

## Supplemental Figure Legends

Figure S1. Species, isotype, ELISA binding and EM and alanine-scanning assignment of epitopes, related to Figure 1. Antibody binding to EBOV GP lacking the transmembrane domain or the indicated regions illustrated in Figure 1 was assessed by ELISA and categorized as strong, moderate or weak. Epitopes were confirmed or assigned using ELISA results combined with alanine-scanning and/or electron microscopy results for the indicated antibodies. Isotype nd: not determined.

Figure S2. Neutralization of rVSV-EBOV by epitope class, related to Figure 2. Mean  $\pm$  SD for three replicates are shown. No antibodies in the mucin class exhibited neutralization activity in this assay and this class is not shown.

Figure S3. Survival curves for *in vivo* protection assay, related to Figure 3. Antibodies tested at USAMRIID facilities were assayed in 12 rounds. The mice were treated with 100  $\mu$ g/ml antibodies on day 2 post-infection and were observed and weighed across a 28 day period. Antibodies tested at Public Health Agency of Canada (Manitoba) were tested in one round. The mice were treated with 100  $\mu$ g/ml antibodies on day 2 post-infection and observed for a total of 21 days.

Figure S4. MAb binding to wild-type (WT) and mouse-adapted full-length EBOV GP, related to Figure 3. MAbs from K-means cluster groups 1, 2, 4, and 5 (Figure 4) were tested for binding with both WT and mouse adapted EBOV GP. The mAbs included Cluster 1 MAb VIC 115, which protected *in vivo* but did not neutralize. HEK-293T cells were transfected with constructs expressing wild-type GP, mouse-adapted GP, or empty vector, and mAb binding was detected by flow cytometry, as described for alanine scanning epitope mapping. Data shown are the average and standard deviation of four measurements of binding, expressed as relative light units (RLU).

Figure S5. Parametric ANOVA analysis of correlations between epitope class and phagocytosis assay readouts and polyfunctionality, related to Figure 6. Black and white lines indicate mean values. (A) The mean huADCP activity for both mucin and cap was significantly higher than fusion, GP1/2, GP1/Core and unknown (p values ranged from  $4.2 \times 10^{-4}$ -0.039 and  $7.9 \times 10^{-4}$ -0.04, respectively), whereas base was significantly higher than GP1/2 (p=0.02). (B) For mADCP activity, mucin had the highest mean value and was significantly higher than that of all other antibody classes (\*, p values

ranged from  $9.3 \times 10^{-4}$ -0.034), and cap was significantly higher than GP1/Core, GP1/2, fusion and base (●, p values ranged from 0.03 to 0.048). (C, D) The mucin group had the highest mean value for both huADNP and mADNP assays (\*, p values ranged from  $1.2 \times 10^{-4}$ -0.042) and the other classes in Tier 1, cap (●) and GP1/Head (^) were higher than base (p=0.04) and base, GP1/2 and HR2 (p values ranging from 0.043 to 0.048), respectively. In the mADNP assay, the unknown class had a higher mean value than that for GP1/2 (p= $7.6 \times 10^{-3}$ ). (E) The mean value for mucin polyfunctionality was significantly higher than that for GP1/2 and GP1/Core antibodies (\*, p=0.0028 and 0.157, respectively) and the mean value for the Cap class was significantly higher than that for GP1/2 (●, p=0.007).

Figure S6. Glycan modification of VIC antibodies, related to Figure 7. The relative abundance of antibody glycan modifications was assessed. Of the 15 species and total amounts of G0, G1, G2, fucose, bisecting GlcNAc, sialic acid and mono-sialic acid, ANOVA identified (A) G0F, (B) G1F, (C) G1F', (D) G1FB and (E) total G0 as having a significant correlation with epitope class. Significant differences are indicated by bars with p values ranging between  $4.4 \times 10^{-4}$  and 0.049.

Figure S7. Machine learning algorithms and random forest regression predictions of protection, related to Figure 7. (A) Mean receiver operating characteristic curves of four machine learning algorithms (KNN: K-nearest neighbors; LR: Linear regression; RF: Random Forest; SVM: Support vector machine) trained and tested on dataset, D1, with raw neutralization readouts using a ten-fold cross validation scheme, related to Figure 7. Area under curve (AUC) values are shown in the legend. FPR: False positive rate; TPR: True positive rate. (B) Random forest regression predictions of protection using 10-fold cross validation; all antibody features were used as input for the predictions, related to Figure 7. The mean absolute error was 0.161. The importance factors of the top ten features used for the predictions are shown in Table S4.

## Supplemental Items

Table S1. ELISA EC<sub>50</sub> values for GPΔTM and sGP, related to Figure 1.

Table S2. Pan weights and testing round of EBOV-challenged mice, related to Figure 3

Table S3. Relative abundance of glycan modification of VIC panel antibodies, related to Figure 7

Table S4. Antibody features ranked by importance for predicting likelihood of protection, related to Figure 7.

Website: The correlation network may be accessed at: <https://apps.andersen-lab.com/cornnetwork/>

Figure S1

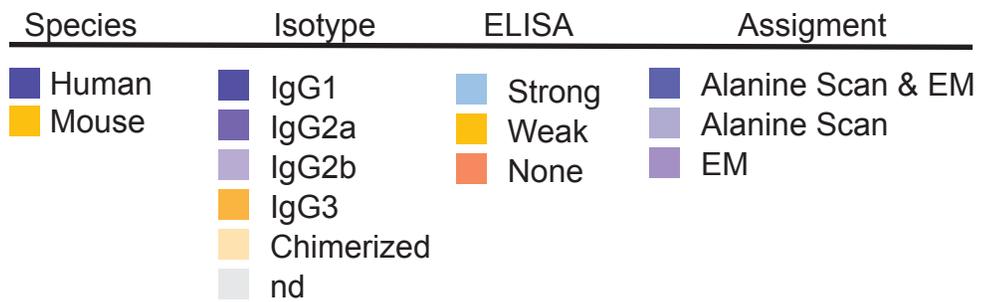
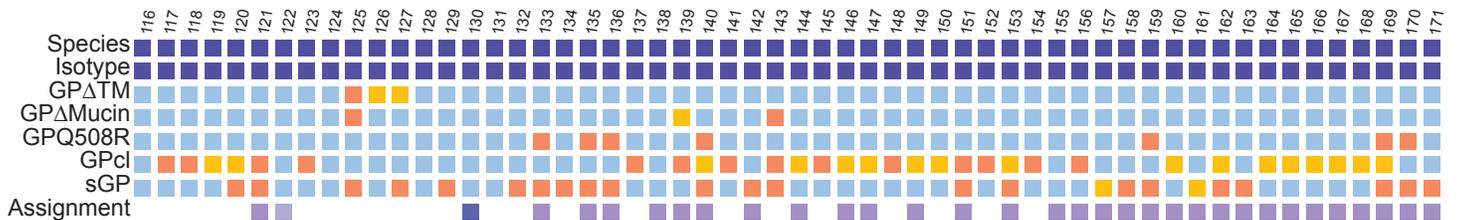
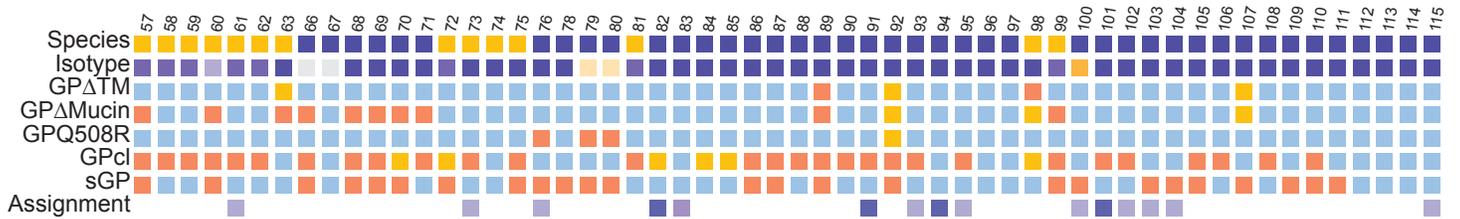
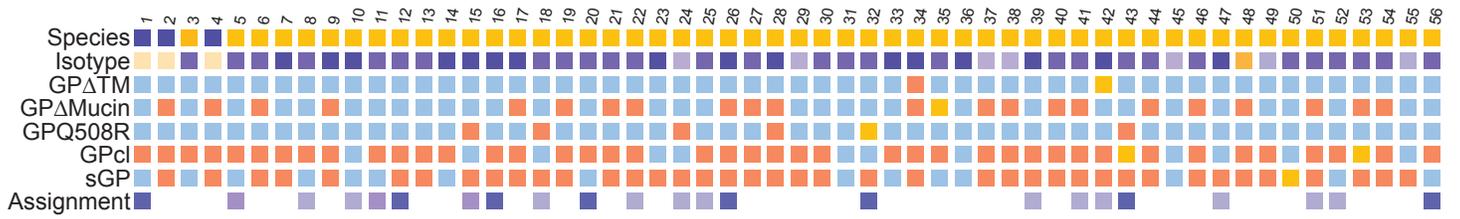


Figure S2

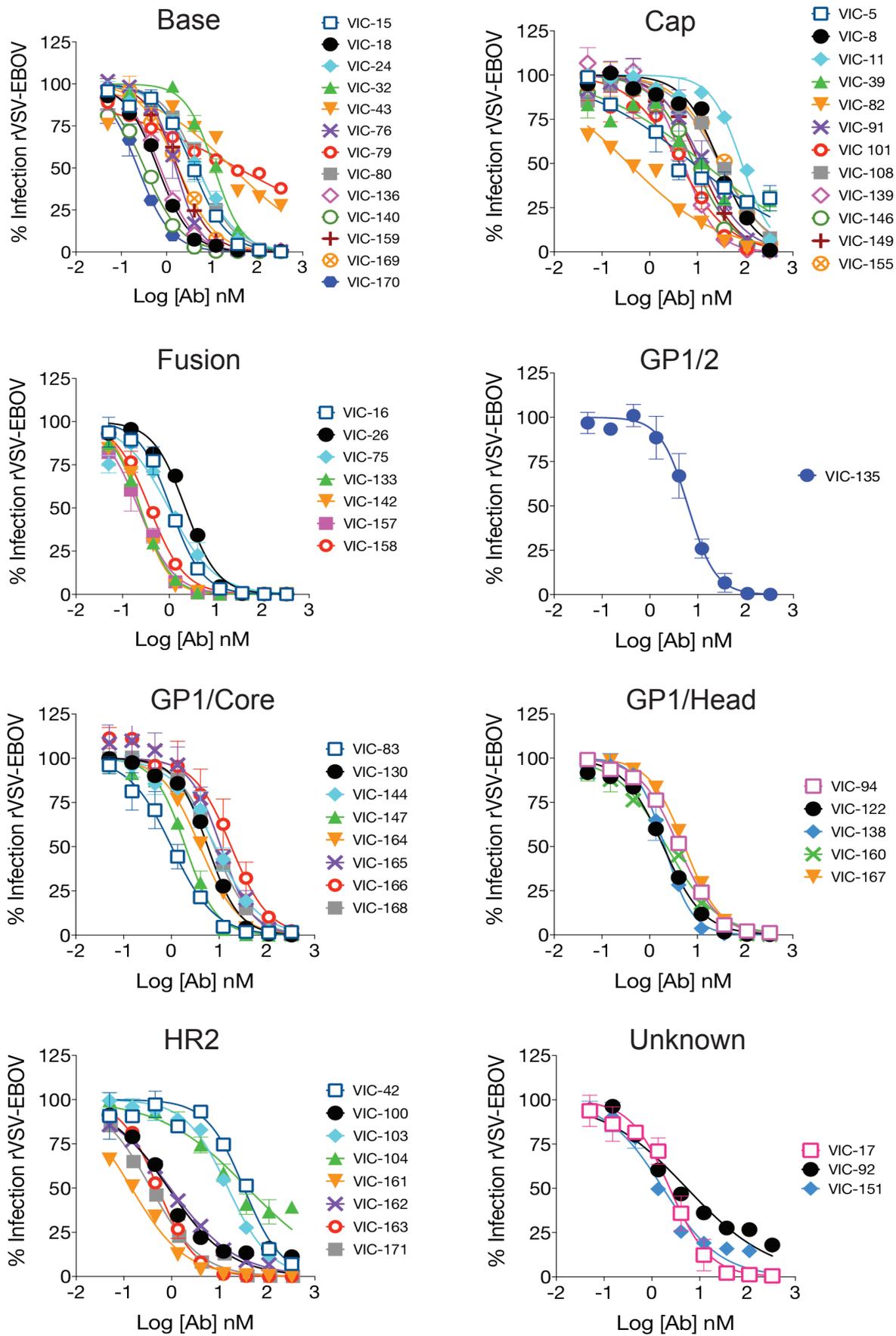


Figure S3

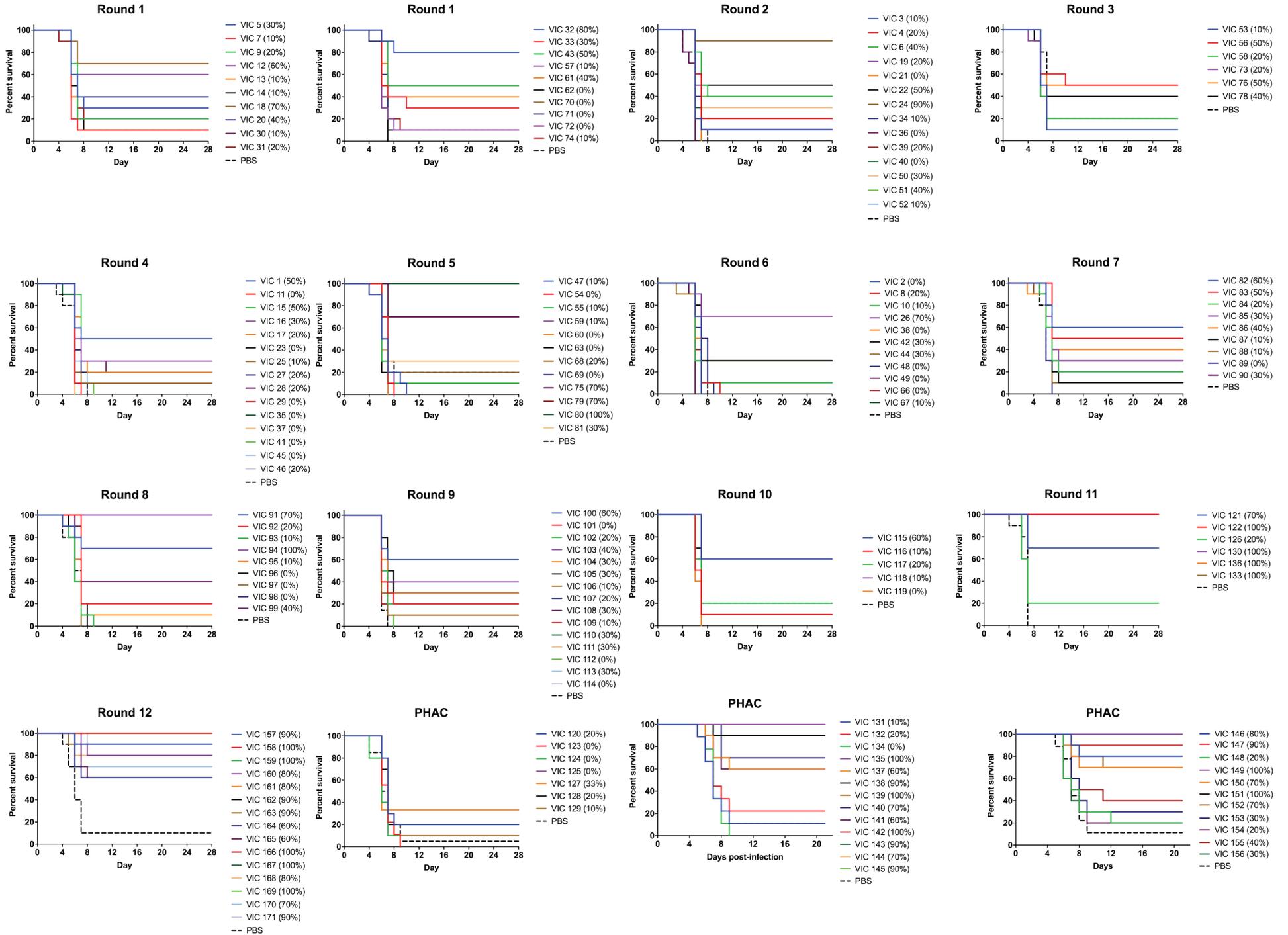


Figure S4

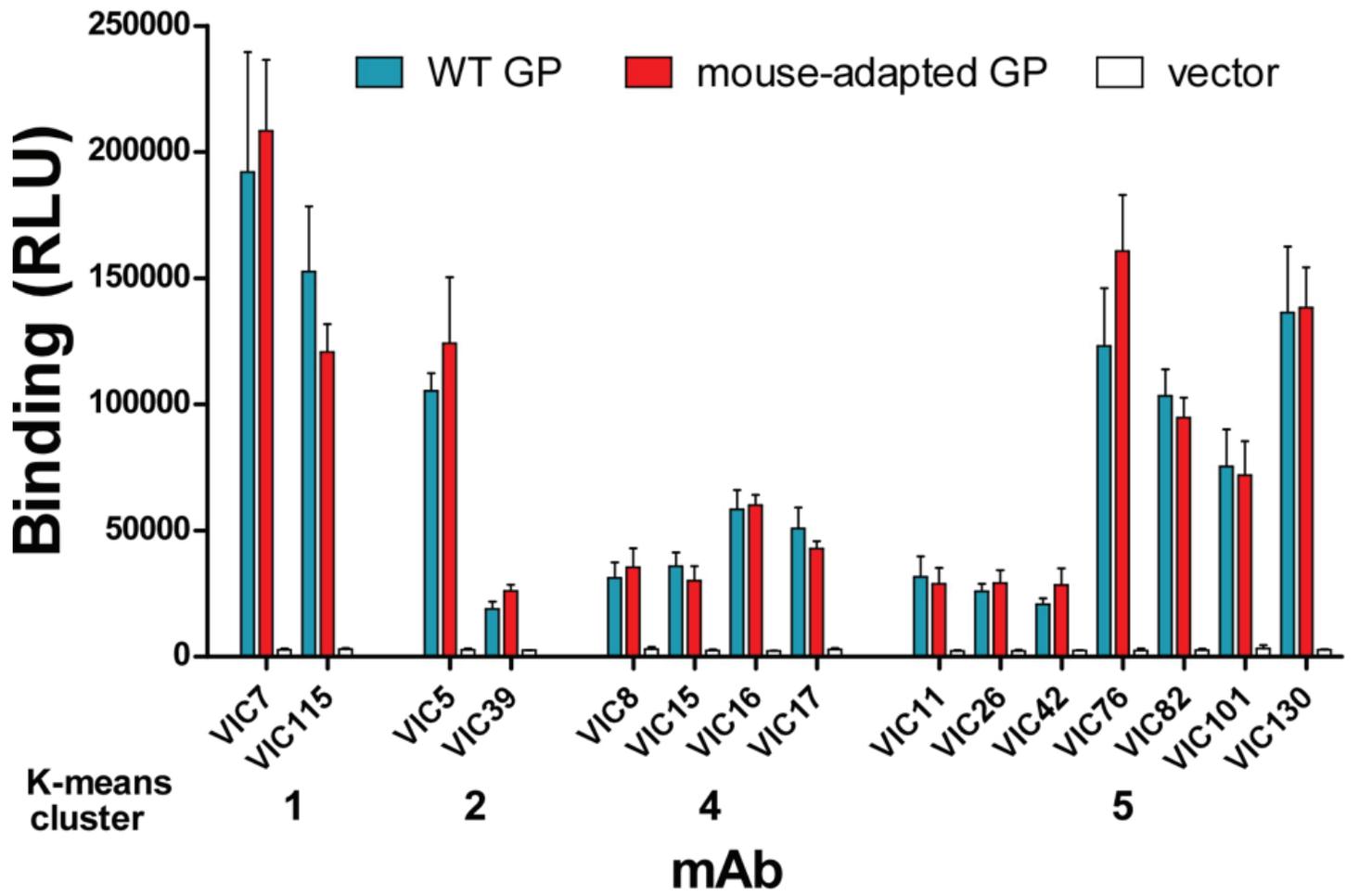
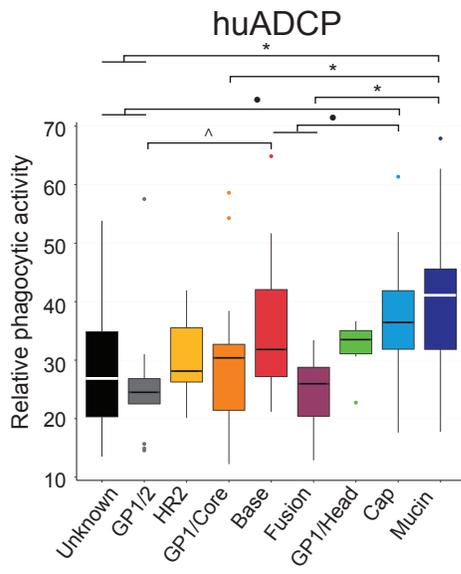
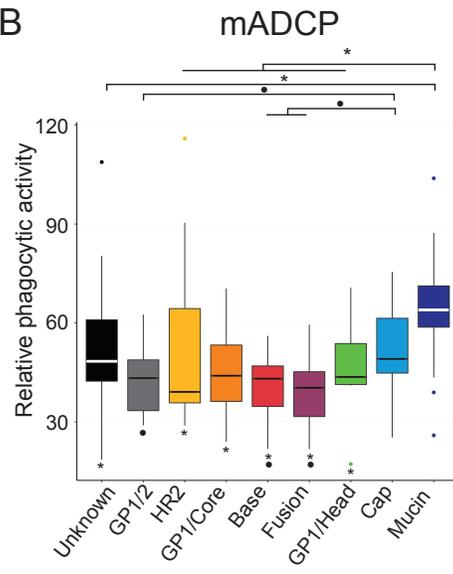


Figure S5

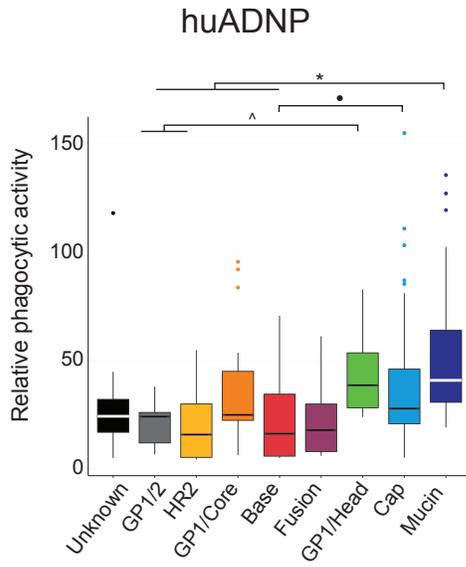
A



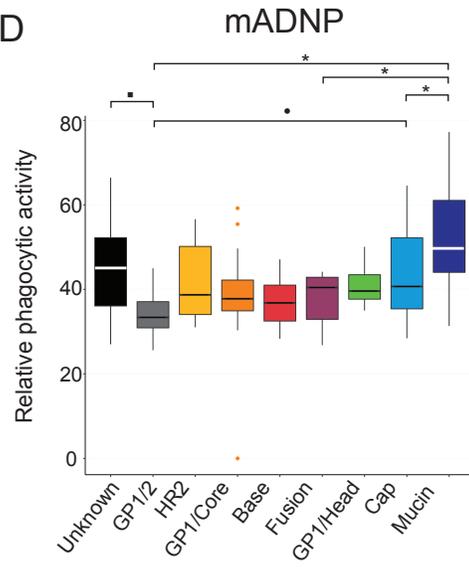
B



C



D



E

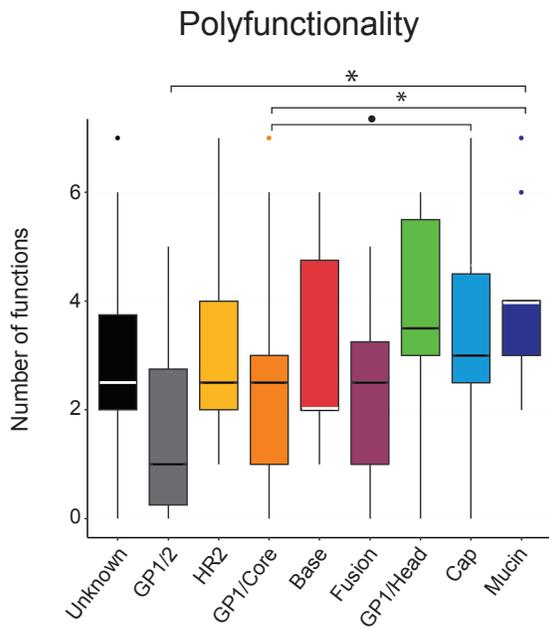


Figure S6

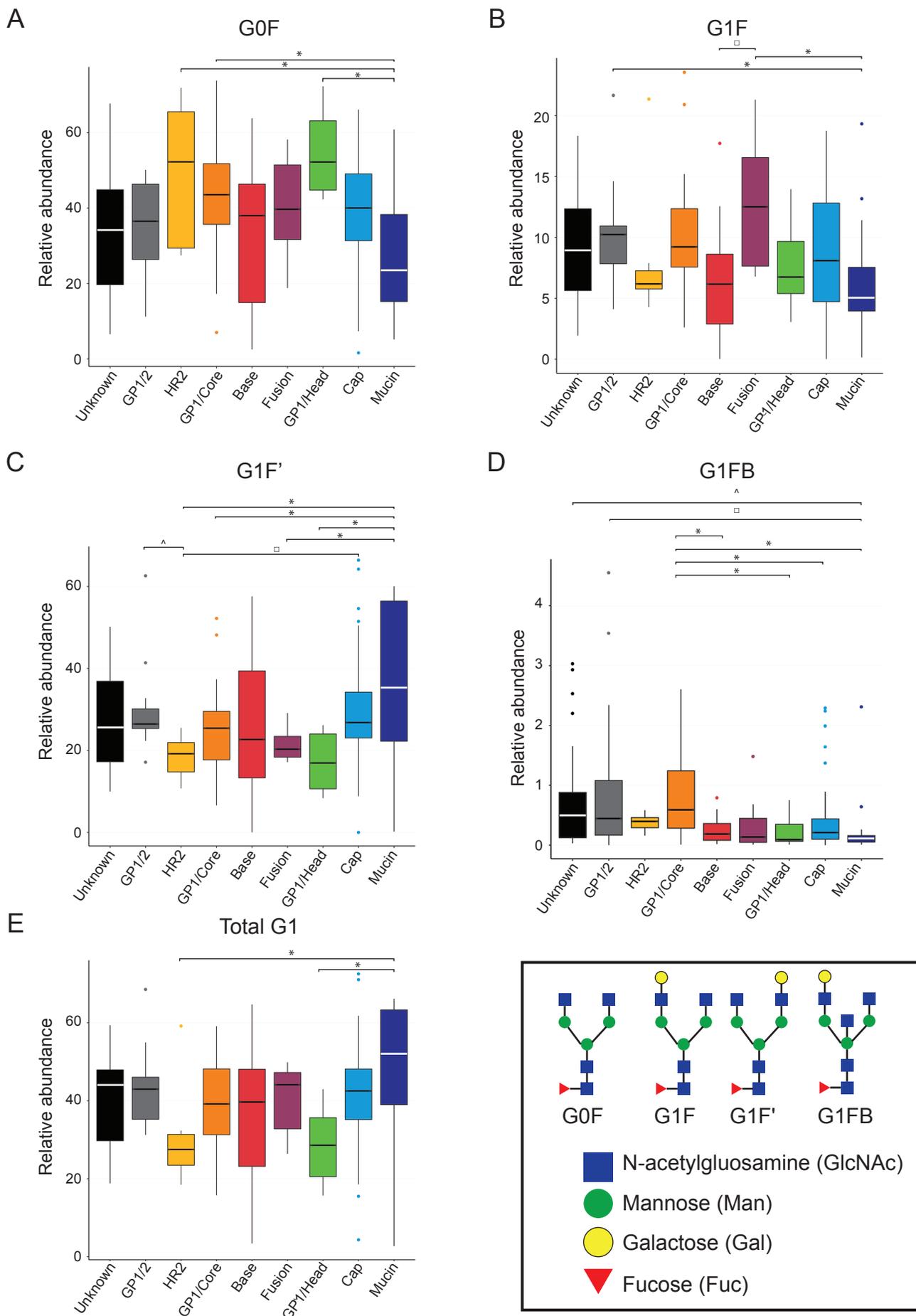
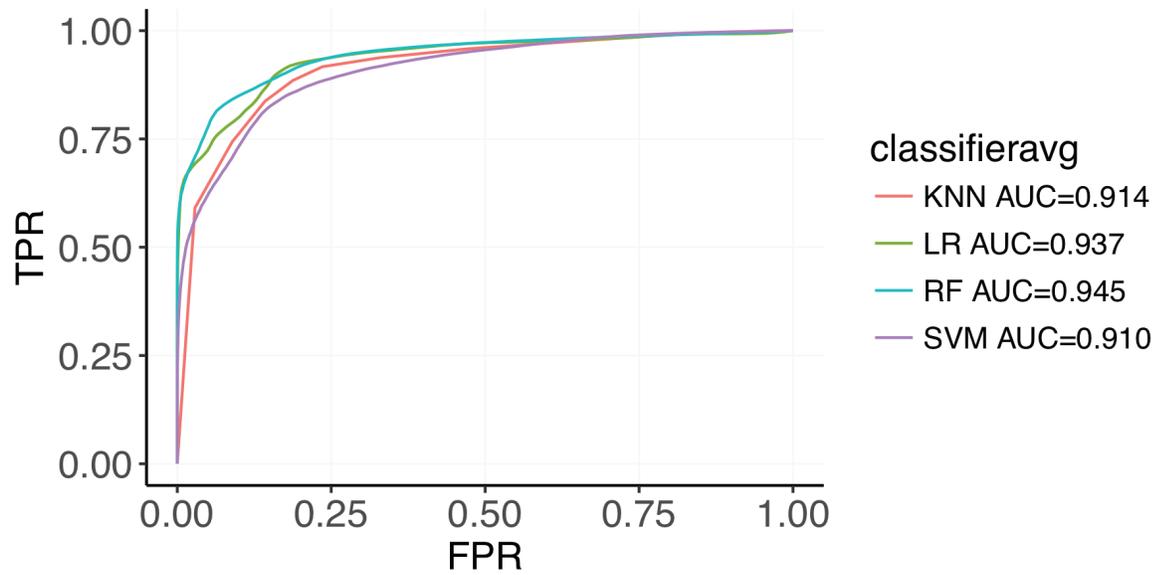


Figure S7

A



B

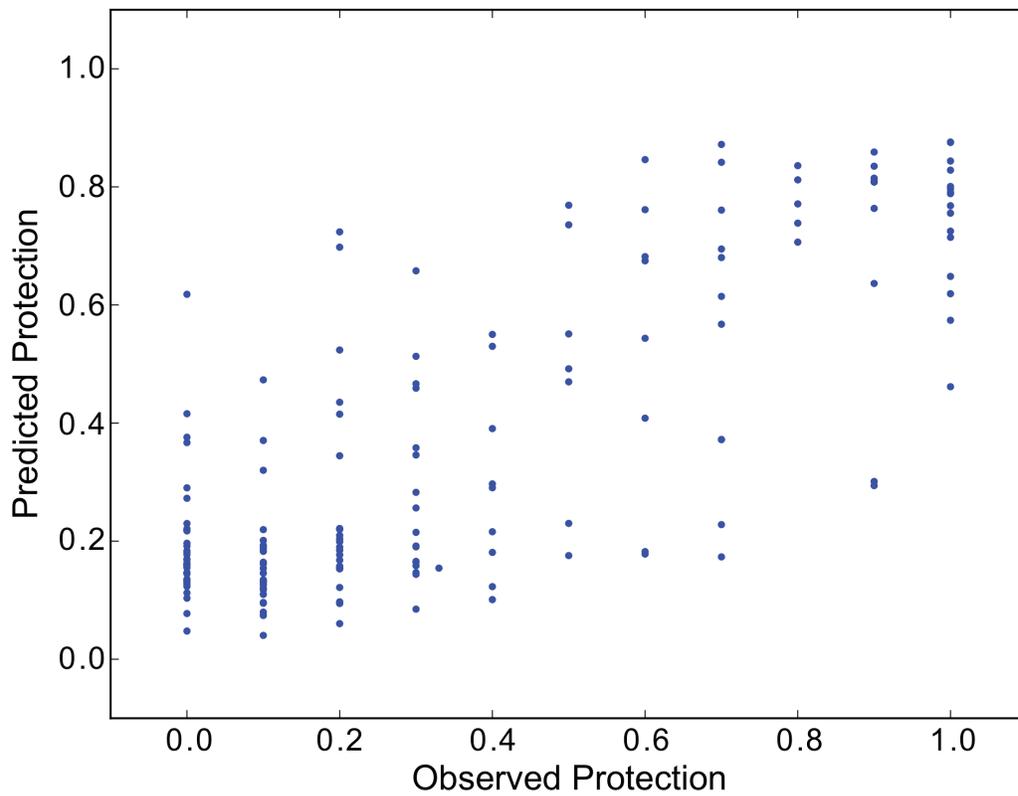


Table S1. ELISA EC<sub>50</sub> values for GPΔTM and sGP, related to Figure 1.

VIC No.	Epitope	GP EC50 <sup>a</sup>	sGP EC50 <sup>b</sup>	VIC No.	Epitope	GP EC50	sGP EC50	VIC No.	Epitope	GP EC50	sGP EC50
1	Cap	1.38	0.61	57	Unknown	14.95	1000	116	GP1/Core	30.27	2.81
2	Mucin	0.91	1000	58	Cap	4.29	3.72	117	Cap	159.1	2.19
3	Cap	175.8	22.19	59	Cap	5.11	6.05	118	Cap	2.47	0.82
4	Mucin	0.68	1000	60	Unknown	5.8	1000	119	GP1/Core	8.08	3.16
5	Cap	44.24	7.45	61	Cap	2.53	1.63	120	GP1/2	6.12	1000
6	Mucin	4.31	1000	62	Cap	8.36	7.55	121	Unknown	3.53	1000
7	Unknown	2.77	1000	63	GP1/Core	118.1	11.33	122	GP1/Head	7.96	1.23
8	Cap	216.6	5.38	66	Unknown	1.31	38.03	123	Cap	4.89	3.06
9	Mucin	9.05	1000	67	GP1/Core	3.97	0.87	124	GP1/Core	6.05	1.11
10	GP1/Head	21.64	3.52	68	Unknown	0.89	1000	125	GP1/2	1000	1000
11	Cap	219.6	5.56	69	Unknown	6.82	1000	126	GP1/Core	217.1	107.1
12	Cap	5.47	1000	70	Mucin	0.89	1000	127	GP1/2	112.6	1000
13	Unknown	6.06	1000	71	Cap	36.59	0.39	128	GP1/Core	6.31	2.16
14	Cap	7.42	5.14	72	GP1/2	1000	1000	129	GP1/Core	7.99	8.04
15	Base	45.74	1000	73	Cap	7.53	12.32	130	GP1/Core	9.16	1.32
16	Fusion	765.4	1000	74	GP1/Core	5	4.26	131	GP1/Core	136.3	14.06
17	Unknown	264.4	1000	75	Fusion	13.77	1000	132	GP1/2	29.93	1000
18	Base	7.45	1000	76	Base	29.91	1000	133	Fusion	11.72	1000
19	Unknown	1.31	1000	78	GP1/2	1000	1000	134	GP1/2	146.2	1000
20	Cap	99.3	2.62	79	Base	32.57	1000	135	GP1/2	44.15	1000
21	Mucin	3.14	1000	80	Base	57.39	1000	136	Base	5.07	1000
22	Mucin	3.47	1000	81	Cap	1.26	1.6	137	Cap	12.74	0.27
23	GP1/2	4.64	1000	82	Cap	10.48	2.47	138	GP1/Head	1.62	0.23
24	Base	6.11	1000	83	GP1/Core	1.75	1.94	139	Cap	5.03	0.62
25	Base	10.82	1000	84	GP1/Core	3.34	95.54	140	Base	4.92	1000
26	Fusion	232.6	1000	85	GP1/Core	13.71	3.23	141	Cap	16.13	0.58
27	Mucin	8.06	1000	86	Unknown	2.29	1000	142	Fusion	3.64	1000
28	Mucin	4.27	1000	87	Unknown	2.5	1000	143	Mucin	1.39	1000
29	Unknown	0.97	1000	88	Cap	131.1	6.18	144	GP1/Core	4.58	0.4
30	Unknown	7.43	1000	89	Unknown	1000	1000	145	Cap	2.65	0.52
31	GP1/Core	7.71	3.78	90	Cap	25.35	2.55	146	Cap	7.52	0.76
32	Base	16.8	1000	91	Cap	6.35	1.55	147	GP1/Core	2.9	0.44
33	GP1/Core	246.4	13.23	92	Unknown	13.42	1000	148	Cap	83.5	3.44
34	Unknown	1000	1000	93	Cap	4.8	2.88	149	Cap	5.45	0.48
35	Cap	520.6	125.1	94	GP1/Head	1.75	0.88	150	GP1/Core	4.81	0.52
36	GP1/Core	979.2	32.06	95	Cap	3.23	2.5	151	Unknown	2.76	1000
37	Mucin	2.36	1000	96	GP1/Core	10.99	2.64	152	Cap	15.92	0.71
38	Mucin	2.38	1000	97	GP1/Core	4.82	2.22	153	GP1/2	3.58	1000
39	Cap	842.4	1000	98	GP1/Core	1000	186.2	154	Cap	3.34	4.03
40	Mucin	6.43	1000	99	Mucin	5.56	940.6	155	Cap	13.82	0.76
41	Mucin	68.05	1000	100	HR2	0.73	1000	156	Cap	1.75	4.13
42	HR2	561.8	1000	101	Cap	14.3	2.97	157	Fusion	7.14	1000
43	Base	16.8	1000	102	Cap	61.06	5.19	158	Fusion	10.08	1000
44	Mucin	6.27	1000	103	HR2	6.03	1000	159	Base	13.62	1000
45	GP1/Core	34.62	7.62	104	HR2	6.7	1000	160	GP1/Head	5.02	1.38
46	Mucin	8.03	1000	105	Unknown	6.86	1000	161	HR2	2.89	1000
47	Fusion	23.82	1000	106	Cap	227.8	24.46	162	HR2	5.68	1000
48	Mucin	71.59	1000	107	GP1/2	9.22	1000	163	HR2	3.26	1000
49	Unknown	4.9	1000	108	Cap	18.82	2.29	164	GP1/Core	6.78	1.42
50	GP1/2	9.56	1000	109	GP1/2	28.14	1000	165	GP1/Core	11.98	1.61
51	Mucin	4.39	1000	110	Unknown	7.39	1000	166	GP1/Core	15.35	1.78
52	Cap	22.28	4.43	111	GP1/2	8.92	1000	167	GP1/Head	4.74	1
53	Unknown	1000	1000	112	GP1/Core	7.14	462.1	168	GP1/Core	6.52	1.78
54	Mucin	5.17	1000	113	GP1/Core	14.69	1.9	169	Base	49.43	1000
55	GP1/2	3.11	1000	114	GP1/Core	28.03	3.99	170	Base	2.72	1000
56	Cap	32.07	5.04	115	GP1/Core	9	1.67	171	HR2	2.65	1000

<sup>a</sup>GP EC50 values are normalized such that 1000 indicates no binding to GPΔTM

<sup>b</sup>sGP EC50 values are normalized such that 1000 indicates no binding to sGP

Table S2. Pan weights and testing round of EBOV-challenged mice, related to Figure 3

VIC No.	Max Wt. Loss (%) <sup>a</sup>	Round <sup>b</sup>	VIC No.	Max Wt. Loss (%)	Round	VIC No.	Max Wt. Loss (%)	Round
VIC 1	9	R4	VIC 57	11	R1	VIC 116	12	R10
VIC 2	20	R6	VIC 58	12	R3	VIC 117	12	R10
VIC 3	12	R2	VIC 59	17	R5	VIC 118	16	R10
VIC 4	14	R2	VIC 60	18	R5	VIC 119	18	R10
VIC 5	14	R1	VIC 61	16,10	R1,PHAC	VIC 120	15	PHAC
VIC 6	10	R2	VIC 62	16	R1	VIC 121	11,9	PHAC, R11
VIC 7	8	R1	VIC 63	15	R5	VIC 122	13,12	PHAC, R11
VIC 8	22	R6	VIC 66	10	R6	VIC 123	29	PHAC
VIC 9	7	R1	VIC 67	18	R6	VIC 124	15	PHAC
VIC 10	32	R6	VIC 68	17	R5	VIC 125	25	PHAC
VIC 11	11	R4	VIC 69	21	R5	VIC 126	17,25	PHAC, R11
VIC 12	14	R1	VIC 70	22	R1	VIC 127	13	PHAC
VIC 13	24	R1	VIC 71	20	R1	VIC 128	12	PHAC
VIC 14	13	R1	VIC 72	10	R1	VIC 129	19	PHAC
VIC 15	16	R4	VIC 73	12	R3	VIC 130	9,4	PHAC, R11
VIC 16	13	R4	VIC 74	9	R1	VIC 131	20	PHAC
VIC 17	12	R4	VIC 75	13	R5	VIC 132	12	PHAC
VIC 18	13	R1	VIC 76	12	R3	VIC 133	9,6	PHAC, R11
VIC 19	12	R2	VIC 78	14,9	R3,PHAC	VIC 134	21	PHAC
VIC 20	11	R1	VIC 79	8	R5	VIC 135	2	PHAC
VIC 21	14	R2	VIC 80	9	R5	VIC 136	nt	R11
VIC 22	8	R2	VIC 81	10	R5	VIC 137	9	PHAC
VIC 23	14	R4	VIC 82	11	R7	VIC 138	10	PHAC
VIC 24	7	R2	VIC 83	12	R7	VIC 139	10	PHAC
VIC 25	16	R4	VIC 84	9	R7	VIC 140	9	PHAC
VIC 26	8	R6	VIC 85	21	R7	VIC 141	11	PHAC
VIC 27	15	R4	VIC 86	12	R7	VIC 142	3	PHAC
VIC 28	19	R4	VIC 87	11	R7	VIC 143	7	PHAC
VIC 29	15	R4	VIC 88	13	R7	VIC 144	9	PHAC
VIC 30	14	R1	VIC 89	10	R7	VIC 145	10	PHAC
VIC 31	16	R1	VIC 90	17	R7	VIC 146	14	PHAC
VIC 32	11	R1	VIC 91	13	R8	VIC 147	8	PHAC
VIC 33	17	R1	VIC 92	10	R8	VIC 148	21	PHAC
VIC 34	11	R2	VIC 93	15	R8	VIC 149	10	PHAC
VIC 35	14	R4	VIC 94	9,9	R8,PHAC	VIC 150	13	PHAC
VIC 36	15	R2	VIC 95	15	R8	VIC 151	1	PHAC
VIC 37	16	R4	VIC 96	16	R8	VIC 152	14	PHAC
VIC 38	32	R6	VIC 97	19	R8	VIC 153	14	PHAC
VIC 39	11	R2	VIC 98	15	R8	VIC 154	16	PHAC
VIC 40	9	R2	VIC 99	13	R8	VIC 155	12	PHAC
VIC 41	20	R4	VIC 100	14	R9	VIC 156	13	PHAC
VIC 42	12	R6	VIC 101	13	R9	VIC 157	6	R12
VIC 43	11	R1	VIC 102	18	R9	VIC 158	7	R12
VIC 44	9	R6	VIC 103	14	R9	VIC 159	1	R12
VIC 45	18	R4	VIC 104	15	R9	VIC 160	10	R12
VIC 46	12	R4	VIC 105	12	R9	VIC 161	9	R12
VIC 47	27	R5	VIC 106	12	R9	VIC 162	5	R12
VIC 48	17	R6	VIC 107	8	R9	VIC 163	10	R12
VIC 49	22	R6	VIC 108	13	R9	VIC 164	9	R12
VIC 50	13	R2	VIC 109	13	R9	VIC 165	6	R12
VIC 51	10	R2	VIC 110	15	R9	VIC 166	4	R12
VIC 52	24	R2	VIC 111	15	R9	VIC 167	7	R12
VIC 53	18	R3	VIC 112	20	R9	VIC 168	8	R12
VIC 54	22	R5	VIC 113	14	R9	VIC 169	1	R12
VIC 55	18	R5	VIC 114	15	R9	VIC 170	4	R12
VIC 56	8	R3	VIC 115	8	R10	VIC 171	10	R12

<sup>a</sup>Maximum percentage of weight loss at the end of the 28-day observation period

<sup>b</sup>Testing round at USAMRIID

Table S3. Relative abundance of glycan modification of VIC panel antibodies, related to Figure 7

VIC Number	Epitope	Total G0	Total G1	Total G2	Total Fucose	Total Bisecting	Total SA	G0	G0F	G0FB	G1	G1'	G1F	G1F'	G1S1F	G1FB	G2F	G2FB	G2S1	G2S1F	G2S1B	G2S1FB
15	Base	42.66	40.81	16.53	97.86	5.87	7.25	0.16	38.14	4.36	0.54	0.1	17.72	20.91	1.44	0.11	10.31	0.41	1.2	3.62	0.14	0.85
18	Base	43.88	49.57	6.55	99.26	1.32	2.87	0.28	43.5	0.09	0.04	0.25	5.92	41.88	1.35	0.13	4.24	0.79	0.12	1.1	0.05	0.25
24	Base	47.57	43.54	8.88	98.31	0.9	6.27	0.18	47.32	0.07	0.1	1.27	7.21	31.98	2.96	0.02	5.2	0.37	0.01	2.87	0.13	0.31
25	Base	15.12	64.7	20.18	97.32	1	6.38	0.11	14.69	0.33	0.32	1.99	3.96	57.61	0.4	0.42	14.14	0.05	0.18	5.61	0.08	0.12
32	Base	17.66	61.85	20.48	98.04	3.06	10.84	0.1	15.73	1.83	0.75	0.19	2.54	57.47	0.85	0.05	10.3	0.19	0.41	8.59	0.51	0.48
43	Base	31.34	55.17	13.49	98.38	2.59	4.39	0.12	29.6	1.62	0.56	0.76	8.59	43.7	1.3	0.25	9.99	0.41	0.01	2.77	0.17	0.14
76	Base	79.83	8.28	11.89	20.64	3.17	3.02	75.99	3.82	0.02	1.02	0.76	0.46	4.98	0.66	0.4	7.91	1.62	1.23	0	0.36	0.77
79	Base	86.97	5.36	7.67	11.09	3.74	9.69	84.27	2.52	0.18	0.1	0.58	0.3	0.24	4	0.14	1.85	0.12	1.51	0.89	2.44	0.85
80	Base	89.36	3.4	7.23	13.19	1.19	4.47	83.91	5.1	0.36	0.29	1.24	0.02	0.02	1.76	0.07	4.45	0.07	0.81	1.21	0.56	0.12
136	Base	38.66	38.56	22.77	98.25	9.09	13.18	0	37.87	0.79	0.32	0.65	12.56	24.44	0.35	0.25	9.93	0.01	0.44	4.35	0.33	0.77
140	Base	43.45	42.72	13.83	96.79	2.73	4.45	0	42.57	0.87	1.53	0.22	12.18	28.27	0.47	0.04	9.82	0.05	0.53	1.68	0.93	0.83
159	Base	65.14	22.68	12.18	98	1.24	8.72	0.48	63.83	0.83	0.25	0.63	6.42	14.94	0.19	0.23	3.62	0.05	0.61	7.78	0.03	0.1
169	Base	61.26	26.67	12.07	94.56	4.68	10.42	0.72	59.73	1.53	0.37	3.03	8.63	12.76	1.08	0.79	1.77	0.96	1.39	6.55	0.65	0.75
170	Base	61.63	24.65	13.71	98.47	1.88	8.93	0.05	61.21	0.43	0.3	0.67	5.92	16.97	0.19	0.6	4.55	0.42	0.2	8.11	0.35	0.07
	MAX	89.36	64.7	22.77	99.26	9.09	13.18	84.27	63.83	4.36	1.53	3.03	17.72	57.61	4.00	0.79	14.14	1.62	1.51	8.59	2.44	0.85
	MIN	15.12	3.40	6.55	11.09	0.90	2.87	0.00	2.52	0.02	0.04	0.10	0.02	0.02	0.19	0.02	1.77	0.01	0.01	0.00	0.03	0.07
	MEDIAN	45.73	39.69	12.84	97.93	2.66	6.82	0.17	38.01	0.61	0.32	0.66	6.17	22.68	0.97	0.19	6.56	0.28	0.49	3.25	0.34	0.40
	MEAN	51.75	34.85	13.39	80.01	3.03	7.21	17.60	33.26	0.95	0.46	0.88	6.60	25.44	1.21	0.25	7.01	0.39	0.62	3.94	0.48	0.45
	STD DEV	23.43	20.23	5.10	35.32	2.28	3.18	34.62	21.70	1.15	0.41	0.80	5.14	19.17	1.10	0.23	3.80	0.46	0.52	2.93	0.62	0.33

VIC Number	Epitope	Total G0	Total G1	Total G2	Total Fucose	Total Bisecting	Total SA	G0	G0F	G0FB	G1	G1'	G1F	G1F'	G1S1F	G1FB	G2F	G2FB	G2S1	G2S1F	G2S1B	G2S1FB
1	Cap	85.06	4.34	10.6	12.86	2.51	8.44	83.41	1.62	0.03	0.12	1.24	0.02	0.01	2.73	0.23	4.8	0.08	1.1	2.44	1.27	0.9
3	Cap	55.52	31.83	12.66	98.14	0.81	13.02	0.67	54.38	0.47	0.33	0.8	2.46	26.51	1.62	0.11	1.2	0.06	0.05	11.17	0.01	0.16
5	Cap	66.79	18.57	14.64	97.03	2.05	17.02	0.21	66.12	0.47	0.45	1.05	1.43	11.76	3.75	0.13	1	0.37	0.23	11.96	1.03	0.05
8	Cap	38.7	44.58	16.72	94.93	3.46	14.14	1.16	36.51	1.04	2.23	1.03	2.61	36.18	2.16	0.38	3.79	0.95	0.4	10.48	0.26	0.84
11	Cap	33.32	45.7	20.98	98.68	1.53	17.1	0.17	32.22	0.93	0.38	0.11	3.34	39.81	2.05	0.01	5.91	0.01	0.19	14.29	0.47	0.1
12	Cap	61.73	18.84	19.43	95.63	1.47	21.92	0.93	60.27	0.54	1.33	0.69	1.84	11.92	3.02	0.04	0.4	0.13	0.85	17.28	0.57	0.19
14	Cap	47.03	37.67	15.3	98.13	7.07	8.6	0.07	42.56	4.41	0.71	0.68	17.4	17.66	0.82	0.4	6.87	0.65	0.18	5.99	0.23	1.38
20	Cap	42.68	44.92	12.41	99.22	0.41	6.74	0.1	42.35	0.22	0.25	0.35	8.09	35.46	0.7	0.07	6.32	0.04	0.01	5.95	0.07	0.01
35	Cap	26.45	56.16	17.38	96.19	3.47	12.93	0.46	24.33	1.67	0.06	2.16	7.9	43.16	2.76	0.13	7.13	0.08	0.39	8.2	0.75	0.83
39	Cap	38.74	47.7	13.56	97.73	1.52	15.92	0.08	37.88	0.77	0.51	1.52	13.12	23.79	8.57	0.19	5.81	0.4	0.06	7.13	0.09	0.07
52	Cap	19.02	61.8	19.18	98.07	1.29	11.99	0.34	18.11	0.57	0.18	0.83	4.78	54.61	1.05	0.35	8.17	0.07	0.31	10.33	0.27	0.03
56	Cap	8.56	72.53	18.91	97.88	2.03	4.22	0.41	7.53	0.63	0.1	1.08	4.55	66.43	0.16	0.22	14.26	0.58	0.29	3.16	0.24	0.36
58	Cap	10.57	71.05	18.37	98.88	1.06	4.09	0.12	10.09	0.36	0.09	0.71	5.62	64.24	0.29	0.1	14.53	0.05	0.07	3.18	0.14	0.41
59	Cap	35.86	50.45	13.69	97.96	1.57	5.06	0.87	34.76	0.22	0.02	0.56	7.78	39.9	2.14	0.05	9.97	0.81	0.2	2.23	0.38	0.11
61	Cap	10.06	48.45	41.49	94.85	8.33	32.87	0.22	9.43	0.41	3.46	0.75	4.56	32.46	6.96	0.26	8.3	7.28	0.61	24.93	0.11	0.27
62	Cap	29.51	59.24	11.25	98.7	0.19	3.38	0.09	29.35	0.07	0.74	0.38	5.57	51.48	1.02	0.04	8.87	0.02	0.07	2.23	0.01	0.05
71	Cap	64.43	24.77	10.8	84.12	0.86	7.19	14.26	50.15	0.02	0.4	0.43	6.03	17.66	0.06	0.19	3.58	0.09	0.44	6.12	0.34	0.22
73	Cap	53.9	35.07	11.02	98.25	1.21	7.96	0	53.16	0.75	0.47	1.24	17.71	14.08	1.48	0.09	4.45	0.1	0.01	6.19	0.03	0.25
81	Cap	10.26	58.02	31.73	95.16	1.51	7.94	2.5	7.36	0.4	0.44	1.1	4.99	50.47	0.66	0.37	24.36	0.09	0.56	6.07	0.25	0.4
82	Cap	30.24	51.24	18.52	98.35	4.29	2.4	0.37	28.75	1.13	0.03	0.32	14.71	33.99	0.2	1.99	15.65	0.67	0.69	1.02	0.25	0.25
88	Cap	32.24	47.56	20.19	94.25	5.21	0.64	4.01	26.07	2.16	0.89	0.81	18.75	24.85	0.01	2.24	19.22	0.35	0.01	0.16	0.02	0.43
90	Cap	33.48	47.49	19.03	94.93	5.17	4.55	1.62	31.2	0.66	0.38	0.84	16.74	26.63	0.61	2.29	14.67	0.42	1.48	0.66	0.75	1.05
91	Cap	43.58	47.84	8.58	97.93	2.72	2.32	0.39	42.14	1.05	0.09	0.62	14.45	31.85	0.17	0.66	6.13	0.29	0.82	0.62	0.16	0.56
93	Cap	53.14	21.36	25.5	96.66	1.5	16.91	0	52.4	0.74	0.24	2.63	5.98	11.77	0.34	0.41	8.82	0.1	0.36	15.97	0.11	0.14
95	Cap	32.12	42.51	25.37	98.81	2.83	5.08	0.04	31.52	0.56	0.06	0.07	7.25	34.45	0.12	0.56	20.16	0.25	0.36	3.13	0.66	0.8
101	Cap	43.61	35.28	21.11	79.54	2.22	14.99	11.18	32.27	0.16	0.94	0.82	5.59	26.53	0.93	0.47	6.89	0.15	6.26	6.38	1.27	0.16
102	Cap	50.49	32.82	16.7	82.66	3.22	10.97	9.47	40.04	0.98	0.25	0.73	4.28	26.45	0.54	0.57	6.12	0.15	6.61	2.29	0.28	1.24
106	Cap	66.9	15.5	17.6	91.06	5.93	16.36	1.04	64.82	1.05	0.13	1.74	3.36	8.84	1.13	0.29	2.14	0.22	4.49	6.39	1.55	2.82
108	Cap	60.7	24.06	15.24	81.83	2.73	11.22	10.91	49.13	0.65	0.35	0.35	4.67	17.99	0.08	0.63	3.77	0.32	5.67	4.36	0.9	0.22
117	Cap	36.93	48.94	14.13	97.04	2.95	3.67	1.46	34.8	0.67	0.06	0.8	14.48	31.36	0.6	1.64	10.76	0.3	0.52	2.2	0.12	0.23
118	Cap	35.22	47.4	17.38	98.82	2.34	3.25	0.3	34.25	0.67	0.23	0.22	13.5	32.38	0.18	0.89	13.91	0.39	0.25	2.43	0.18	0.21
123	Cap	51.81	32.53	15.66	96.16	4.48	10.12	1.39	49.11	1.3	0.09	0.28	10.25	19.87	0.68	1.37	5.97	0.26	1.19	6.69	0.89	0.67
137	Cap	52.14	38.28	9.58	96.76	3.58	5.08	0	49.84	2.3	1.68	0.22	11.37	23.7	1.3	0.01	5.71	0.09	0.84	1.76	0.49	0.69
139	Cap	43.13	43.41	13.47	94.75	4.89	6.32	0	41.33	1.8	2.19	0.8	11.78	27.49	1.04	0.12	7.83	0.35	0.74	1.92	1.53	1.1
141	Cap	48.71	39.73	11.57	95.94	3.38	4.46	0	47.04	1.67	1.92	0.3	12.76	24.07	0.51	0.17	7.43	0.18	0.71	1.88	1.14	0.23
145	Cap	39.22	48.74	12.04	96.64	2.87	3.64	0	38.01	1.21	1.9	0.43	12.11	33.42	0.77	0.1	9.12	0.05	0.39	0.97	0.64	0.87
146	Cap	45.42	42.5	12.08	96.44	2.96	4.55	0	44.17	1.24	2.27	0.24	11.47	26.81	1.53	0.18	8.94	0.12	0.52	1.09	0.53	0.88

148	Cap	47.04	42.13	10.83	96.72	2.81	3.4	0	45.57	1.47	2.18	0.28	12.11	27	0.5	0.07	7.72	0.21	0.54	1.3	0.29	0.78
149	Cap	47.6	39.64	12.75	95.29	5.92	5.46	0	44.74	2.86	2.2	0.68	12.87	22.78	0.98	0.13	8.18	0.08	1.07	0.58	0.75	2.09
152	Cap	46.32	42.29	11.38	96.46	3.32	4.28	0	44.85	1.48	1.7	0.8	9.94	28.59	1.06	0.21	7.7	0.47	0.65	1.41	0.4	0.77
154	Cap	50.94	38.84	10.22	97.15	1.79	4.31	0	50.2	0.74	2.09	0.27	12.01	23.31	1.1	0.05	6.94	0.08	0.04	2.24	0.45	0.47
155	Cap	41.1	45.14	13.76	96.34	4.21	5.62	0	38.55	2.55	2.21	0.37	13.89	27.34	1.08	0.24	9.01	0.21	0.98	2.35	0.1	1.11
156	Cap	50.47	37.09	12.44	94.35	4.34	4.11	0	49.05	1.42	2.02	0.59	9.12	25.02	0.34	0	8.5	0.16	0.78	0.23	2.26	0.5
	MAX	85.06	72.53	41.49	99.22	8.33	32.87	83.41	66.12	4.41	3.46	2.63	18.75	66.43	8.57	2.29	24.36	7.28	6.61	24.93	2.26	2.82
	MIN	8.56	4.34	8.58	12.86	0.19	0.64	0.00	1.62	0.02	0.02	0.07	0.02	0.01	0.01	0.00	0.40	0.01	0.01	0.16	0.01	0.01
	MEDIAN	43.58	42.51	14.64	96.64	2.81	6.32	0.22	40.04	0.75	0.44	0.69	8.09	26.81	0.93	0.21	7.70	0.18	0.52	3.13	0.34	0.41
	MEAN	42.34	41.49	16.17	93.43	2.98	8.70	3.45	37.86	1.03	0.89	0.74	8.91	29.16	1.34	0.43	8.40	0.41	0.98	5.29	0.52	0.58
	STD DEV	16.21	13.89	6.19	13.41	1.79	6.39	12.93	15.21	0.85	0.91	0.53	4.99	13.75	1.68	0.59	5.05	1.09	1.61	5.34	0.50	0.56

VIC Number	Epitope	Total G0	Total G1	Total G2	Total Fucose	Total Bisecting	Total SA	G0	G0F	G0FB	G1	G1'	G1F	G1F'	G1S1F	G1FB	G2F	G2FB	G2S1	G2S1F	G2S1B	G2S1FB
16	Fusion	36.3	44.54	19.17	96.7	2.02	15.7	0.3	35.7	0.3	0.04	2.45	15.01	19.7	7.2	0.14	9.4	1.27	0.35	7.85	0.17	0.13
26	Fusion	33.91	46.4	19.69	97.75	1.33	14.01	0.16	32.84	0.91	0.56	1.13	21.3	18.76	4.64	0.01	10.07	0.25	0.33	8.88	0.07	0.09
47	Fusion	28.57	49.77	21.66	97.59	1.48	15.44	0	28.2	0.37	0.33	1.55	21.17	20.92	5.75	0.04	11.57	0.4	0.17	8.85	0.35	0.31
75	Fusion	19.14	49.88	30.98	94.74	1.91	26.81	0.01	18.8	0.33	0.32	4.21	12.84	23.91	8.55	0.05	11.82	0.9	0.11	17.52	0.61	0.01
133	Fusion	52.19	34.63	13.18	95.24	4.15	6.74	1.17	50.06	0.97	0.05	2.33	7.45	23.28	0.04	1.48	6.12	0.37	0.43	4.94	0.78	0.55
142	Fusion	44.7	43.67	11.63	97.32	2.44	2.89	0	43.7	1	2.04	0.02	12.18	29.11	0.19	0.13	8.83	0.11	0.4	1.09	0.21	0.99
157	Fusion	59.39	26.41	14.2	97.26	2.67	11.38	0.27	58.18	0.95	0.4	0.96	6.79	17.2	0.69	0.37	3.18	0.33	0.5	9.17	0.62	0.4
158	Fusion	58.14	27.29	14.57	96.62	3.14	9.84	1.11	55.61	1.42	0.42	0.94	7.71	17.13	0.42	0.68	4.86	0.28	0.53	8.15	0.39	0.36
	MAX	59.39	49.88	30.98	97.75	4.15	26.81	1.17	58.18	1.42	2.04	4.21	21.30	29.11	8.55	1.48	11.82	1.27	0.53	17.52	0.78	0.99
	MIN	19.14	26.41	11.63	94.74	1.33	2.89	0.00	18.80	0.30	0.04	0.02	6.79	17.13	0.04	0.01	3.18	0.11	0.11	1.09	0.07	0.01
	MEDIAN	40.50	44.11	16.87	96.98	2.23	12.70	0.22	39.70	0.93	0.37	1.34	12.51	20.31	2.67	0.14	9.12	0.35	0.38	8.50	0.37	0.34
	MEAN	41.54	40.32	18.14	96.65	2.39	12.85	0.38	40.39	0.78	0.52	1.70	13.06	21.25	3.44	0.36	8.23	0.49	0.35	8.31	0.40	0.36
	STD DEV	14.51	9.58	6.28	1.11	0.93	7.16	0.49	13.87	0.40	0.64	1.28	5.83	4.05	3.50	0.50	3.17	0.39	0.15	4.63	0.25	0.31

VIC Number	Epitope	Total G0	Total G1	Total G2	Total Fucose	Total Bisecting	Total SA	G0	G0F	G0FB	G1	G1'	G1F	G1F'	G1S1F	G1FB	G2F	G2FB	G2S1	G2S1F	G2S1B	G2S1FB
23	GP1/2	31.09	52.57	16.35	96.58	3.06	5.35	0.15	30.57	0.37	1.24	1.79	21.66	25.93	1.74	0.21	10.88	1.85	0.02	2.97	0.22	0.4
50	GP1/2	11.79	68.56	19.64	98.12	0.82	5.87	0.57	11.22	0.01	0.3	0.59	4.11	62.62	0.51	0.43	14.27	0.01	0.07	4.92	0.35	0.03
55	GP1/2	13.95	54.95	31.1	98.99	0.55	14.8	0.15	13.69	0.11	0.1	0.67	10.73	41.39	2.05	0	18.14	0.22	0.08	12.45	0.02	0.19
72	GP1/2	25.4	44.72	29.88	98.4	0.68	19.25	0.01	25.3	0.08	0.14	1.35	10.4	27.97	4.79	0.07	15.07	0.36	0.04	14.25	0.06	0.1
78	GP1/2	42.82	46.23	10.95	84.81	1.18	5.17	12.95	29.64	0.24	0.09	1.59	6.82	32.77	4.5	0.46	10.2	0.08	0.27	0	0.3	0.1
107	GP1/2	54.56	33.26	12.18	87.65	1.72	9.21	4.66	49.38	0.52	0.05	0.66	4.8	27.51	0.09	0.15	2.83	0.22	6.3	2	0.68	0.14
109	GP1/2	46.91	41.67	11.42	98.49	2.82	4.81	0.16	46.12	0.63	0.69	0.21	13.89	25.9	0.2	0.77	6.42	0.39	0.22	3.37	0.22	0.8
111	GP1/2	51.23	37.8	10.97	97.95	1.39	3.76	0.59	50.13	0.51	0.05	1.13	10.95	25.27	0.03	0.36	7.03	0.21	0.25	3.17	0.01	0.3
120	GP1/2	53.24	32.91	13.85	97.01	2.7	5.54	1.89	50.04	1.31	0.09	0.67	8.81	22.33	0.3	0.71	8.33	0.27	0.19	4.65	0.14	0.26
125	GP1/2	38.5	45.42	16.08	97.26	5.56	4.26	0.65	36.14	1.71	0.38	0.65	10.9	30.86	0.29	2.34	11.54	0.57	0.59	2.44	0.48	0.46
127	GP1/2	26.69	44.29	29.02	98.97	6.75	4.55	0.32	24.88	1.49	0.09	0.32	14.61	25.53	0.2	3.54	23.79	0.88	0.25	3.26	0.05	0.79
132	GP1/2	39.59	31.23	29.18	98.39	18.5	10.05	0.11	36.89	2.59	0.11	0.23	8.74	17.13	0.47	4.55	10.73	8.86	0.66	6.44	0.5	1.98
134	GP1/2	45.84	34.41	19.76	98.25	3.23	5.46	0.85	44.14	0.85	0.23	0.21	7.54	24.9	0.34	1.18	14.11	0.52	0.32	4.13	0.14	0.54
135	GP1/2	65.19	20.94	13.87	96.87	1.03	11.54	0.7	64.11	0.38	1.23	0.77	5.48	12.89	0.54	0.03	2.8	0.08	0.01	10.44	0.42	0.12
153	GP1/2	47.4	40.46	12.14	96.36	2.49	4.12	0	46.42	0.99	1.99	0.39	10.07	26.96	0.92	0.12	8.8	0.15	0.59	1.37	0.67	0.56
	MAX	65.19	68.56	31.10	98.99	18.50	19.25	12.95	64.11	2.59	1.99	1.79	21.66	62.62	4.79	4.55	23.79	8.86	6.30	14.25	0.68	1.98
	MIN	11.79	20.94	10.95	84.81	0.55	3.76	0.00	11.22	0.01	0.05	0.21	4.11	12.89	0.03	0.00	2.80	0.01	0.01	0.00	0.01	0.03
	MEDIAN	42.82	41.67	16.08	97.95	2.49	5.46	0.57	36.89	0.52	0.14	0.66	10.07	25.93	0.47	0.43	10.73	0.27	0.25	3.37	0.22	0.30
	MEAN	39.61	41.96	18.43	96.27	3.50	7.58	1.58	37.24	0.79	0.45	0.75	9.97	28.66	1.13	0.99	11.00	0.98	0.66	5.06	0.28	0.45
	STD DEV	15.21	11.41	7.62	4.20	4.51	4.55	3.36	14.74	0.72	0.58	0.50	4.44	11.38	1.54	1.39	5.58	2.23	1.58	4.14	0.23	0.49

VIC Number	Epitope	Total G0	Total G1	Total G2	Total Fucose	Total Bisecting	Total SA	G0	G0F	G0FB	G1	G1'	G1F	G1F'	G1S1F	G1FB	G2F	G2FB	G2S1	G2S1F	G2S1B	G2S1FB
31	GP1/Core	26.22	58.52	15.25	98.56	3.58	8.87	0.76	22.86	2.6	0.1	0.17	4.16	52.22	1.55	0.32	7.88	0.06	0.12	6.6	0.3	0.3
33	GP1/Core	38.52	48.34	13.14	99.35	0.57	10.46	0.12	38.34	0.07	0.01	0.37	20.9	21.4	5.64	0.01	8.16	0.16	0.01	4.48	0.14	0.19
36	GP1/Core	32.79	50.93	16.28	98.92	1.31	10.61	0.02	32.23	0.53	0.23	0.61	23.55	22.3	4.09	0.16	9.36	0.39	0.2	6.1	0.02	0.2
45	GP1/Core	7.24	48.12	44.65	98.86	0.39	16.09	0.01	7.02	0.2	0.08	0.99	8.6	37.36	0.97	0.12	29.5	0.01	0.03	15.05	0.04	0.01
63	GP1/Core	66.25	29.66	4.09	91.85	2.6	12.43	6.26	59.64	0.35	0.29	0.05	3.9	14.38	10.68	0.36	1.98	0.37	0.22	0	1.33	0.19
67	GP1/Core	62.46	31.82	5.72	93.3	1.35	5.21	5.19	57.02	0.26	0.12	0.44	4.38	22.39	4.08	0.43	4.43	0.15	0.62	0	0.33	0.18
74	GP1/Core	56.81	25.96	17.22	97.25	1.56	25.54	0.05	55.75	1.01	0.73	1.41	7.2	6.6	9.94	0.09	1.49	0.13	0.21	15.05	0.34	0
83	GP1/Core	47.72	42.24	10.04	98.15	3.74	3.46	0.25	45.97	1.49	0.26	0.68	10.15	29.24	0.41	1.5	6.77	0.22	0.5	2.02	0.16	0.36
84	GP1/Core	18.76	51.47	29.77	96.93	7.47	10.92	0.87	17.26	0.62	0.35	0.05	10.95	37.12	0.39	2.6	18.23	1.02	0.84	6.47	0.96	2.26

85	GP1/Core	23.16	52.1	24.73	97.09	2.45	2.22	1.48	21.63	0.06	0.49	0.21	15.2	34.74	0.13	1.33	22.26	0.38	0.36	1.05	0.36	0.31
96	GP1/Core	51.32	28.52	20.16	97.05	3.39	12.6	0.7	48.9	1.72	1.09	0.84	9.59	15.39	0.43	1.18	7.89	0.11	0.17	11.62	0.15	0.23
97	GP1/Core	42.94	36.73	20.33	97.4	3.73	6.26	0.17	41.16	1.62	0.48	1	9.05	24.69	0.35	1.16	13.77	0.65	0.85	4.75	0.1	0.21
98	GP1/Core	27.78	59.13	13.09	89.99	2.89	6.43	2.13	25.26	0.39	0.86	2.96	5.66	48.18	1.34	0.13	7.85	0.15	2.17	0.7	1.89	0.33
112	GP1/Core	33.63	48.38	17.99	98.56	2.69	3.41	0.62	32.42	0.59	0.04	0.32	12.49	34.48	0.14	0.91	14.31	0.41	0.23	2.27	0.24	0.54
113	GP1/Core	51.81	36.57	11.63	97.46	3.42	5.49	0.21	50.91	0.68	0.12	0.97	7.7	26.48	0.73	0.56	6.78	0.09	0.67	2	0.56	1.54
114	GP1/Core	28.17	53.36	18.47	95.63	3.03	4.88	1.54	26.24	0.38	0.29	1.24	14.73	34.95	0.95	1.21	14.46	0.07	1.02	1.55	0.29	1.08
115	GP1/Core	40.27	45.25	14.48	97.85	1.41	4.06	0.59	39.16	0.52	0.31	0.61	13.19	30.37	0.29	0.48	10.56	0.15	0.44	3.06	0.2	0.07
116	GP1/Core	48.26	38.34	13.4	98.13	1.8	4.98	0.08	47.53	0.65	0.44	0.9	9.55	26.52	0.44	0.49	8.55	0.3	0.19	4.01	0.27	0.08
119	GP1/Core	37.04	32.9	30.06	92.27	3.09	24.7	0	36.78	0.26	4.53	1.12	8.47	16.33	1.84	0.62	7.01	0.18	0.31	20.52	1.78	0.25
124	GP1/Core	40.81	42.65	16.54	96.51	4.38	7.27	0.88	38.34	1.58	0.83	0.88	12.31	26.99	0.27	1.36	9.13	0.41	0.47	5.51	0.43	0.6
126	GP1/Core	39.45	40.02	20.53	96.59	3.3	5.47	1.15	37.18	1.13	0.58	1.15	9.4	27.49	0.23	1.17	14.93	0.36	0.29	4.3	0.25	0.39
128	GP1/Core	54.26	33.79	11.94	97.33	6.01	6.13	0.4	50.9	2.96	0.29	1.1	10.65	19.5	0.38	1.87	5.84	0.36	0.68	4.24	0.2	0.62
129	GP1/Core	49.14	35.4	15.46	96.6	3.59	4.87	1.42	46.77	0.94	0.04	0.97	8.52	23.26	0.88	1.75	10.83	0.64	0.9	2.83	0.07	0.19
130	GP1/Core	49.23	35.44	15.33	97.43	5.17	5.58	0.72	46.52	1.99	0.1	0.77	7.88	24.19	0.89	1.6	10.06	0.58	0.54	3.16	0.44	0.55
131	GP1/Core	57.71	26.13	16.16	95.15	4.88	10.92	1.12	54.43	2.16	0.43	1.12	4.97	18.17	0.38	1.07	5.31	0.31	1.02	8.18	1.16	0.18
144	GP1/Core	43.37	44.24	12.4	97.71	3.1	3.87	0	41.83	1.54	1.7	0.11	13.38	27.73	1.28	0.04	9.48	0.32	0.17	1.22	0.3	0.9
147	GP1/Core	46.15	42.28	11.57	97.25	4.67	5.86	0	45.26	0.89	1.03	0.54	10.34	26.17	1.97	2.23	7.56	0.13	0.18	2.29	1.01	0.41
150	GP1/Core	43.45	43.49	13.06	96.73	4.56	4.98	0	41.25	2.2	1.79	0.33	12.64	27.66	0.9	0.17	8.92	0.06	0.14	1.81	1	1.12
164	GP1/Core	70.31	18.5	11.19	97.21	2.01	9.18	0.07	69.22	1.08	0.15	1.92	2.61	13	0.3	0.53	2.25	0.06	0.46	8.08	0.27	0.07
165	GP1/Core	62.36	26.23	11.41	98.57	2.52	8.73	0.51	61.58	0.78	0.45	0.52	7.98	16.19	0.99	0.1	2.85	0.82	0.12	6.8	0.34	0.48
166	GP1/Core	74.76	15.77	9.47	99	1.81	8.28	0.24	73.82	0.93	0.11	0.76	3.93	9.94	0.39	0.65	1.57	0.01	0.02	7.65	0.11	0.12
168	GP1/Core	62.88	25.72	11.4	97.93	2.49	12.58	0.98	61.66	1.21	0.42	1.15	7.69	13.67	2.36	0.43	1.08	0.11	0.14	9.33	0.36	0.38
	MAX	74.76	59.13	44.65	99.35	7.47	25.54	6.26	73.82	2.96	4.53	2.96	23.55	52.22	10.68	2.60	29.50	1.02	2.17	20.52	1.89	2.26
	MIN	7.24	15.77	4.09	89.99	0.39	2.22	0.00	7.02	0.06	0.01	0.05	2.61	6.60	0.13	0.01	1.08	0.01	0.01	0.00	0.02	0.00
	MEDIAN	44.80	39.18	14.87	97.29	3.06	6.35	0.55	43.55	0.91	0.33	0.81	9.23	25.43	0.89	0.59	8.03	0.20	0.30	4.27	0.30	0.31
	MEAN	44.84	39.00	16.16	96.83	3.09	8.51	0.89	42.96	1.04	0.59	0.82	9.74	25.28	1.74	0.83	9.10	0.29	0.45	5.40	0.48	0.45
	STD DEV	15.47	11.11	7.72	2.17	1.55	5.46	1.39	15.13	0.75	0.84	0.58	4.63	10.22	2.59	0.69	6.16	0.24	0.43	4.76	0.49	0.48

VIC Number	Epitope	Total G0	Total G1	Total G2	Total Fucose	Total Bisecting	Total SA	G0	G0F	G0FB	G1	G1'	G1F	G1F'	G1S1F	G1FB	G2F	G2FB	G2S1	G2S1F	G2S1B	G2S1FB
10	GP1/Head	56.72	24.49	18.79	96.89	2.81	27.47	0.09	55.88	0.75	0.42	0.4	5.27	8.36	10.02	0.01	1.19	0.15	0.35	15.2	1.85	0.05
94	GP1/Head	43	32.68	24.32	97.87	2.7	13.37	0	42.32	0.68	0.36	0.65	7.74	22.52	0.66	0.75	11.38	0.23	0.46	11.22	0.66	0.37
122	GP1/Head	49.19	36.65	14.16	97.76	1.6	10.53	0.18	48.57	0.43	1.29	0.18	10.31	24.5	0.3	0.08	3.77	0.15	0.05	9.25	0.53	0.4
138	GP1/Head	43.74	42.97	13.28	96.34	2.76	3.72	0	43.51	0.23	2.37	0.23	13.96	26.16	0.14	0.1	9.44	0.27	0.23	1.19	0.83	1.33
160	GP1/Head	73.76	15.69	10.55	98.5	1.95	8.28	0.06	72.3	1.4	0.15	0.91	3.06	11.36	0.16	0.06	2.28	0.14	0.29	7.48	0.09	0.27
167	GP1/Head	66.81	19.22	13.96	96.17	2.82	11.35	0.29	65.57	1.24	0.2	2.34	5.76	10.41	0.08	0.43	2.15	0.54	1.02	9.65	0.28	0.33
	MAX	73.76	42.97	24.32	98.50	2.82	27.47	0.29	72.30	1.40	2.37	2.34	13.96	26.16	10.02	0.75	11.38	0.54	1.02	15.20	1.85	1.33
	MIN	43.00	15.69	10.55	96.17	1.60	3.72	0.00	42.32	0.23	0.15	0.18	3.06	8.36	0.08	0.01	1.19	0.14	0.05	1.19	0.09	0.05
	MEDIAN	52.96	28.59	14.06	97.33	2.73	10.94	0.08	52.23	0.72	0.39	0.53	6.75	16.94	0.23	0.09	3.03	0.19	0.32	9.45	0.60	0.35
	MEAN	55.54	28.62	15.84	97.26	2.44	12.45	0.10	54.69	0.79	0.80	0.79	7.68	17.22	1.89	0.24	5.04	0.25	0.40	9.00	0.71	0.46
	STD DEV	12.63	10.58	4.93	0.93	0.53	8.06	0.11	12.21	0.45	0.87	0.81	3.93	8.00	3.99	0.29	4.29	0.15	0.33	4.63	0.62	0.44

VIC Number	Epitope	Total G0	Total G1	Total G2	Total Fucose	Total Bisecting	Total SA	G0	G0F	G0FB	G1	G1'	G1F	G1F'	G1S1F	G1FB	G2F	G2FB	G2S1	G2S1F	G2S1B	G2S1FB
42	HR2	28.27	59.17	12.56	98.28	1.55	16.44	0.16	27.45	0.66	0.66	0.44	21.35	25.51	11.05	0.16	6.84	0.34	0.18	4.8	0.27	0.13
100	HR2	57.91	26.88	15.21	81.23	0.79	10.64	0.14	47.53	0.25	0.88	0.8	4.28	19.98	0.74	0.2	5.16	0.13	6.86	2.84	0.08	0.12
103	HR2	44.21	31.05	24.74	73.59	3.15	18.23	13.43	29.96	0.82	0.5	0.16	6.23	21.64	2.19	0.32	8.06	0.64	11.67	3.01	0.65	0.71
104	HR2	46.72	32.36	20.91	70.89	5.55	17.61	18.05	27.61	1.07	0.61	0.24	5	22.78	3.25	0.49	6.26	0.29	8.45	2.21	1.77	1.93
161	HR2	72.8	18.47	8.73	97.68	2.16	8.18	0.07	71.9	0.91	0.56	0.78	6.03	10.73	0.03	0.35	0.49	0.09	0.48	6.85	0.5	0.32
162	HR2	57.43	28.14	14.42	98.31	1.55	9.16	0.85	56.99	0.45	0.24	0.91	7.89	18.4	0.14	0.58	5.35	0.05	0.4	8.15	0.15	0.32
163	HR2	67.05	21.15	11.79	98.1	1.95	9.86	0.28	65.96	1.09	0.15	1.17	6.14	13.21	0.04	0.44	1.85	0.12	0.27	9.25	0.3	0.01
171	HR2	65.51	24.24	10.25	98.64	0.86	8.51	0.18	65.41	0.1	0.06	0.96	7.05	15.29	0.43	0.45	2.05	0.12	0.33	7.55	0.01	0.18
	MAX	72.80	59.17	24.74	98.64	5.55	18.23	18.05	71.90	1.09	0.88	1.17	21.35	25.51	11.05	0.58	8.06	0.64	11.67	9.25	1.77	1.93
	MIN	28.27	18.47	8.73	70.89	0.79	8.18	0.07	27.45	0.10	0.06	0.16	4.28	10.73	0.03	0.16	0.49	0.05	0.18	2.21	0.01	0.01
	MEDIAN	57.67	27.51	13.49	97.89	1.75	10.25	0.57	52.26	0.74	0.53	0.79	6.19	19.19	0.59	0.40	5.26	0.13	0.44	5.83	0.29	0.25
	MEAN	54.99	30.18	14.83	89.59	2.20	12.33	5.40	49.10	0.67	0.46	0.68	8.00	18.44	2.23	0.37	4.51	0.22	3.58	5.58	0.47	0.47
	STD DEV	14.57	12.62	5.45	12.23	1.55	4.32	7.34	18.64	0.37	0.28	0.36	5.51	5.04	3.75	0.14	2.71	0.20	4.67	2.72	0.57	0.63

VIC Number	Epitope	Total G0	Total G1	Total G2	Total Fucose	Total Bisecting	Total SA	G0	G0F	G0FB	G1	G1'	G1F	G1F'	G1S1F	G1FB	G2F	G2FB	G2S1	G2S1F	G2S1B	G2S1FB
2	Mucin	72.1	17.31	10.59	56.49	1.31	11.21	40.39	31.35	0.36	0.43	0.61	2.53	10.23	3.26	0.26	2.58	0.06	1.64	5.69	0.44	0.18
4	Mucin	88.83	2.71	8.47	12.47	1.85	6.78	83.24	5.18	0.41	0.17	1.29	0.15	0.21	0.84	0.06	2.35	0.18	2.03	2.69	0.81	0.41

6	Mucin	61.53	25.17	13.3	98.24	0.77	13.53	0.26	60.83	0.44	0.37	0.45	2.06	20.82	1.45	0.03	1.19	0.03	0.42	11.39	0.27	0
9	Mucin	23.28	49.07	27.65	98.34	0.42	30.24	0.06	23.18	0.05	0.27	1.1	13.18	22.11	12.39	0.01	9.78	0.02	0.03	17.48	0.2	0.14
21	Mucin	36.58	52.34	11.08	96.83	0.91	6.63	0.51	36.02	0.06	0.38	1.95	4.71	43.53	1.65	0.1	5.81	0.29	0.24	4.28	0.08	0.38
22	Mucin	54.19	40.2	5.62	98.06	1.09	2.71	0.17	53.53	0.49	0.57	0.67	4.99	33.09	0.66	0.22	3.34	0.23	0.51	1.38	0.01	0.15
27	Mucin	20.74	65.8	13.46	98.96	2.55	5.83	0.09	19.14	1.51	0.33	0.26	7.32	56.42	1.36	0.11	8.64	0.36	0.25	3.64	0.11	0.46
28	Mucin	26.9	55.04	18.06	98.08	2.05	6.66	0.16	25.42	1.32	0.64	0.77	19.32	31.52	2.66	0.12	13.85	0.2	0.12	3.48	0.22	0.18
37	Mucin	17.45	58.39	24.16	93.52	3.69	17.94	0.26	16.96	0.23	0.86	3.5	8.21	37.59	5.92	2.31	11.72	0.42	1.35	9.95	0.52	0.21
38	Mucin	8.33	58.66	33.02	98.4	0.81	10.48	0.27	8.02	0.03	0.33	0.61	6.23	49.71	1.75	0.03	24.04	0.24	0.29	7.94	0.1	0.41
40	Mucin	35.9	51.71	12.39	80.26	3.44	9.75	0.09	33.8	2	0.66	15.46	4.88	30.35	0.25	0.1	2.75	0.15	2.33	5.98	1.19	0
41	Mucin	13.07	66.15	20.78	98.78	0.53	6.49	0.29	12.65	0.14	0.13	0.6	5.19	60.04	0.04	0.14	14.27	0.05	0.17	6.08	0.04	0.16
44	Mucin	15.36	63.01	21.64	97.07	3.43	9.39	0.89	12.58	1.88	0.32	1.28	3.86	56.46	0.96	0.13	13.18	0.02	0.1	6.93	0.33	1.06
46	Mucin	18.83	64.63	16.54	97.91	1.89	4.83	0.3	17.44	1.09	0.1	0.96	4.6	58.23	0.72	0.02	12.41	0.02	0.28	3.07	0.45	0.31
48	Mucin	24.69	44.29	31.02	97.61	2.02	14.27	0.13	23.92	0.65	0.22	0.96	8.87	31.73	2.48	0.02	18.93	0.3	0.13	10.6	0.94	0.11
51	Mucin	18.34	64.16	17.5	96.51	1.74	2.82	1.07	16.08	1.2	0.24	1.85	3.99	57.78	0.22	0.08	14.8	0.11	0.19	2.06	0.15	0.21
54	Mucin	14.11	65.64	20.25	97.31	2.97	7.6	0.27	11.68	2.17	0.52	1.18	3.25	59.56	1.01	0.12	13.66	0.01	0.28	5.63	0.44	0.24
70	Mucin	55.99	30.79	13.22	96.95	1.46	9.62	0.92	55.04	0.03	0.12	0.49	6.85	22.29	0.4	0.64	3.95	0.04	1	7.46	0.52	0.24
99	Mucin	46.98	45.08	7.94	96.63	1.59	3.5	1.39	45.16	0.43	0.18	0.54	5.05	39	0.06	0.24	4.44	0.06	0.86	1.72	0.4	0.45
143	Mucin	50.62	35.38	14	96.81	2.3	3.17	0	49.84	0.78	1.88	0.32	11.41	21.42	0.28	0.07	11.01	0.1	0.1	1.43	0.89	0.47
	MAX	88.83	66.15	33.02	98.96	3.69	30.24	83.24	60.83	2.17	1.88	15.46	19.32	60.04	12.39	2.31	24.04	0.42	2.33	17.48	1.19	1.06
	MIN	8.33	2.71	5.62	12.47	0.42	2.71	0.00	5.18	0.03	0.10	0.26	0.15	0.21	0.04	0.01	1.19	0.01	0.03	1.38	0.01	0.00
	MEDIAN	25.80	52.03	15.27	97.19	1.80	7.19	0.27	23.55	0.47	0.33	0.87	5.02	35.34	0.99	0.11	10.40	0.11	0.28	5.66	0.37	0.23
	MEAN	35.19	47.78	17.03	90.26	1.84	9.17	6.54	27.89	0.76	0.44	1.74	6.33	37.10	1.92	0.24	9.64	0.14	0.62	5.94	0.41	0.29
	STD DEV	22.42	17.88	7.60	20.76	0.99	6.41	20.15	17.02	0.70	0.40	3.31	4.34	17.79	2.83	0.51	6.24	0.13	0.69	4.07	0.33	0.23

VIC Number	Epitope	Total G0	Total G1	Total G2	Total Fucose	Total Bisecting	Total SA	G0	G0F	G0FB	G1	G1'	G1F	G1F'	G1S1F	G1FB	G2F	G2FB	G2S1	G2S1F	G2S1B	G2S1FB
7	Unknown	68.6	22.92	8.48	97.79	1.66	12.87	0.56	67.71	0.33	0.33	0.04	6.73	10.13	5.62	0.06	1.18	0.06	0.09	5.93	1.19	0.03
13	Unknown	67.42	20.87	11.7	96.41	3.1	11.02	0.28	66.11	1.03	1.36	0.92	1.94	14.99	1.07	0.59	1.26	0.5	0.57	8.4	0.46	0.52
17	Unknown	30.91	39.65	29.44	95.57	3.71	31.3	0.04	28.51	2.37	2.28	1.11	9.95	16.42	9.15	0.74	7.26	0.04	0.76	20.82	0.25	0.31
19	Unknown	43.87	48.99	7.14	98.01	1.38	6.25	0.21	43.6	0.06	0.16	1.31	5.37	40.02	1.72	0.41	2.31	0.3	0.18	3.74	0.13	0.47
29	Unknown	18.32	44.15	37.53	98.89	0.93	13.95	0	17.99	0.32	0.18	0.81	12.61	29.42	1.1	0.03	24.37	0.31	0.07	12.52	0.04	0.22
30	Unknown	36.55	47.97	15.48	94.31	4.8	10.32	0.44	33.48	2.63	1.31	1.85	5.27	38.3	0.49	0.76	5.54	0.12	1.34	7.19	0.75	0.54
34	Unknown	34.39	44.61	21	97.08	1.48	19.32	0.29	33.48	0.62	0.28	1.91	14.44	20.47	7.46	0.06	8.93	0.21	0.17	11.1	0.27	0.32
49	Unknown	8.76	50.18	41.06	95.34	0.98	9.52	1.9	6.57	0.29	0.35	0.78	7.27	41.18	0.55	0.04	32.05	0.04	1.11	7.25	0.51	0.09
53	Unknown	22.89	56.84	20.27	98.25	3.45	11.41	0.17	20.11	2.61	0.15	0.85	4.63	50.18	0.92	0.12	9.72	0.06	0.05	9.77	0.52	0.14
57	Unknown	32.62	50.96	16.43	98.63	1.71	12.14	0.23	31.08	1.3	0.58	0.34	4.51	44.54	0.83	0.17	5.1	0.02	0.06	11.02	0.15	0.07
60	Unknown	19.9	59.37	20.73	98.64	0.48	7.08	0.24	19.55	0.11	0.07	0.61	10.66	46.15	1.74	0.14	15.36	0.03	0.26	4.88	0.17	0.03
66	Unknown	65.02	18.83	16.14	95.89	1.23	17.65	1.69	63.12	0.22	0.49	0.7	3.78	10	3.79	0.06	2.06	0.22	0.83	12.31	0.4	0.33
68	Unknown	66.7	23.75	9.55	96.94	2.09	8.25	0.07	65.93	0.69	0.28	0.29	8.09	13.12	1.4	0.57	2.68	0.02	1.92	4.12	0.5	0.3
69	Unknown	40.58	26.34	33.08	94.16	6.48	26.32	0.08	39.27	1.23	1.34	2.25	6.82	13.51	1.52	0.92	6.58	1.69	2.11	20.05	0.08	2.56
86	Unknown	21	39.76	39.24	94.82	7.04	5.6	1.67	18.47	0.86	0.7	0.81	9.78	25.6	0.34	2.53	33.3	0.69	0.95	1.33	1.05	1.92
87	Unknown	13.56	43.92	42.53	90.79	8.51	12.15	1.65	10.3	1.61	0.24	0.48	12.92	27.22	0.14	2.93	30.3	0.22	4.09	4.17	2.76	0.99
89	Unknown	17.39	47.78	34.84	95.32	5.37	2.3	2.04	14.1	1.25	1.21	0.49	15.04	27.89	0.11	3.03	32.14	0.51	0.74	0.87	0.19	0.39
92	Unknown	39.17	47.42	13.41	94.57	3.87	1.99	3.35	35	0.82	0.52	0.7	18.34	25.52	0.14	2.2	11.13	0.43	0.65	0.78	0.21	0.2
105	Unknown	60.53	27.28	12.2	87.62	1.69	7.35	6.2	53.8	0.52	0.18	0.33	6.45	19.73	0.35	0.23	5.09	0.1	4.88	1.29	0.79	0.04
110	Unknown	46.37	39.82	13.81	97.02	2.15	7.26	0.61	45.2	0.56	1.24	0.35	12.64	24.38	0.51	0.71	6.89	0.17	0.33	5.71	0.45	0.26
121	Unknown	46.38	37.11	16.51	97.2	4.35	7.16	0.74	43.89	1.75	0.18	0.95	11.25	22.45	0.62	1.65	9.73	0.24	0.48	5.36	0.44	0.26
151	Unknown	38.82	47.55	13.63	95.95	3.03	4.59	0	37.56	1.26	2.64	0.08	11.55	32.64	0.47	0.16	9.33	0.18	0.59	2.1	0.74	0.68
	MAX	68.60	59.37	42.53	98.89	8.51	31.30	6.20	67.71	2.63	2.64	2.25	18.34	50.18	9.15	3.03	33.30	1.69	4.88	20.82	2.76	2.56
	MIN	8.76	18.83	7.14	87.62	0.48	1.99	0.00	6.57	0.06	0.07	0.04	1.94	10.00	0.11	0.03	1.18	0.02	0.05	0.78	0.04	0.03
	MEDIAN	37.69	44.04	16.47	96.18	2.59	9.92	0.37	34.24	0.84	0.42	0.74	8.94	25.56	0.88	0.49	8.10	0.20	0.62	5.82	0.45	0.31
	MEAN	38.17	40.28	21.55	95.87	3.16	11.17	1.02	36.13	1.02	0.73	0.82	9.09	26.99	1.82	0.82	11.92	0.28	1.01	7.31	0.55	0.49
	STD DEV	18.58	11.91	11.50	2.65	2.18	7.21	1.46	18.69	0.78	0.71	0.58	4.22	12.11	2.47	0.98	10.94	0.36	1.26	5.62	0.58	0.62

Table S4. Antibody features ranked by importance for predicting likelihood of protection, related to Figure 7.

<b>Rank</b>	<b>Importance</b>	<b>Feature</b>
1	0.237483	IIP unneutralized fraction of rVSV-EBOV
2	0.176860	Log <sub>10</sub> rVSV IC <sub>50</sub>
3	0.128681	IIP authentic EBOV neutralization
4	0.056267	IIP ΔVP30 EBOV neutralization
5	0.022053	Polyfunctionality
6	0.019130	Total SA
7	0.018971	G1
8	0.018086	CD107a
9	0.018039	IFN-γ
10	0.017258	Log <sub>10</sub> GP EC <sub>50</sub>
11	0.014427	G2S1F
12	0.013914	MIP-1B

The importance factors for different antibody features determined from Random Forest regression predictions for protection of mice (Pedregosa et al., 2011). The 10-fold cross-validation of RF predictions are shown in Figure S7.

Website: The correlation network may be accessed at: <https://apps.andersen-lab.com/cornnetwork/>