B*82:02:01	C*15:05:02

VP24 66-75		
A*02:05:01	B*07:02:01	C*07:02:01
A*74:01:01	B*07:02:01	C*15:05:02
A*30:01:01	B*42:01:01	C*04:01:01
A*68:02:01	B*53:01:01	C*17:01:01
A*02:01:01	B*35:01:01	C*04:01:01
A*30:02:01	B*53:01:01	C*04:01:01
A*23:01:01	B*07:06:01	C*07:02:01
A*24:02:01	B*45:01:01	C*16:01:01

Table S4.

Peptide Epitopes	Predicted Restriction
NP 178-187	HLA-A*30:02
NP 388-397	HLA-C*02:10
NP 535-44	HLA-B*15:03
NP 706-715	HLA-C*05:01
NP 726-735	HLA-B*08:01
VP24 66-75	HLA-B*07:02, HLA-B*07:06, HLA-B*42:01, HLA-B*53:01
VP24 76-85	HLA-B*53:01 or HLA-B*35:01
VP24 167-76	HLA-B*15:10
VP24 192-201	HLA-C*02:10
VP24 197-206	HLA-A*74:01
VP35 95-104	HLA-A*68:02 or HLA-B*35:01
VP35 112-121	HLA-C*03:04