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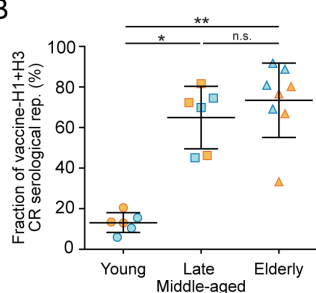
Supplemental Data Set 1 (Microsoft Excel format). Tabulated serum antibody clonotypes identified from Ig-Seq analysis.

A

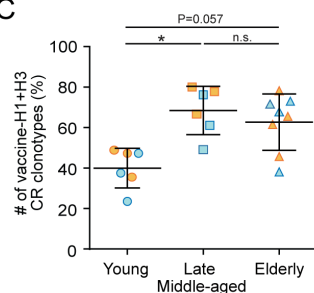
Vaccinated Age	Age Group	Donor (Year)	Influenza H1N1 strains														Vaccine strain ↓
			SC/18	Weiss/43	FM/47	Den/57	NJ/76	USSR/77	Chile/83	Sing/86	TX/91	BJ/95	New Cal/99	SI/06	Bris/07	CA/09	
26	Y	1158(2014)	80	80	10	5	80	5	5	40	10	5	5	10	5	80	80
33	Y	1025(2013)	40	5	20	5	10	20	20	5	10	5	40	5	5	80	80
33	Y	1074(2013)	5	80	80	160	5	40	40	320	320	320	640	320	5	80	80
57	M	236(2013)	40	640	160	640	5	160	80	320	320	320	640	80	20	160	160
61	M	1014(2013)	5	5	40	40	5	40	40	40	40	10	40	40	5	80	80
61	M	1088(2013)	5	5	20	5	5	40	10	5	5	10	5	5	5	80	80
65	E	1044(2013)	10	10	1280	5	10	160	160	80	80	5	5	20	5	320	320
67	E	1117(2013)	10	5	80	20	5	40	5	10	10	20	40	20	5	160	160
69	E	1131(2013)	5	5	20	5	5	40	5	5	5	10	5	10	5	20	20
70	E	29(2013)	5	5	40	5	5	80	20	5	5	10	5	20	10	20	20

Influenza H3N2 strains		Vaccine strain ↓															
Vaccinated Age	Age Group																
26	Y	1158(2014)	5	5	20	80	160	80	160	160	640	1280	5	1280	640	1280	1280
33	Y	1025(2013)	5	5	40	80	40	40	40	80	80	80	5	640	160	160	160
33	Y	1074(2013)	5	5	80	160	80	320	640	320	320	80	320	5	160	160	160
57	M	236(2013)	160	80	40	40	10	80	320	320	1280	160	160	160	10	40	40
61	M	1014(2013)	10	5	20	10	20	40	160	80	640	160	5	1280	160	320	320
61	M	1088(2013)	20	5	5	5	5	10	5	10	5	5	5	40	20	20	40
65	E	1044(2013)	20	5	5	20	20	40	80	40	40	20	5	640	80	80	160
67	E	1117(2013)	160	80	40	80	40	40	80	80	320	40	5	640	160	160	320
69	E	1131(2013)	5	5	10	80	10	10	20	40	160	40	5	80	20	40	20
70	E	29(2013)	80	5	40	80	20	160	320	160	640	80	5	320	80	80	80

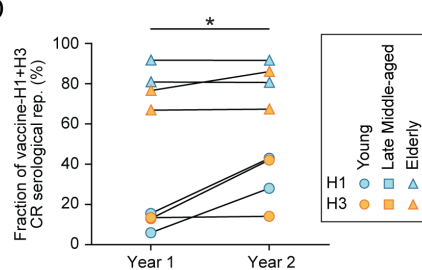
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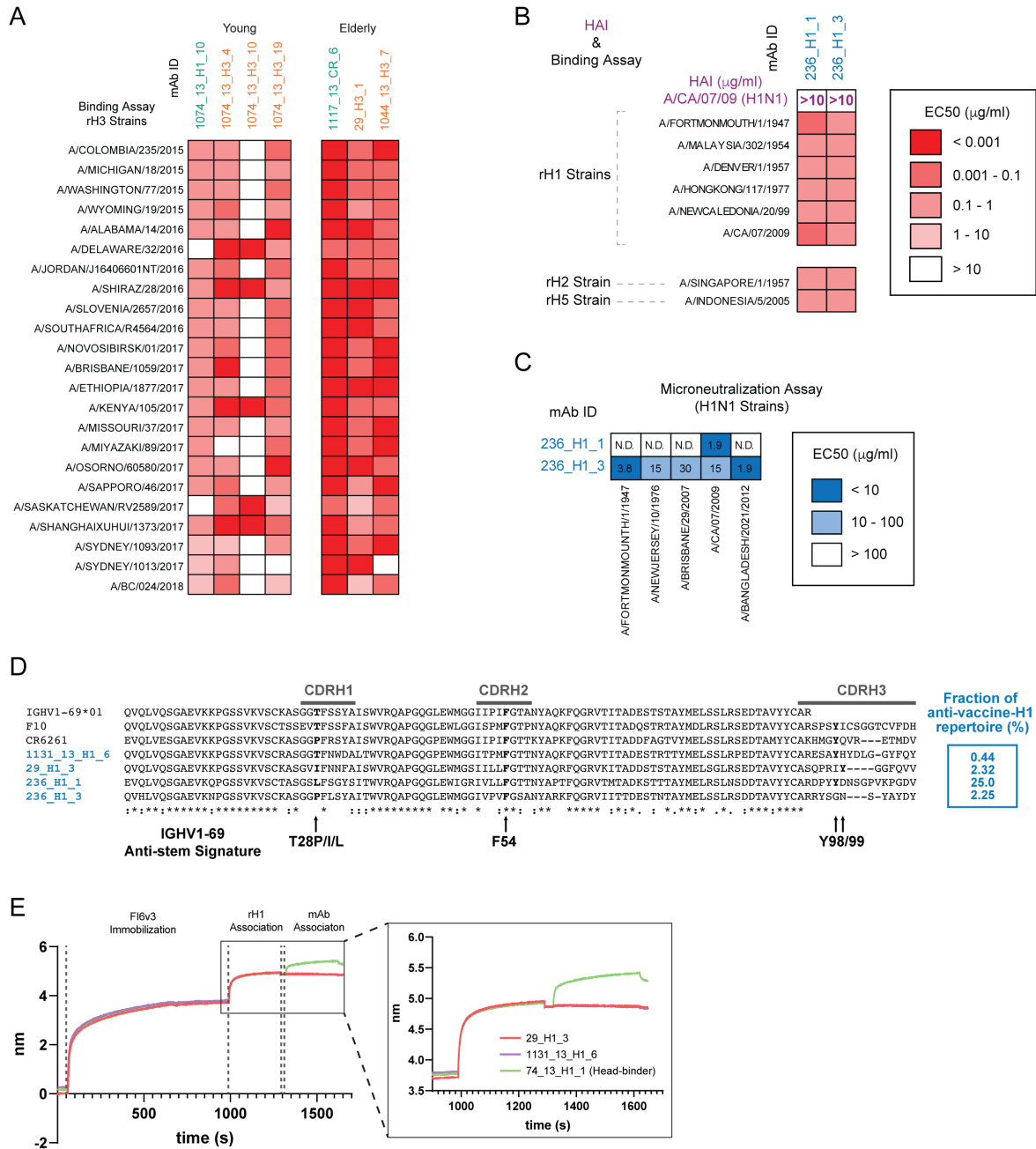
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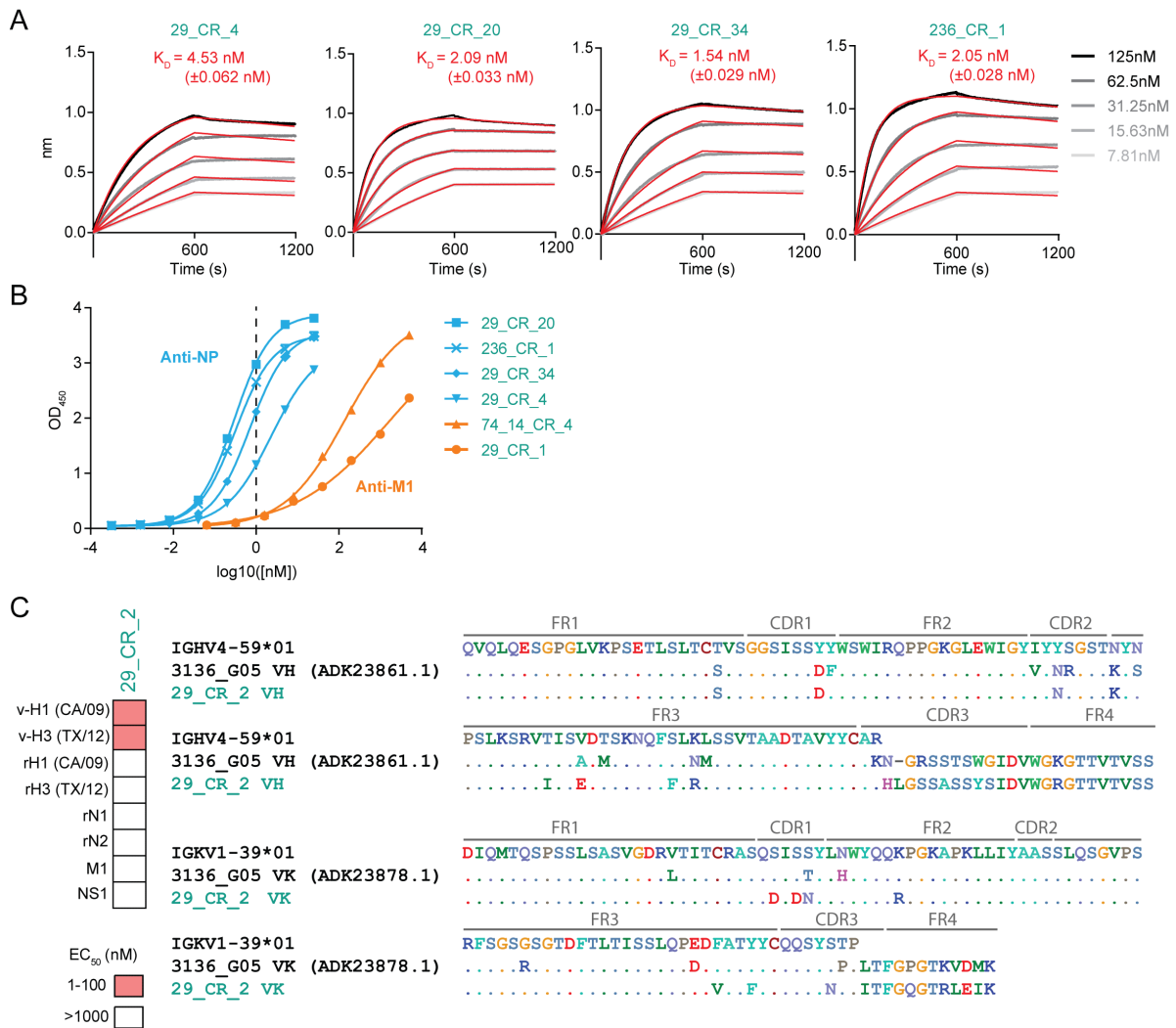
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Supplemental Figure 1. Serology and repertoire features of different age groups. (A) HAI titers to 14 historical H1N1 and 15 historical H3N2 strains. Vaccine strains are highlighted in red box. (B) Fraction of the abundance of vaccine-H1+H3 CR clonotypes in the anti-vaccine-H1 and anti-vaccine-H3 serum repertoires (Kruskal-Wallis test followed by Dunn's post-hoc test). Mean \pm SD shown for each group (n=6, 6, 8). (C) Fraction of the number of vaccine-H1+H3 CR clonotypes in the anti-vaccine-H1 and anti-vaccine-H3 serum repertoires (Kruskal-Wallis test followed by Dunn's post-hoc test). Mean \pm SD shown for each group (n=6, 6, 8). (D) The fraction of vaccine-H1+H3 CR clonotypes in the serological repertoire of 4 donors vaccinated in 2013-2014 and in 2014-2015 season with the identical Fluzone® vaccine (A/California/07/2009, A/Texas/50/2012, B/Massachusetts/2/2012) (Wilcoxon signed-rank test, two-tailed).



Supplemental Figure 2. Features of rH1 and rH3-binding antibodies. (A) Binding specificity of anti-rH3 s-mAbs to rHAs from additional contemporary H3 strains. (B) HAI titer and binding specificity of the two s-mAbs from Donor-236 (late middle-aged) to historical group 1 rHAs. (C) s-mAbs showing a stem binding signature have microneutralization activity. N.D.: No data available. (D) 4 isolated s-mAbs showing IGHV1-69 anti-stem signatures from one middle-aged (Donor-236) and two elderly donors (Donor-29 and Donor-1131). Alignment was performed with Clustal Omega (1.2.4) multiple sequence alignment. (E) Biolayer Interferometry (BLI) data that shows competition of the two mAbs showing IGHV1-69 anti-stem signature with an anti-stem antibody, FI6v3. A head-binding antibody, 74_13_H1_1, was used as a non-competing antibody control.



Supplemental Figure 3. Binding characteristics of the non-rHA binding s-mAbs. (A) BLI data of NP-targeting s-mAbs. Average K_D and error values from $n=2$ replicates shown. **(B)** ELISA data showing NP and M1-targeting s-mAbs. **(C)** Heatmap showing specificity of 29_CR_2 to the vaccine via ELISA and the alignment to a published M2e-specific mAb (3136_G05: ADK23861.1).

Supplemental Table 1. Demographics of volunteers.

Donor ID	Birth year	Age group (Age criteria)	Vaccination season (Type)	Gender	Ethnicity
1158	1988	Young (26-33)	Fluzone® 2014-2015 (Standard-dose)	Female	White/Caucasian
1025	1980	Young (26-33)	Fluzone® 2013-2014 (Standard-dose)	Female	Hispanic/Latino
			Fluzone® 2014-2015 (Standard-dose)		
1074	1980	Young (26-33)	Fluzone® 2013-2014 (Standard-dose)	Female	Hispanic/Latino
			Fluzone® 2014-2015 (Standard-dose)		
236	1956	Late Middle-aged (57-61)	Fluzone® 2013-2014 (Standard-dose)	Male	African American
1014	1952	Late Middle-aged (57-61)	Fluzone® 2013-2014 (Intradermal)	Female	African American
1088	1952	Late Middle-aged (57-61)	Fluzone® 2013-2014 (Standard-dose)	Male	White/Caucasian
1044	1948	Elderly (65+)	Fluzone® 2013-2014 (Standard-dose)	Female	White/Caucasian
1117	1946	Elderly (65+)	Fluzone® 2013-2014 (High-dose)	Female	White/Caucasian
			Fluzone® 2014-2015 (High-dose)		
1131	1944	Elderly (65+)	Fluzone® 2013-2014 (High-dose)	Female	African American
			Fluzone® 2014-2015 (High-dose)		
29	1943	Elderly (65+)	Fluzone® 2013-2014 (Standard-dose)	Female	African American

Supplemental Table 2. Expressed serum monoclonal antibodies (s-mAbs) and their specificities.

mAb ID (Donor_Year vaccinated_Specificity from Ig-Seq_Rank by abundance)	mAb Specificity	CDRH3	CDRL3	v-H1 PSM	v-H3 PSM	v-H1 XIC (%)	v-H3 XIC (%)
1074_13_CR_1	CR(Glycan)	ARAIAAAGSY	AAWDDSLNGLV	71	61	4.74	3.67
1074_13_H1_1	v-H1(rH1)	ARDERTVGERWFLGLDV	QSYDSSLSDSAV	145	0	45.83	0.00
1074_13_H1_3	v-H1(rH1)	ARDTEIVVGELIYFHYGMDV	MQRIDFPYT	29	1	3.51	3.77
1074_13_H1_4	v-H1(rH1)	AREDLVIGEGMYNGVDV	SSYTISSLVV	44	0	3.39	0.00
1074_13_H1_5	v-H1(rH1)	AKDQGGPSSVMKGFHS	QQYFNWPPIT	34	0	3.29	0.00
1074_13_H1_9	v-H1(rH1)	AKEWGWQVDTDPFDI	QQYNDWPLT	23	0	1.66	0.00
1074_13_H1_10	CR(rH1,3)	ARMFSELENPTGCLDY	QQSYTNPPWT	18	0	1.65	0.00
1074_14_CR_4	CR(M1)	ARLYDFWNGYPNFDH	ATWDDTQNGPV	40	31	3.46	1.28
1074_13_H1_20	CR(Glycan)	ARRTGIGYPYNWFDS	QQYYTAPPT	6	0	0.38	0.00
1074_14_CR_29	CR(Glycan)	VREGTWTGYFDL	QKYNSPPRT	6	6	0.19	0.08
1074_13_H3_4	v-H3(rH3)	ARSPGGHSTVEYKSHAFDL	QSVGSSSSYVI	0	17	0.00	5.14
1074_13_H3_10	v-H3(rH3)	GRLSMVREVAGPLLDV	QSYDSSLSGSVV	0	17	0.00	1.23
1074_13_H3_19	v-H3(rH3)	AKVYICIMNSCYNDY	QSYDSTLSV FV	0	11	0.00	0.38
1025_13_CR_4	CR(Glycan)	ARGGLAIGEY	AAWDSSLNAYV	10	11	0.47	0.81
1025_14_H1_8	CR(Glycan)	VRAIASADSY	GAWDNNLSAMV	3	1	1.29	0.00
236_CR_1	CR(NP)	ARGNMLRVPDY	LQYYSDPLT	14	16	25.07	22.22
236_CR_2	CR(Glycan)	ARAIAAADSY	AAWDDSLNALV	18	12	4.18	3.55
236_H1_1	v-H1(rH1)	ARDPYDNSGPVKPGDV	QQTHSFPR T	27	1	25.78	0.00
236_H1_3	v-H1(rH1)	ARRYSGNSYAYDY	QHYDTSLT	5	0	2.25	0.00
236_H3_1	v-H3(rH3)	ARGRVDP SLRGAIVKGLDY	QQYYT TSLWT	0	6	0.00	13.94
1088_H3_7	v-H3(rH3)	ARFYGNSFDS	QQGINS PFT	0	6	0.00	0.39
1088_CR_21	CR(Glycan)	ARAIGAAEAY	ASWDHSLSGVV	10	6	0.30	0.16
1044_H3_7	v-H3(rH3)	ARELGDTMVRGLLDWFDP	QAWDSRTAV	0	4	0.00	2.45
29_CR_1	CR(M1)	ARDLLVAVPDKGPF	QQYNGYSRT	128	55	55.67	16.74
29_CR_2	CR(M2e)	ARHLGSSASSYSIDV	QQSYNTPIT	25	23	16.05	32.32
29_CR_4	CR(NP)	AREVNNRHAFNV	QLYGTDSWA	29	29	2.27	8.67
29_CR_12	CR(Glycan)	TRKVG DV	ATWDDSLKGWV	7	6	0.42	1.04
29_CR_18	CR(Glycan)	ARGLSATYPNTFQN	MQPLYAPT	10	14	0.27	1.90
29_CR_20	CR(NP)	ARGEAYFYDRNFYPR	HQYNTLPWT	5	6	0.21	0.35

29_CR_34	CR(NP)	ARTSGGDTYNLGGFDF	QVWDSSTDHVV	2	4	0.05	0.04
29_H1_3	v-H1(rH1)	ASQPRIYGGFQVV	QQFNQYPLT	11	0	2.32	0.00
29_H1_12	v-H1(rH1)	ARESGGTYYLGEDGFDI	MQSIQLPIT	4	0	0.08	0.00
29_H3_4	v-H3(rH3)	ARDEVQGTVALPSNRNNWFDP	QQYNFWPRT	0	18	0.00	2.51
1131_13_H1_6	v-H1(rH1)	ARESAYHYDLGGYFYQY	QQYGSSPRT	8	0	0.44	0.00
1117_13_CR_4	CR(Glycan)	VRAVGGHDSY	AAWDGSLKAYV	26	20	3.42	2.45
1117_13_CR_6	CR(rH1,3)	ARGGAELLSFGEPHKKYKWIDL	QQTYTTSIT	13	13	2.15	5.80

Supplemental Table 3. Glycan array binding data for top 100 glycans.

Glycan	Average RFU	SEM	%CV	Average RFU	SEM	%CV
	1088_CR_21			29_CR_12		
(6S)(4S)Galb1-4GlcNAcb-Sp0	65112	22	0	65213	164	0
(4S)Galb1-4GlcNAcb-Sp8	64608	260	0	65265	53	0
(6S)Galb1-4GlcNAcb-Sp8	65244	42	0	64602	299	0
(3S)Galb1-4GlcNAcb-Sp0	63127	1010	2	63790	1434	2
(3S)Galb1-4GlcNAcb-Sp8	42789	7945	19	23173	2278	10
6S(3S)Galb1-4(6S)GlcNAcb-Sp0	64794	532	1	257	39	15
(3S)Galb1-4(Fuca1-3)(6S)GlcNAcb-Sp8	64474	556	1	86	65	76
(3S)Galb1-4(Fuca1-3)GlcNAcb-Sp0	30483	2528	8	25236	2195	9
(3S)Galb1-4(6S)GlcNAcb-Sp0	50517	5040	10	35	7	20
6S(3S)Galb1-4GlcNAcb-Sp0	16129	1617	10	6175	296	5
(3S)Galb1-4(6S)GlcNAcb-Sp8	15350	676	4	38	7	19
(6S)Galb1-4(6S)GlcNAcb-Sp0	9977	652	7	38	18	47
GlcNAcb1-3Galb1-4GlcNAcb1-6(GlcNAcb1-3Galb1-4GlcNAcb1-2)Mana1-6(GlcNAcb1-3Galb1-4GlcNAcb1-2Man a1-3)Manb1-4GlcNAcb1-4GlcNAcb-Sp24	1636	497	30	2479	787	32
GlcNAcb1-3Galb1-4GlcNAcb1-2Mana1-6(GlcNAcb1-3Galb1-4GlcNAcb1-2Mana1-3)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	3552	404	11	483	107	22

GlcNAcb1-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-2Mana1-6(GlcNAcb1-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-2Mana1-3)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	1825	282	15	701	134	19
Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-6(Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-2)Mana1-6(Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-2Mana1-3)Mana1-4GlcNAcb1-4GlcNAc-Sp24	1421	500	35	479	329	69
Fuca1-2(6S)Galb1-4GlcNAcb-Sp0	1219	127	10	92	27	29
Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-2Mana1-6(Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-2Mana1-3)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	1028	121	12	155	37	24
(6S)(4S)GalNAcb1-4GlcNAc-Sp8	1077	244	23	37	26	71
Galb1-4(6S)Glc-Sp0	55	7	12	974	229	24
Neu5Aca2-6Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-2Mana1-6(Neu5Aca2-6Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-2Mana1-3)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	751	242	32	198	108	55
Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-6(Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-2)Mana1-6(Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-2Mana1-3)Manb1-4GlcNAcb1-4(Fuca1-6)GlcNAcb-Sp24	540	47	9	287	47	16
Galb1-3GlcNAcb1-3Galb1-3GlcNAcb-Sp0	489	12	3	305	47	15
GlcNAca1-4Galb1-4GlcNAcb1-3Galb1-4(Fuca1-3)GlcNAcb1-3Galb1-4(Fuca1-3)GlcNAcb-Sp0	298	59	20	371	147	40
Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-6(Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-3)GalNAca-Sp14	431	52	12	199	83	42
(3S)Galb-Sp8	128	16	13	478	333	70

GalNAcb1-4(Neu5Aca2-3)Galb1-4GlcNAcb1-3GalNAca-Sp14	432	42	10	119	22	19
GalNAcb1-4Galb1-4Glc-Sp0	302	49	16	211	111	53
Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-6(Galb1-3)GalNAca-Sp14	460	135	29	46	23	49
Neu5Aca2-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-2Mana1-6(Neu5Aca2-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-2Mana1-3)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	363	74	20	109	48	44
GlcNAcb1-3Galb-Sp8	53	2	3	395	305	77
(6S)Galb1-3(6S)GlcNAc-Sp0	402	61	15	36	11	30
Fuca1-2Galb1-4(Fuca1-3)GlcNAcb1-3GalNAca-Sp14	342	65	19	96	13	13
Fuca1-4(Galb1-3)GlcNAcb1-2 Mana-Sp0	100	18	18	329	97	29
GalNAca-Sp15	157	9	6	262	115	44
Glc1-6Glc1-6Glc-Sp8	229	27	12	187	138	74
Galb1-4GlcNAcb-Sp23	172	6	3	241	46	19
Galb1-3GlcNAcb1-3Galb1-4GlcNAcb1-6(Galb1-3GlcNAcb1-3Galb1-4GlcNAcb1-2)Mana1-6(Galb1-3GlcNAcb1-3Galb1-4GlcNAcb1-2Mana1-3)Manb1-4GlcNAcb1-4(Fuca1-6)GlcNAcb-Sp24	265	51	19	144	40	28
Neu5Aca2-3Galb1-4GlcNAcb1-2Mana-Sp0	275	62	23	124	36	29
(3S)Galb1-4Glc-Sp8	191	22	12	202	98	48
Galb1-3GlcNAcb1-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-6(Galb1-3GlcNAcb1-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-2)Mana1-6(Galb1-3GlcNAcb1-3Galb1-4GlcNAcb1-2Mana1-3)Manb1-4GlcNAcb1-4(Fuca1-6)GlcNAcb-Sp24	345	19	6	41	12	29
Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-3GalNAca-Sp14	325	78	24	41	15	35

Glc b-Sp8	247	82	33	120	58	49
Glc a1-6Glc a1-6Glc a1-6Glc b-Sp10	136	13	9	229	84	37
Gal b1-4GlcNAc b1-3Gal b1-4GlcNAc b1-2Man a1-6(Gal b1-4GlcNAc b1-3Gal b1-4GlcNAc b1-2Man a1-3)Man b1-4GlcNAc b1-4(Fuca 1-6)GlcNAc b-Sp24	255	12	5	107	141	132
Fuca 1-2(6S)Gal b1-3(6S)GlcNAc b-Sp0	264	37	14	93	23	24
GlcNAc b1-2Man a1-6(GlcNAc b1-2Man a1-3)Man b1-4GlcNAc b1-4(Fuca 1-6)GlcNAc b-Sp22	285	68	24	47	16	34
Gala 1-3(Fuca 1-2)Gal b1-4(Fuca 1-3)Glc b-Sp21	56	6	10	275	173	63
Neu5Aca 2-6Gal b1-4GlcNAc b1-6(Neu5Aca 2-6Gal b1-4GlcNAc b1-2)Man a1-6(GlcNAc b1-4)(Neu5Aca 2-6Gal b1-4GlcNAc b1-4(Neu5Aca 2-6Gal b1-4GlcNAc b1-2)Man a1-3)Man b1-4GlcNAc b1-4GlcNAc b-Sp21	259	178	69	70	174	247
Man b-Sp8	108	34	32	203	140	69
Neu5Aca 2-3Gal b1-4(Fuca 1-3)GlcNAc b1-3GalNAc a-Sp14	209	30	14	99	26	26
Glc a-Sp8	184	18	10	110	56	51
Man a1-2Man a1-2Man a1-3Man a-Sp9	179	45	25	109	97	89
Gal b1-4(Fuca 1-3)GlcNAc b1-2Man a-Sp0	261	84	32	25	9	36
Gala 1-3(Fuca 1-2)Gal b1-4GlcNAc b1-6(Gala 1-3(Fuca 1-2)Gal b1-4GlcNAc b1-3)GalNAc-Sp14	134	26	20	147	38	26
Fuca 1-2Gal b1-4(Fuca 1-3)GlcNAc b1-2Man a1-6(Fuca 1-2Gal b1-4(Fuca 1-3)GlcNAc b1-2Man a1-3)Man b1-4GlcNAc b1-4(Fuca 1-6)GlcNAc b-Sp24	220	24	11	57	4	8
Gal b1-4GlcNAc b1-2Man a-Sp0	222	82	37	54	16	29
Gal b1-3GlcNAc b1-2Man a1-6(GlcNAc b1-4)(Gal b1-3GlcNAc b1-2Man a1-3)Man b1-4GlcNAc b1-4GlcNAc b-Sp21	177	78	44	96	21	22

Galb1-4(Fuca1-3)GlcNAcb1-6GalNAc-Sp14	156	10	7	116	61	52
Fuca1-2Galb1-3(Fuca1-4)GlcNAcb1-2Mana1-6(Fuca1-2Galb1-3(Fuca1-4)GlcNAcb1-2Mana1-3)Manb1-4GlcNAcb1-4(Fuca1-6)GlcNAcb1-4(Fuca1-6)GlcNAcb-Sp19	220	21	10	45	3	7
(3S)Galb1-4(6S)Glc-Sp0	210	23	11	52	12	23
GalNAca1-3(Fuca1-2)Galb1-3GlcNAcb1-3GalNAc-Sp14	228	84	37	33	8	24
Fuca1-2Galb1-4GlcNAcb1-6(Fuca1-2Galb1-4GlcNAcb1-3)GalNAc-Sp14	152	3	2	107	74	69
Gala1-3(Fuca1-2)Galb1-3GlcNAcb-Sp8	156	24	15	100	28	28
Mana1-6(Mana1-3)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	195	14	7	56	22	39
GlcNAcb1-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-2Mana1-6(GlcNAcb1-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-2Mana1-3)Manb1-4GlcNAcb1-4GlcNAcb-Sp25	193	14	7	55	46	85
Rhaa-Sp8	197	31	16	42	15	36
(3S)Galb1-4(6S)Glc-Sp8	164	24	15	73	40	55
Glc1-4Glc-Sp8	190	48	25	46	8	16
Fuca1-2(6S)Galb1-4(6S)Glc-Sp0	216	38	17	19	5	25
Neu5Gca2-6Galb1-4GlcNAcb-Sp0	100	20	20	130	152	117
Fuca1-2Galb1-3GlcNAcb1-2Mana1-6(Fuca1-2Galb1-3GlcNAcb1-2Mana1-3)Manb1-4GlcNAcb1-4(Fuca1-6)GlcNAcb-Sp22	137	47	34	93	22	23
Gala1-3Galb1-4GlcNAcb1-2Mana1-6(Gala1-3Galb1-4GlcNAcb1-2Mana1-3)Manb1-4GlcNAcb1-4GlcNAc-Sp24	187	25	14	41	22	55
Fuca1-2Galb1-4GlcNAcb1-6GalNAca-Sp14	178	14	8	47	8	18
Galb1-4GlcNAcb1-6(Galb1-4GlcNAcb1-2)Mana1-6(Galb1-4GlcNAcb1-2Mana1-3)Manb1-4GlcNAcb1-4(Fuca1-6)GlcNAcb-Sp24	107	4	3	117	103	88

Galb1-4GalNAcb1-3(Fuca1-2)Galb1-4GlcNAcb-Sp8	68	7	11	154	108	70
Fuca1-2Galb1-3(6S)GlcNAcb-Sp0	175	17	10	47	29	62
Fuca1-2Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-2Mana1-6(Fuca1-2Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-2Mana1-3)Manb1-4GlcNAcb1-4GlcNAcb-Sp24	168	10	6	51	29	56
Gala1-4Galb1-4GlcNAcb1-2Mana1-6(Gala1-4Galb1-4GlcNAcb1-2Mana1-3)Manb1-4GlcNAcb1-4GlcNAcb-Sp24	146	33	22	72	21	29
Gala-Sp8	132	6	5	85	47	55
Gala1-3(Fuca1-2)Galb1-4Glc-Sp0	181	76	42	36	5	13
Gala1-3(Fuca1-2)Galb1-3GlcNAcb-Sp0	195	10	5	22	4	18
Gala1-3Galb1-4GlcNAcb1-6GalNAca-Sp14	163	7	4	53	24	45
(3S)Galb1-4(Fuca1-3)Glc-Sp0	181	10	6	35	9	25
(3S)Galb1-3GalNAca-Sp8	154	18	12	60	13	21
GlcNAcb1-2Mana1-6(GlcNAcb1-2Mana1-3)Manb1-4GlcNAcb1-4GlcNAcb-Sp13	177	13	7	36	7	20
Mana1-2Mana1-6(Mana1-2Mana1-3)Mana1-6(Mana1-2Mana1-2Mana1-3)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	195	15	8	18	7	40
GalNAcb1-4GlcNAcb1-2Mana1-6(GalNAcb1-4GlcNAcb1-2Mana1-3)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	176	20	11	36	20	54
Neu5Aca2-6Galb1-4GlcNAcb1-2Mana1-6(Neu5Aca2-6Galb1-4GlcNAcb1-2Mana1-3)Manb1-4GlcNAcb1-4GlcNAcb-Sp24	142	33	23	70	73	104
Gala1-3(Fuca1-2)Galb1-4(Fuca1-3)GlcNAcb-Sp0	151	22	14	61	16	26
Galb1-3(6S)GlcNAcb-Sp8	114	34	30	97	168	174
GlcNAcb1-6(Galb1-4GlcNAcb1-3)Galb1-4GlcNAcb-Sp0	141	18	13	68	64	94
Neu5Aca2-6Galb1-4(6S)GlcNAcb-Sp8	156	12	8	51	33	64

GlcNAcb1-2(GlcNAcb1-6)Mana1-6(GlcNAcb1-2Mana1-3)Manb1-4GlcNAcb1-4GlcNAcb-Sp19	182	7	4	25	5	20
Galb1-3GlcNAcb1-2Mana-Sp0	120	30	25	87	37	42
Galb1-3(Fuca1-4)GlcNAc-Sp0	146	20	14	60	69	115
Galb1-3Galb-Sp8	156	5	3	48	6	13
Fuca1-2Galb1-4GlcNAcb1-2Mana1-6(Fuca1-2Galb1-4GlcNAcb1-2Mana1-3)Manb1-4GlcNAcb1-4(Fuca1-6)GlcNAcb-Sp22	159	12	8	45	21	47
Galb1-4GlcNAcb1-6GalNAc-Sp14	59	2	4	145	34	23
Galb1-4(Fuca1-3)GlcNAcb1-6(Fuca1-4(Fuca1-2Galb1-3)GlcNAcb1-3)Galb1-4Glc-Sp21	60	4	7	143	159	111

Supplemental Data Set 1 (Microsoft Excel format). Tabulated serum antibody clonotypes identified from Ig-Seq analysis.