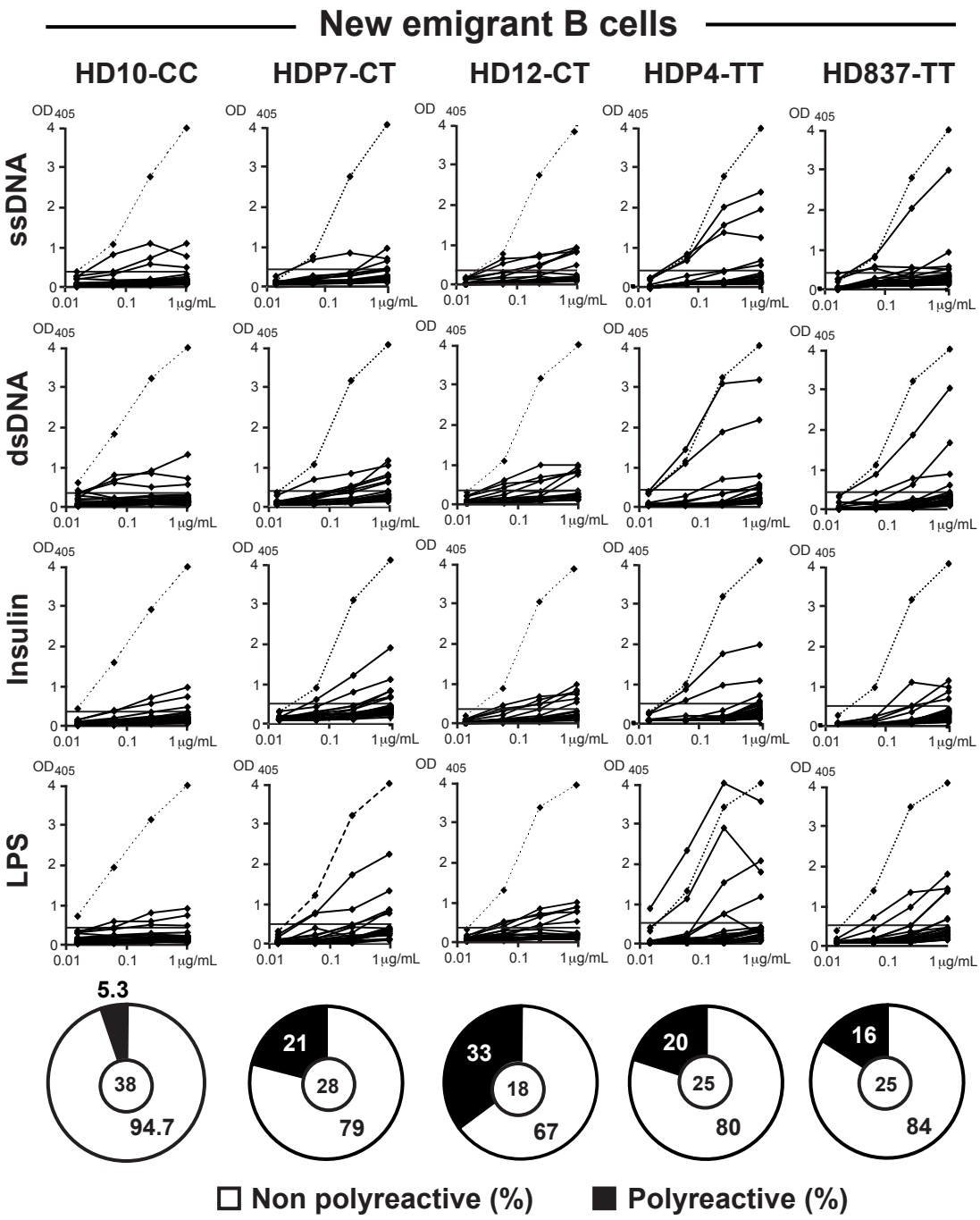
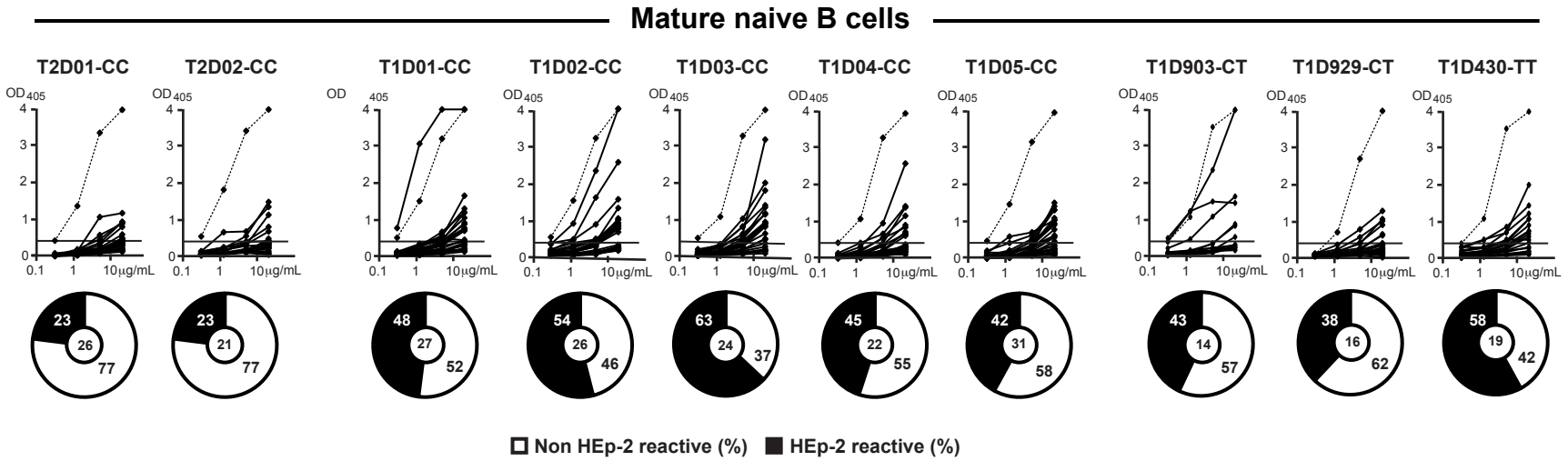
Supplemental Figure 1



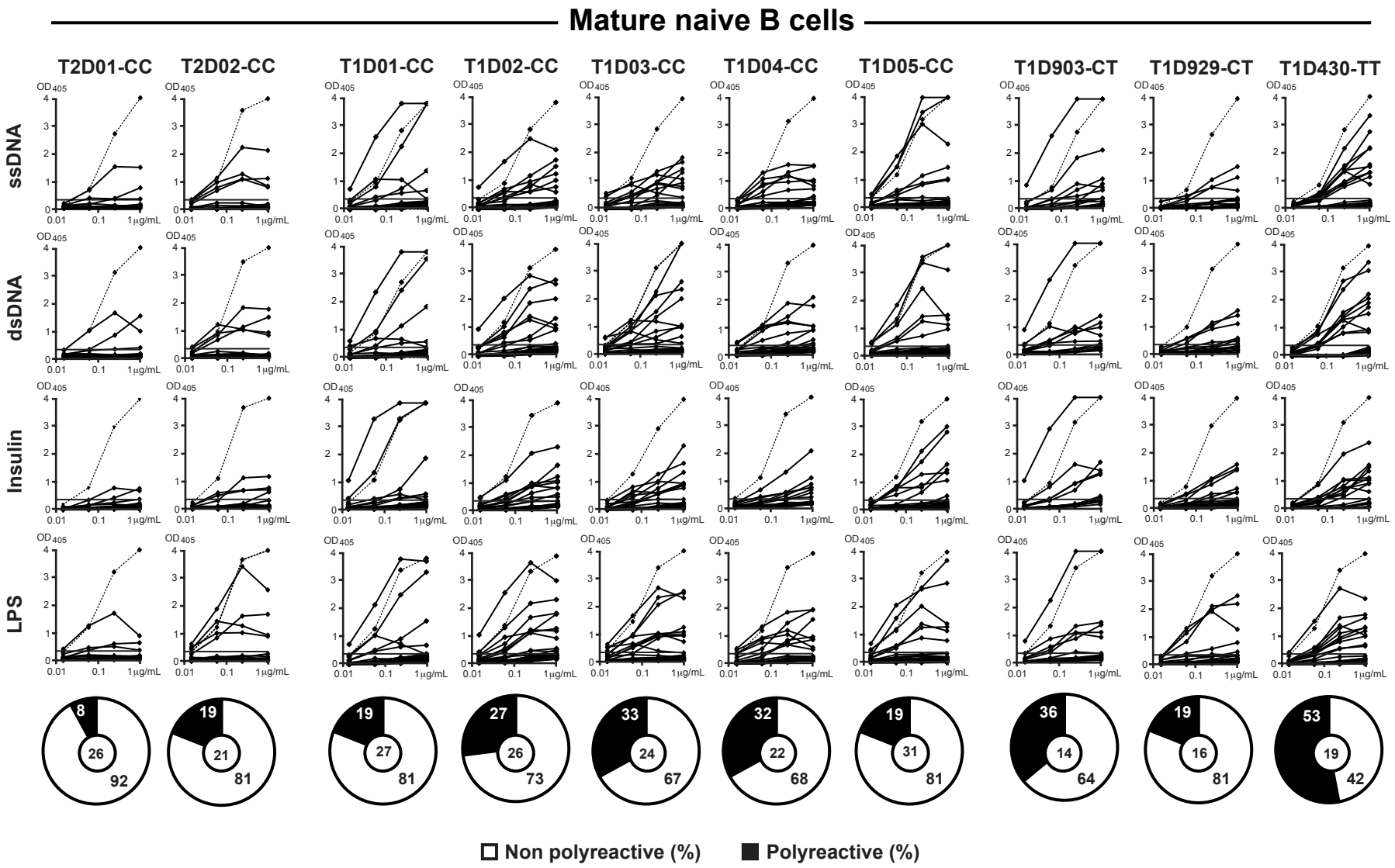
Supplemental Figure 1. Altered central B cell tolerance checkpoint in healthy individuals carrying *PTPN22* risk allele(s). Antibodies from mature naïve B cells from non-carrier (CC) and carrier (CT or TT) healthy donors were tested by ELISA for reactivity with single-stranded DNA (ssDNA), double-stranded DNA (dsDNA), insulin and lipopolysaccharide (LPS). Dotted lines show ED38-positive control. Horizontal lines show cut-off OD405 for positive reactivity. For each individual, the frequency of polyreactive (in black) and non polyreactive (in white) clones is summarized in pie-charts with the number of antibodies tested indicated in the centers.

Supplemental Figure 2



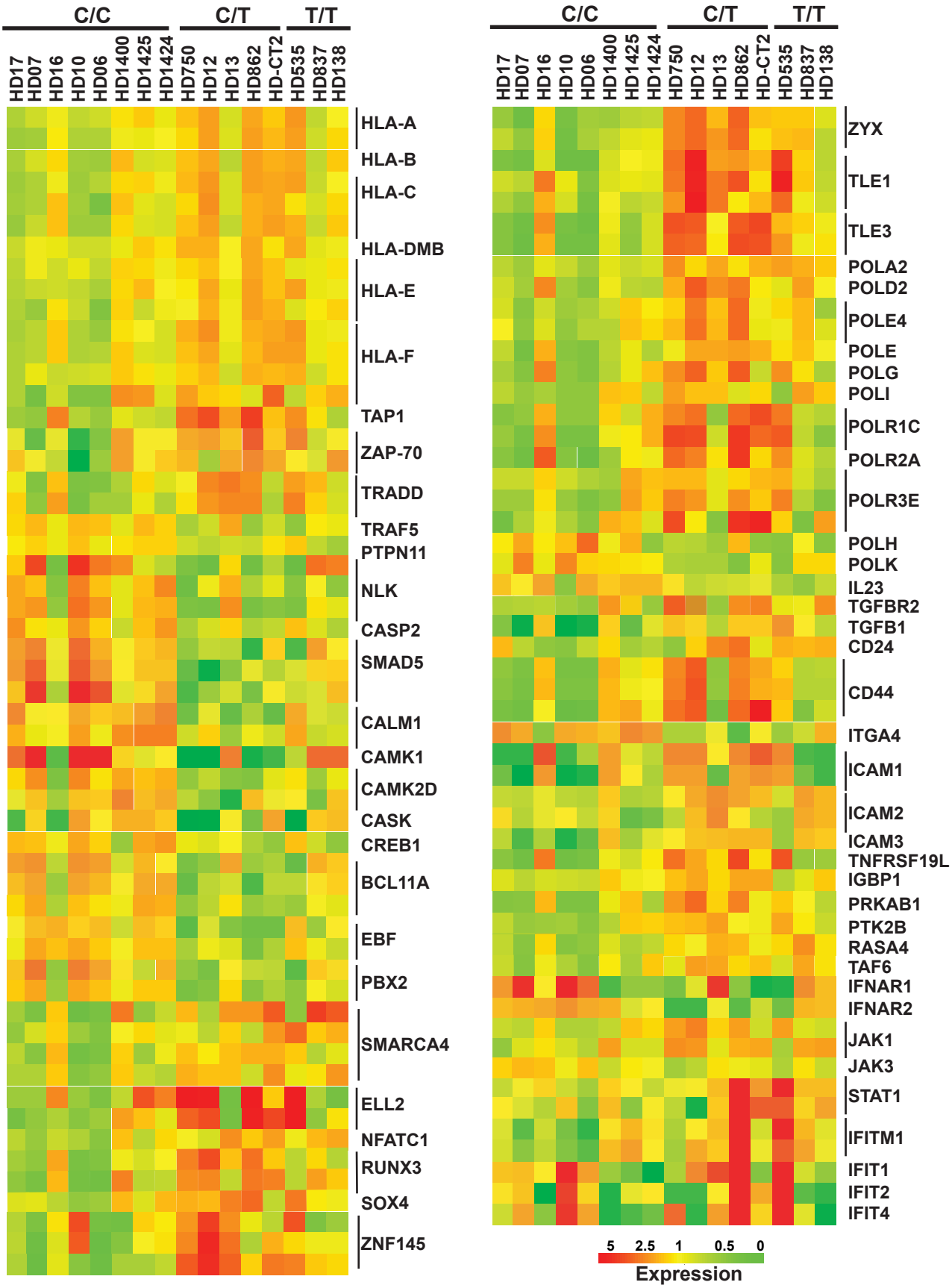
Supplemental Figure 2. Increased frequencies of HEp-2 reactive mature naive B cells in T1D patients. Antibodies from mature naïve B cells from non-carrier T2D and T1D (CC) and carrier (CT or TT) T1D patients were tested by ELISA for HEp-2 reactivity. Dotted lines show ED38-positive control. Horizontal lines show cut-off OD405 for positive reactivity. For each individual, the frequency of HEp-2 reactive (in black) and non HEp-2 reactive (in white) clones is summarized in pie-charts with the number of antibodies tested indicated in the centers.

Supplemental Figure 3



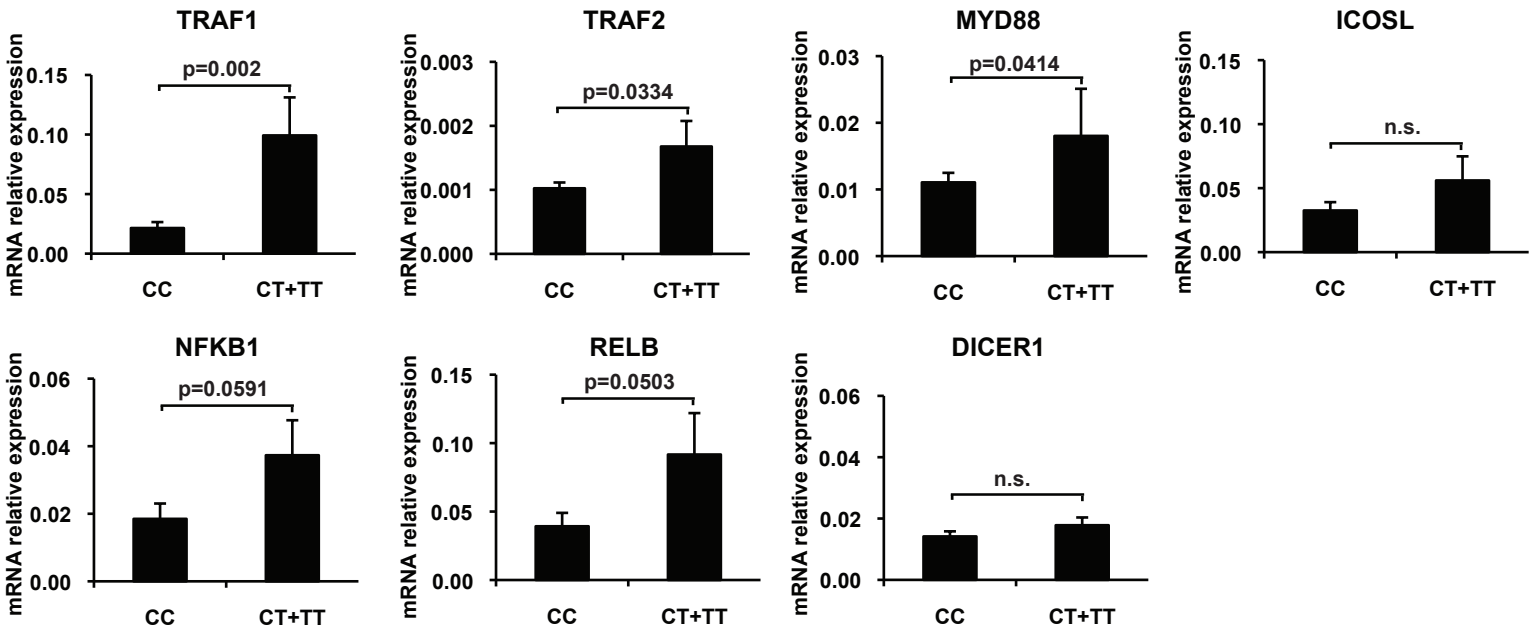
Supplemental Figure 3. Increased frequencies of polyreactive mature naive B cells in T1D patients. Antibodies from mature naïve B cells from non-carrier T2D and T1D (CC) and carrier (CT or TT) T1D patients were tested by ELISA for reactivity with single-stranded DNA (ssDNA), double-stranded DNA (dsDNA), insulin and lipopolysaccharide (LPS). Dotted lines show ED38-positive control. Horizontal lines show cut-off OD405 for positive reactivity. For each individual, the frequency of polyreactive (in black) and non polyreactive (in white) clones is summarized in pie-charts with the number of antibodies tested indicated in the centers.

Supplemental Figure 4



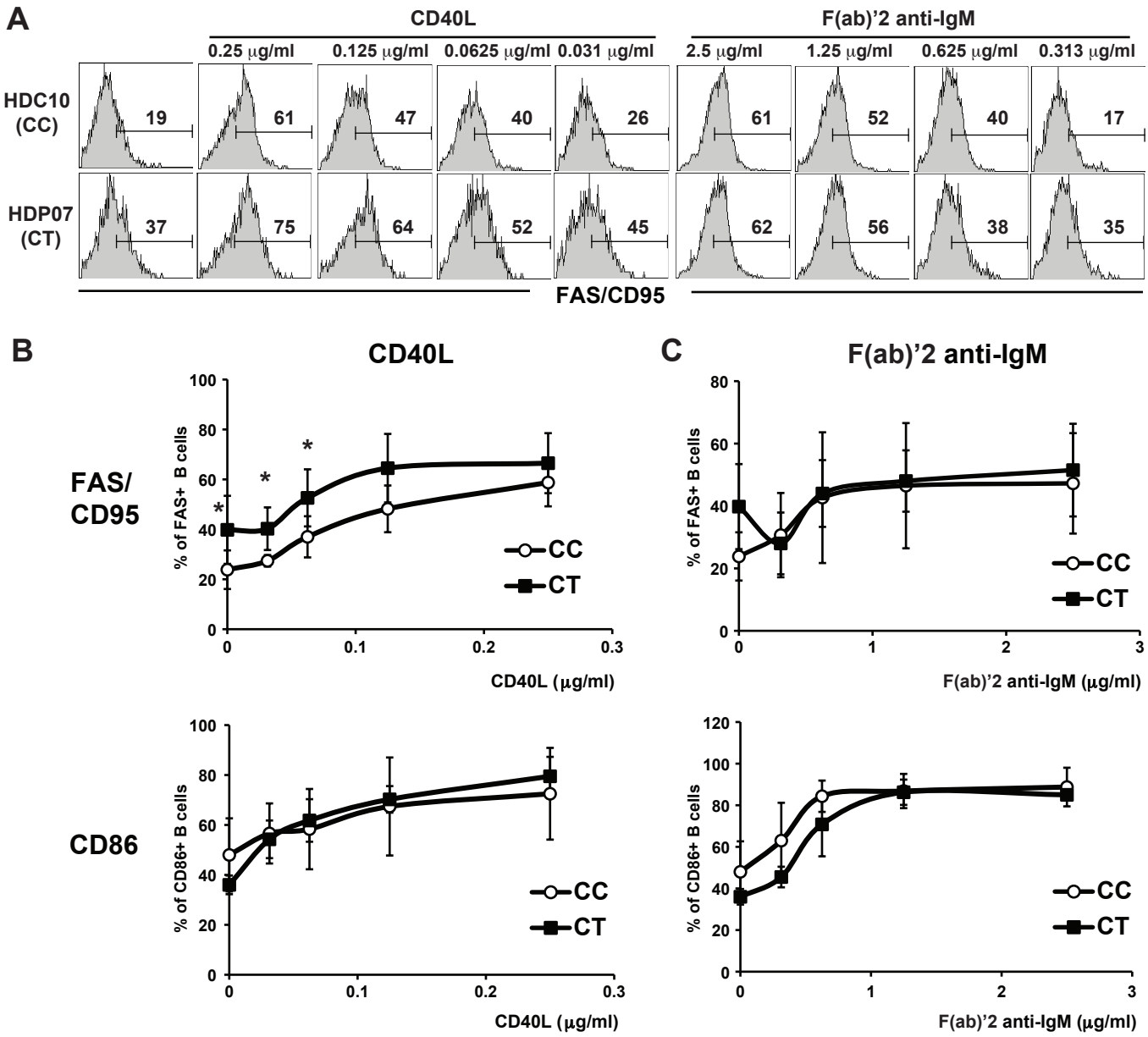
Supplemental Figure 4. Gene array comparisons of mature naive B cells from healthy donors carrying or not *PTPN22* risk allele(s) using the Affimetrix Human Genome U133 Plus 2.0 Array. Up- and down-regulated transcripts are indicated in red and green, respectively. The magnitude of expression is depicted by the color bar. One or more probes are shown for each gene.

Supplemental Figure 5



Supplemental Figure 5. Mature naïve B cells from healthy donors carrying *PTPN22* risk allele(s) display an increased transcription of genes identified in gene array profiling data. Gene expression was assessed by quantitative real-time PCR comparing 31 non-carrier healthy donors and 16 individuals carrying PTPN22 risk allele(s). Data are expressed as mean ± s.e.m., p-values are indicated, n.s.: non significant.

Supplemental Figure 6



Supplemental Figure 6. Enhanced CD40 responses in naïve B cells from *PTPN22* risk allele carriers. Representative histograms (A) and combined average expression (B) of FAS/CD95 and CD86 on naïve B cells from healthy donors carrying or not the *PTPN22* risk allele are shown after stimulation in vitro with various indicated concentrations of multimeric soluble recombinant CD40L (left) or F(ab'2) anti-IgM (right) for 2 days. Data are representative of four independent experiments and statistical significances are indicated (*p<0.05).

Supplemental Table 1 Repertoire and reactivity of antibodies from new emigrant B cells of healthy donor 750

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neHD750 04	4-31	2-2	2	5	GYCSSTSCNQGGNWFDP	17	4-1	4	QQYYSTPLT	9	-	+	-
neHD750 05	3-23	4-23	2	4	EGDYGGNSLFGGEDY	15	3-11	4	QQRSNWLT	8	-	+	-
neHD750 06	4-4	4-4	3	5	DIVMSQDMTTVTTVWFDP	18	3-15	1	QQYNNWPQT	9	-	+	-
neHD750 09#	3-23	6-19	1	6	DRQWLVSEPSARPPWEDWDGMDV	23	2-30	2	MQGTHWPQRT	10			
neHD750 12	3-7	3-22	2	3	HEAIGYYDSSGYYYDAFDI	19	4-1	4	QQYYSTPLT	9	-	-	-
neHD750 14κ	4-4	/	/	2	DDEYWYFDL	9	3-20	2	QQYGSSLMYT	10	-	+	-
neHD750 15	1-18	5-24	3	6	EGMATQTADYYYYYGMDV	18	3-20	4	QQYGSSPLT	9	-	-	-
neHD750 16	3-7	3-22	2	4	YSYYYDSRCNFDY	13	1-33	4	QQYDNLPPLT	10	+	+2	-
neHD750 17	3-15	3-10	3	4	DPLITMVRGVIH	12	1D-13	3	QQFNNYPLT	9	+	+	-
neHD750 18	3-48	3-3	2	4	DSDFWSGWFDY	11	3-15	4	QQYNNWPPLT	10	-	-	-
neHD750 21	4-39	4-17	2	3	LIDVWRYGDYDHDAFDI	17	3-11	4	QQRSNWPLT	9	-	-	-
neHD750 22#	3-23	6-6	2	3	EYSSSSGYGDAFDI	14	1-39	5	QQSYSTPLT	9			
neHD750 24	4-59	2-2	2	4	LHCSSTSCYESMYDY	15	1-39	3	QQSYSTPFT	9	-	+	N
neHD750 25#	1-69	6-13	3	5	DPPEAAAGTEVRDFNPGWFDP	21	1-27	5	QKYNSAPET	9			
neHD750 27	3-15	6-6	3	4	GIAARPGY	8	1-39	2	QQSYSTPMYT	10	+2	+2	-
neHD750 28	3-66	4-23	2	4	DRRYGGNSVGDFDY	14	1-39	2	QQSYSTPYT	9	-	-	-
neHD750 30	3-7	3-22	2	4	DLTYYYDSSGPNPYYFDY	18	3-11	4	QQRSNWPLT	9	-	-	-
neHD750 32	3-48	5-12	3	6	DTHIVATYYYGMDV	14	1-33	3	QQYDNLPPT	9	+	+	-
neHD750 36#	3-74	3-3	2	6	NYDFWSGYYYYYGMDV	16	3-20	2	QQYGSSPPYT	10			
neHD750 37	3-9	5-5	1	4	GAQGIQLWFFNY	12	1-5	2	QQYNSYSRYT	10	+	+2	-
neHD750 41	4-34	/	/	5	GPGSPRLNWFDP	12	3-11	2	QQRSNWPPRYT	11	+	+	N
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neHD750 03#	1-2	3-22	2	4	VMGPINYDSSGYLNY	15	2-23	2	CSYAGSSVV	9			
neHD750 07	1-2	2-8	2	4	LGRADCTNGVCYDY	14	2-14	2	SSYTSSSTVV	10	-	-	-
neHD750 10	3-11	5-5	2	6	DKGGYSYGSAYYYGMDV	17	1-51	2	GTWDSSLSAGV	11	-	-	-
neHD750 14λ					see kappa		2-8	1	SSYAGSNKLGV	11	-	+	-
neHD750 23	1-2	6-13	1	4	RDEQQLVVAGYYMGY	14	3-25	2	QSADSSGTYVV	11	-	-	-
neHD750 26#	3-23	1-26	1	3	GPEWELPRHAFDI	13	3-21	7	QVWDSSSDHAV	11			
neHD750 38	3-23	2-15	3	4	VADIVVVVAAPPHY	14	3-1	1	QAWDSNNYV	9	+	+2	-
	VH	D	RF	JH	CDR3 (aa)	Length							
neHD750 33	3-9	3-3	2	6	DKGFWSGYARVAYYYYGMDV	20							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 2 Repertoire and reactivity of antibodies from new emigrant B cells of healthy donor 12

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neHD12 17#	3-7	/	/	4	VGGAWLPEYFDY	12	3-15	1	QQYNNWPPWT	10			
neHD12 23#	3-7	3-9	2	6	DKDIWDV	7	1-33	2	QQYDNLPYT	9			
neHD12 33	3-33	3-10	3	6	EAGVVRGVIIHFYYYMDV	18	1-9	4	QQLNSYPLT	9	+	+2	-
neHD12 44	3-23	3-22	2	4	DEVYYYDSSGYYYGKRGTFDY	21	3-15	1	QQYNNWPPWT	10	-	+	-
neHD12 45	3-23	2-2	2	6	KTYCSSTSCYFVQEIGYGMDV	21	1-39	1	QQSYSTPRA	9	+	+2	-
neHD12 47	4-39	7-27	2	3	WGDAFDI	7	1-6	1	LQDYNYPRT	9	+	+2	-
neHD12 54	4-59	3-22	2	1	GGKYYYDSSGYPPRALQH	18	2-28	1	MQALQTAT	8	-	+	-
neHD12 58	1-8	6-6	2	4	ALGYSSSSG	9	1-17	1	LQHNSYPQT	9	-	+	-
neHD12 59#	3-23	3-9	1	6	KVLRDWPDSPAPYYYYYGMDV	21	1-39	4	QQSYSTPLT	9			
neHD12 60	3-23	/	/	4	GVTRYFDY	8	3-11	2	QQRSNWYT	8	+	-	-
neHD12 65#	7-4-1	/	/	4	DLRGPEGLDY	10	1-5	1	QQYNSYWT	8			
neHD12 66	3-20	6-13	2	5	DLYSSSWSLNWFDP	14	3-15	4	QQYNNWSSA	9	-	+	-
neHD12 67#	1-24	2-15 1-26	3 1	3	TLVVGIAKWELRNDAFDI	18	1-5	2	QQYNSYSQYT	10			
neHD12 69	4-59	/	/	6	ESAGMDV	7	3-11	2	QQRSNWPPYT	10	-	+	-
neHD12 70	3-9	3-22	2	3	TSGNYYDSSGYYSTDAFDI	19	1-17	1	LQHNSYPWT	9	-	-	-
neHD12 72#	3-66	/	/	6	RTSYYYYGMDV	11	1-33	3	QQYDNLLGT	9			
neHD12 79#	4-59	6-19	2	4	LVLLGSSGWYLDY	13	1-5	1	QQSLT	5			
neHD12 87	3-15	/	/	4	NEPAIDY	7	2-28	4	MQALQTPLT	9	-	-	-
neHD12 90	4-59	3-16	2	4	WGGDYVWGSYRYFDY	15	1-39	2	QQSYSTLYT	9	+	+	-
neHD12 93	1-46	3-3	3	5	DGITIFGVVNGPEFDP	16	1-39	2	QQSYSTPPT	9	-	+	-
neHD12 96#	3-33	3-3	3	6	VPDITIFGVVTTTKYYYGMDV	21	1-16	5	QQYNSYP	7			
neHD12 68							3-11	4	QQRSNWPPLT	10			
neHD12 83							2-28	4	MQALQTPLT	9			
neHD12 91							1-39	1	QQSYSTPS	8			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neHD12 19	3-72	5-12	2	6	EPDSGYDPTYYYYYMDV	17	3-9	2	QVWDSSSYVV	10	-	-	-
neHD12 30	1-18	3-3	2	4	SGWHDFWSGYPLLAYPPTEAYYFDY	25	6-57	2	QSYDSSNVV	9	+	+2	-
neHD12 41	3-15	6-13	2	4	AWGSSSWYEGGFDY	14	3-1	2	QAWDSSTVV	9	-	-	-
neHD12 42#	4-59	3-22	2	5	HGFDDLGPDYYDSSGEAWWFDP	22	2-23	1	CSYAGSSTYV	10			
neHD12 56#	3-21	2-2	2	6	DLGRYCSSTSCYTSGMDV	18	2-23	2	CSYAGSSTYVV	11			
neHD12 80#	4-4	4-17	2	2	DRWDYGDYYWYFDL	14	2-14	1	SSYTSSSTLYV	11			
neHD12 81	4-39	3-9	2	5	LLDYDPYWFDP	11	2-11	1	CSYAGSYTWV	10	-	-	-
neHD12 88	3-48	5-12	2	4	EGYSGYGDY	9	1-40	2	QSYDSSLQVV	10	-	-	-
neHD12 89#	1-8	3-10	2	4	GISNSHVDYGSGSFNY	16	9-49	2	GADHGSGSNFGIVV	14			
neHD12 20							1-44	2	AAWDDSLNGVV	11			
	VH	D	RF	JH	CDR3 (aa)	Length							
neHD12 34	1-2	3-10	3	2	GVSRWDYWYFDL	12							
neHD12 94	4-59	6-19	3	5	RIAVAGTSWFDP	12							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 3 Repertoire and reactivity of antibodies from new emigrant B cells of healthy donor 13

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neHD13 01	1-8	/	/	6	DSGANWAHEPDDYYGMDV	18	3-20	2	QQYGRS	6	-	-	-
neHD13 02	3-15	3-3	2	6	GLVRYDFWSGGLPYYYYYYMDV	22	1-39	1	QQSYSTLWT	9	+2	+2	M
neHD13 05	3-11	5-5	1	6	GPRIQLWYYGMDV	13	2-28	1	MQALQTPPWT	10	+	+	-
neHD13 06	3-7	/	/	6	LGQTYAGDYYYYYGMDV	17	2-28	4	MQALQTRLT	9	-	-	-
neHD13 22	4-61	6-13	2	6	VIISSSWYDYYYYMDV	16	2-28	2	MQALQTPS	8	+	+2	-
neHD13 23#	4-59	6-19	3	4	AVAGTVYFDY	10	3-20	2	QQYGSSPS	8			
neHD13 27	4-59	1-26	2	4	GSYYFDY	7	3-20	4	QQYGSSLT	8	-	-	-
neHD13 30	3-49	6-13	3	6	GEALAAAGYYGMDV	14	2-28	2	MQALQTPRYT	10	-	+	-
neHD13 33	4-4	2-2	2	6	VKETAGYCSSTSCYSPSHYYYYMDV	25	1-12	1	QQANSFPWT	9	+	+	-
neHD13 35	3-30-3	3-16	3	3	EGGGGSASLGDAFDI	15	1-39	4	QQSYSTPLT	9	-	-	-
neHD13 38	3-30	3-3	3	6	ASLGIFGVVNYYYYGMDV	18	2-28	4	MQALQSLT	8	+	+	-
neHD13 44	3-30	/	/	5	GGVRFTKQNPLDWFDP	16	1-8	1	QQYYSYPPT	9	+2	+	-
neHD13 45	3-23	3-16	1	4	SGLWGLPIDY	10	3-20	1	QQYGSSPPWT	10	+	-	-
neHD13 47#	3-30-3	3-22	2	6	HYYDSSGHKGSYYYGMDV	18	1-39	5	QQSYSTPIT	9			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neHD13 03	4-4	2-15	2	6	DLGYCSGGSCPDYYYYGMDV	20	2-14	3	SSYTSSSRRV	10	-	+	-
neHD13 07	3-15	1-26	3	4	EFGIVGVTPRGAAY	14	3-25	3	QSADSSGTLWV	11	-	-	-
neHD13 10	4-39	2-21	2	4	YCGGDYSLYYFDY	13	2-14	2	SSYTSSSTLVV	11	-	-	-
neHD13 12	4-59	3-22	2	4	LPVCSSGYYCYFDY	14	3-21	1	QVWDSSSDHYV	11	+	+2	N
neHD13 15	1-3	3-10	2	6	EESYYGATYYYYGMDV	16	1-47	3	AAWDDSLSGWV	11	+	+2	-
neHD13 19	4-39	2-2	3	4	SPFWVPAADYYFDY	14	2-14	2	SSYTSSSTVV	10	-	+	-
neHD13 20	4-61	2-2	2	2	VGVDCSSTSCYTPNWYFDL	19	1-40	2	QSYDSSLSGST	11	-	-	-
neHD13 28	3-23	3-22	3	4	GSSPMIVVPSGPFDY	15	3-21	2	QVWDSSSDRVV	11	-	-	-
neHD13 34	4-b	2-15	3	5	IGVVAAGFCFDP	12	1-51	3	GTWDSSLSAGV	11	-	-	-
neHD13 36	4-4	3-3	2	3	DEDFWKAFDI	10	1-51	2	GTWDSSLSAGV	11	-	-	-
neHD13 40	4-b	/	/	4	GIPVREGYYFDY	12	1-47	2	AAWDDSLSGVV	11	-	-	-
neHD13 48	4-4	3-10	2	4	SSYYGSGSYFDY	12	3-1	2	QAWDSSTAVV	10	-	-	-
neHD13 08							2-14	3	SSYTSSSTWV	10			
	VH	D	RF	JH	CDR3 (aa)	Length							
neHD13 13	3-49	4-17	2	2	SSGYGDYATYWYFDL	15							
neHD13 14	1-24	1-26	3	5	DLIVGAPHA	9							
neHD13 26	3-30	6-19	2	5	GPYSSGWYRGWFDP	14							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 4 Repertoire and reactivity of antibodies from new emigrant B cells of healthy donor P7

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neHDP7 01#	1-18	3-22	3	5	GGTMIVVVQGYWFDP	15	4-1	1	QQYYSTPPT	9			
neHDP7 02	3-30	1-7	3	4	EGEGGLTGTPLWFDY	15	1-8	3	QQYYSYPRT	9	-	-	-
neHDP7 09	3-23	2-15	2	4	ERSPDCSGAPTDY	13	4-1	4	QQYYSTPLT	9	+	+	c
neHDP7 10	4-31	6-13	3	5	ARFAAAGNTRDNWFDP	16	1-39	4	QQSYSTPLT	9	-	-	F
neHDP7 11	3-23	2-21	2	4	DRAYCGGDCYWTLGDY	16	1-39	2	QQSYSTPVT	9	-	-	-
neHDP7 13	3-23	3-22	2	4	DTATGSDYYDY	11	3-20	1	QQYGSSPRT	9	-	-	-
neHDP7 15	3-30	6-13	3	2	DEAAAGTLGWYFDL	14	3-15	1	QQYNNWPPGT	10	-	-	-
neHDP7 16	3-7	5-24	3	4	DSEMATIKNFDY	12	3-15	2	QQYNNWPPVT	10	-	-	-
neHDP7 18	3-11	3-10	2	6	DRWVYYGSGSYSPHLNYYYYGMDV	24	2-29	1	MQSIQLPRT	9	-	-	-
neHDP7 24	3-23	5-5	1	3	QNDPWIPGAFDI	12	3-15	2	QQYNNWPYT	9	-	-	-
neHDP7 26#	1-3	2-15	3	4	DSTPAAITWNDY	12	4-1	2	QQYYSTPPNT	10			
neHDP7 29	3-23	1-26	3	3	VLGATRVSDAFDI	13	1-27	4	QKYNSALQT	9	-	+	c
neHDP7 30	3-7	6-19	3	4	DQGDIAVAGYYFDY	14	1-39	1	QQSYSTPRT	9	-	-	-
neHDP7 31	1-3	3-22	2	6	NYYYDSRDYYYYGMDV	16	1-12	4	QQANSFPST	9	-	+	c+N
neHDP7 32#	3-30	5-12	2	6	SKRGGYGRTVIGYYYGMDV	19	1-9	4	QQLNSYPLT	9			
neHDP7 35#	3-48	3-3	2	6	GSGSGSLYYYYGMDV	13	2-28	5	MQALQTPT	8			
neHDP7 36	4-34	2-15	3	5	GSPFKDIVVVVAATESFPWFDP	22	3-15	3	QQYNNWPVT	9	-	-	-
neHDP7 38	3-49	2-2	1	2	NGQLLWPWYFDL	12	3-20	4	QQYGSSPPLT	10	-	-	-
neHDP7 39	1-69	3-22	2	3	PMCGSGYYCAFDI	13	3-20	1	QQYGSSSWT	9	+	+	c
neHDP7 40	1-69	2-15	2	6	GYCSGGSPTNYYYYGMDV	18	3-20	1	QQYGSSLWT	9	-	+2	-
neHDP7 42	3-7	2-21	2	6	DDCGGDCVNYYYYYGMDV	18	1-8	1	QQYYSYPRT	9	-	-	-
neHDP7 44	3-30-3	6-13	3	6	DHVPSLAAAGNTYYYYGMDV	20	1-39	2	QQSYSTPRT	9	+	+	-
neHDP7 46	3-7	3-3	3	6	PFGVVTSPKRGYYYYYGMDV	20	1-12	4	QQANSFPLT	9	-	-	-
neHDP7 47	3-53	2-2	2	6	DGSTSGSVYYYYYYGMDV	18	2-28	1	MQALQTPRT	9	-	-	-
neHDP7 48	3-15	6-19	1	6	DLKQWLVDYYYYYGMDV	17	3-15	4	QQYNNWPPLT	10	-	+	-
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neHDP7 03	4-39	3-16	3	4	GGVIGYGFDY	10	2-11	2	CSYAGSYTVV	10	+	-	-
neHDP7 19	3-7	6-13	2	2	SNDSSWYGWYFDL	13	3-25	2	QSADSSGTVV	10	+	+	-
neHDP7 23	3-21	3-22	2	4	DQYDSSGYPY	10	3-10	2	YSTDSSGNHRV	11	-	+	c
neHDP7 25	1-18	6-13	2	5	DPSSSWYYNAPNWFDP	16	1-40	2	QSYDSSLSGFVV	12	-	+	-
neHDP7 28					see kappa		1-47	1	AAWDDSLSASYV	12	+	+	G
neHDP7 34	3-74	3-22	2	6	DLYDSSGYYYHYYYGMDV	18	3-25	2	QSADSSGTYAV	11	-	+	-
neHDP7 37	1-69	3-22	2	4	VSDSRGEDFDY	11	2-11	3	CSYAGSYT	8	-	-	-

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 5 Repertoire and reactivity of antibodies from new emigrant B cells of healthy donor 1191

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neHD1191 03	3-30	2-2	3	6	KFMGVVPAAKLSPLYYYYGMDV	22	2-28	2	MQALQTPS	8	+	+	-
neHD1191 04	4-34	6-19	3	5	ERIAARQLYYFDY	13	3-15	3	QQYNNWPPIT	10	-	+	-
neHD1191 07	4-4	3-22	2	4	PRYYYDSSGYYD	12	1-39	1	QQSYSTPRT	9	-	+	-
neHD1191 09	1-69	2-2	3	3	GRGIVVVPAAINAPDAFDI	19	1-39	1	QQSYSTPRT	9	+	-	-
neHD1191 10	3-64	6-13	1	4	EGQQLVRPPPPPFFDY	16	1D-12	4	QQANSFPLT	9	-	-	-
neHD1191 11	3-30	2-15	2	3	GGTGGCYSCAFDI	13	1-8	2	QQYYSYPYT	9	-	+	M
neHD1191 16	1-18	3-3	3	6	ETAWIGFVVTEKYYYYYGMDV	21	3-20	5	QQYGSSPPVT	10	+	-	-
neHD1191 20	4-4	2-15	3	4	RAAPHEDIVVVVAATELDY	19	4-1	1	QQYYSTPQT	9	-	+	-
neHD1191 24#	4-6	3-16	2	4	VGDYVWGSYRYHY	13	1-16	1	QQYNSYPL	8			
neHD1191 25	3-49	3-9	2	3	DNPQPYYDILTGFDAFDI	18	1D-17	1	LQHNSYPRT	9	-	-	-
neHD1191 26	3-30	1-26	1	6	AWTEWELLPSSGMDV	15	3-20	1	QQYGSSLWT	9	-	-	-
neHD1191 27	3-23	3-22	2	6	DSPSPDSSGYYYYYYGMDV	19	1-5	1	QQYNSYSRT	9	+	+	M
neHD1191 29	3-15	3-10	3	6	LIMVRGATYYYYGMDV	16	2-28	2	MQALQTPYT	9	-	+	-
neHD1191 34	3-20	3-3	3	5	VQAIFGQVYNWFDP	14	3-15	2	QQYNNWPPYT	10	-	+	-
neHD1191 35	4-61	5-24	2	5	ERRGDGYNFVWFDP	14	1-8	1	QQYYSYPRT	9	-	-	F
neHD1191 42	3-7	3-22	2	5	ALLENYYDNNVVANWFDP	18	1-8	1	QQYYSYPWT	9	-	+	-
neHD1191 44#	4-34	4-17	3	4	EEGGAVTTSDY	11	3-11	1	QQRSNWQT	8			
neHD1191 41							3-15	1	QQYNNWSRT	9			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neHD1191 01	3-11	6-6	3	4	ERIAARQLYYFDY	13	3-1	2	QAWDSSTHVV	10	-	-	-
neHD1191 02#	4-39	6-19	2	4	RPLSSGWPDYFDY	13	2-23	3	CSYAGDSTSV	10			
neHD1191 05#	4-31	3-10	2	4	VDYYGSGSYYNFDY	14	7-43	3	LLYYGGAYWV	10			
neHD1191 14	1-69	2-15	2	6	GGGCSGGSCYSLTYYYYGMDV	21	2-11	2	CSYAGSYGVV	10	+	+	-
neHD1191 15#	5-a	6-19	2	4	HLGGTGWPDY	10	1-51	2	GTWDSSLSAVV	11			
neHD1191 18	3-64	6-13	3	6	DALDRGAAAGRYYYYGMDV	19	7-43	2	LLYYGGAVV	9	-	+	-
neHD1191 19#	1-3	4-4	2	6	GRRTLLNYSNYGTPAPYYYYGMDV	24	7-46	3	LLSYSGADWV	10			
neHD1191 21	3-30	3-10	3	5	EDKESLGARGVLHA	14	3-21	2	QVWDSSSDHVV	11	-	-	-
neHD1191 33	1-18	1-26	3	3	SIVGATRQPDVALDI	15	2-14	2	SSYTSSSTLV	10	-	-	-
neHD1191 36	5-51	3-22	2	5	RVEDSSGYYPT	11	1-40	1	QSYDSSLSGSYV	12	-	-	-
neHD1191 37	3-33	3-10	1	5	DKNPRLLWFGELFWFDP	17	2-14	1	SSYTSSSTRYV	11	-	+	F
neHD1191 43	1-18	1-26	2	5	AGVSHSGSYFWFDP	14	2-11	1	CSYAGSYTYV	10	-	+	-
neHD1191 45	5-51	3-22	2	4	RMYYDSSGYYFDY	13	3-25	2	QSADSSGVV	9	-	-	-
neHD1191 46	1-69	2-2	3	6	GSIVVVPAAKSHHYYYYGMDV	21	1-51	3	GTWDSSLSAGV	11	+	-	-
neHD1191 30							3-25	2	QSADSSGTCYVV	12			
	VH	D	RF	JH	CDR3 (aa)	Length							
neHD1191 08	4-59	3-10	2	4	DAGGSGID	8							
neHD1191 32	3-15	1-26	2	6	DVGVGASYYYYGMDV	15							
neHD1191 39	3-21	6-6	2	4	GGDSSSPAGFDY	12							
neHD1191 40	1-3	6-13	3	6	IAAAGRGGYYYGMDV	15							
neHD1191 48	3-9	/	/	6	DMGDSAPSSHDSYYYYGMDV	20							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 6 Repertoire and reactivity of antibodies from new emigrant B cells of healthy donor P4

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neHDP4 02κ	4-34	3-22	2	5	GGRSDSSGYYDN	12	1-5	1	QQYNSYAWT	9	-	+	-
neHDP4 04#	3-15	2-15	2	5	DPLRVYCSGGSCLGFSWFDP	20	1-5	1	QQYNSYSPWS	10			
neHDP4 10	4-34	6-19	3	2	GWEIAVANGTALLGYFDL	18	1-5	2	QQYNSYSKT	9	-	+	-
neHDP4 12	3-33	3-10	3	6	GIQGVRGRDYYYGMDV	16	1-39	2	QQSYSTPRYS	10	+	+	-
neHDP4 13κ	4-59	6-13	3	4	DRGTSAAGAFDY	12	4-1	1	QQYYSTPLT	9	-	-	N
neHDP4 14#	3-30	4-4	2	6	RIVDRPHINYVDYYYGMDV	19	3-15	2	QQYNNWQYT	9			
neHDP4 15	3-7	/	/	4	TGSSGAVDY	9	1-5	2	QQYNSYSPYT	10	-	-	-
neHDP4 17κ	3-30-3	3-22	2	3	EDYYDKYASGAFDI	14	3-15	2	QQYNNWPPYT	10	-	+	-
neHDP4 18	4-59	/	/	5	DLRGQGSFDP	10	3-15	1	QQYNNWPRT	9	-	-	-
neHDP4 19#	1-69	6-13	3	4	IIAAAADDY	9	3-11	4	QQRSNWPPLT	10			
neHDP4 20	3-48	2-2	2	4	VGLEYCSSTSCYYFDY	16	3-15	3	QQYNNWPPLT	10	-	-	-
neHDP4 21	4-34	/	/	5	AHPTRYSASIRGWFDP	16	1-5	4	QQYNSYSL	8	-	+	-
neHDP4 26	4-34	6-25	2	5	GPGYFSPHNWFDP	13	3-11	5	QQRSNWPRGIT	11	+	+	F
neHDP4 27#	5-a	2-2	1	5	TYQLLHGGWFDP	12	3-20	1	QQYGSSPWWT	10			
neHDP4 28	4-31	/	/	6	EANRYGMDV	9	3-11	3	QQRSNLIFT	9	-	-	-
neHDP4 32#	4-34	2-2	2	2	GRNCSSTSCFVLGIAVAGYWYFDL	24	4-1	4	QQYYSTPLT	9			
neHDP4 33κ	3-64	/	/	4	GRQEVGIFDY	10	1-39	3	QQSYSTLFT	9	-	-	-
neHDP4 35	3-23	4-4	2	5	DSYSSQGWFDP	11	3-20	1	QQYGSSPRT	9	-	-	-
neHDP4 41κ#	3-30-3	2-21	2	6	DSPGPLSTEHCGGDCYPQSGYYYYYGMDV	29	1-27	3	QKYNSAPPLT	10			
neHDP4 46#	1-69	3-9	2	5	DPHDILTGYSPNWFDP	16	3-11	2	QQRSNWPPYT	10			
neHDP4 31							1-39	4	QQSYSTPPT	9			
neHDP4 37							1-12	4	QQANSFPRT	9			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neHDP4 01	6-1	6-19	2	4	DPHRGGSSGWEPFDY	15	1-44	2	AAWDDSLNGPV	11	-	-	-
neHDP4 02λ#					see kappa		1-36	2	AAWDDSLNGVV	11			
neHDP4 05	3-11	4-17	3	2	EPLGTTVTPHWYFDL	15	2-14	2	SSYTSSSTLVV	11	-	-	-
neHDP4 07	4-59	2-2	2	6	GWMGYCSSTSCYRDYYYYGMDV	22	1-47	2	AAWDDSLSGPV	11	+	+	-
neHDP4 08	3-21	6-13	1	6	SLGQQLVTSSGYYYGMDV	18	1-44	2	AAWDDSLNGVV	11	-	-	-
neHDP4 09#	4-31	1-26	2	3	EVGSPYSGSHPRGAFDI	17	1-44	3	AAWDDSLNGLV	11			
neHDP4 13λ#					see kappa		2-11	1	CSYAGSYTYVV	11			
neHDP4 17λ					see kappa		1-40	2	QSYDSSLSGWGV	12	-	+	-
neHDP4 22	3-11	3-10	1	6	VWFGELSRGMDV	12	2-14	1	SSYTSSCYV	9	-	+	-
neHDP4 24#	1-18	1-26	2	4	DRPGADSGSSLEPFDY	16	3-27	2	YSAADNNRV	9			
neHDP4 25	4-34	4-23	3	5	GTVVTPASWFDP	12	3-1	2	QAWDSSTVV	9	-	-	F
neHDP4 30	3-53	6-6	2	6	GGDSSSSGEEYYYYGMDV	18	3-1	2	QAWDSSTVV	9	-	-	-
neHDP4 33λ#					see kappa		3-21	1	QVWDSSSDHLYV	12			
neHDP4 34	1-69	2-8	2	6	DSSNHYCTNGVCPSSYRYYYYYGMDV	26	7-43	3	LLYYGGAPV	9	+	+	-
neHDP4 38	3-11	/	/	6	DATYMVGTPLSGTLDV	16	1-44	3	AAWDDSLNGPV	11	-	-	-
neHDP4 40	4-34	2-2	3	5	GADIRQVVVPAAIWFDP	17	2-14	2	SSYTSSSTPVV	11	-	-	-
neHDP4 41λ#					see kappa		4-69	3	QTWGTGIL	8			
neHDP4 44	4-B	3-3	3	6	RVVDPTSYYYYGMDV	15	9-49	2	GADHGSGSNFVYR	13	+	-	c+N
neHDP4 45	1-18	1-26	1	4	VWEWELIPRIFDY	13	1-40	2	QSYDSSLSGSNVV	13	-	-	-
neHDP4 31λ							1-51	3	GTWDSSLSALWV	12			
	VH	D	RF	JH	CDR3 (aa)	Length							
neHDP4 16	1-69	2-15	2	4	EVNHGYCSGGSCYYFDY	19							
neHDP4 39	4-34	2-15	2	6	VICSGGSCYHKGTLYGMDV	19							
neHDP4 43	3-23	3-22	2	4	GKQDSSGYYTQGFDY	15							
neHDP4 48	1-69	/	/	6	GKTTPYYYYGMDV	13							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 7 Repertoire and reactivity of antibodies from new emigrant B cells of healthy donor 138

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neHD138 01	3-30-3	3-10	2	5	LYYYGSGSPTPTNSNWFDP	19	1-17	1	LQHNSYPWT	9	+	+	-
neHD138 02	1-24	3-22	2	4	ESYYYDSSGYYPFWY	15	3-20	1	QQYGSSPPWT	10	-	-	-
neHD138 03	1-69	6-13	2	4	DKSSSWVYDY	10	1-39	1	QQSYSTPPR	9	+2	+	-
neHD138 05	3-21	1-1	2	4	DDSRADNWNDEGGGRAFDY	19	3-15	1	QQYNNWRRT	9	+2	+	c
neHD138 06	3-23	5-5	3	4	DEGRGWDTAMVTREGSPFDY	20	3-15	5	QQYNNWPPIT	10	-	-	-
neHD138 10	3-48	3-10	2	4	FGVPYYYGSGSYYNPRGLDY	20	3-20	2	QQYGSSPPMYT	11	+	+	-
neHD138 16	3-30-3	3-22	2	4	DLSLVYYYDSSGPSPFDY	18	3-20	1	QQYGSSKRWT	10	-	-	-
neHD138 17	1-18	2-21	3	4	EALSEGTIVVVTALGLYYFDY	21	1-39	2	QQSYSTPYT	9	-	+	-
neHD138 18	4-61	/	/	4	ENVGLDY	7	1-33	2	QQYDNLPRT	9	-	-	-
neHD138 19	4-34	5-5	2	3	KRGYSYGPPRPYDAFDI	17	1-5	1	QQYNSYSPT	9	-	-	-
neHD138 21	3-7	5-5	2	4	LGYSYGFGRGDY	12	1-12	4	QQANSFPLT	9	-	-	-
neHD138 23	3-7	6-13	1	4	SPEQQLGRTFDY	12	3-15	3	QQYNNWPPEGFT	12	-	-	-
neHD138 24	4-61	3-22	2	4	RAFSYDSSGYYSPFDY	16	4-1	1	QQYYSTPWT	9	-	+	-
neHD138 25	3-74	3-10	2	6	LVLGSGSWPAGYYYYGMDV	19	1-33	4	QQYDNLPLT	9	-	+	-
neHD138 26	3-33	5-24	1	3	GGRLQMGPLDAFDI	14	3-15	1	QQYNNWPPWT	10	-	-	-
neHD138 27	1-69	3-22	3	4	VTKQRGTMIVVGSFDY	16	3-15	2	QQYNNWPPST	10	+	+	-
neHD138 28	4-34	2-15	3	5	RPSIVVVAATVFDP	14	3-20	5	QQYGSSPPIT	10	+	+	-
neHD138 34	3-23	2-21	2	6	CGGYYYGMDV	10	3-20	1	QQYGSSPRWT	10	-	-	-
neHD138 36	3-23	5-12 1-26	2 3	5	IVASSENRGYSGYDSSRVGATLQADWFDP	29	2-28	4	MQALQTPLT	9	+	+	-
neHD138 37	1-18	1-7	3	6	DVRARHPKLTGTTDGYYYGMDV	22	1-39	4	QQSYSTPLT	9	-	-	-
neHD138 39	3-30	/	/	4	DFFVGWRSFGYYFDY	15	3-20	4	QQYGSSPELT	10	+	+	-
neHD138 41	3-21	/	/	3	ALAKGGAFDI	10	1-33	4	QQYDNLRALT	10	-	-	-
neHD138 42	3-30-3	/	/	6	VAARGSWAPHYYYYMDV	17	2-28	3	MQALQTPVT	9	+	+	-
neHD138 43	3-64	6-6	3	4	AAWGIAARPGESYFDY	16	3-20	1	QQYGSSPET	9	-	-	-
neHD138 45	4-31	2-15	2	6	VLCGGSCYPYYYYYYYMDV	20	3-15	1	QQYNNWPPST	10	+2	+	c
neHD138 47	3-30	4-17	3	3	PRTTTVTTGADAFDI	15	1-5	1	QQYNSYSTT	9	-	-	-
neHD138 48	3-15	5-5	3	6	QTMVTGYYYYGMDV	14	3-11	3	QQRSNWPPT	9	+	+	-
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neHD138 11	3-7	1-1	2	4	AGDNWNDDIDY	11	3-27	2	YSAADNNGV	9	-	-	-
neHD138 12	4-30-2	/	/	3	VTPLDAFDI	9	1-40	3	QSYDSSLSGWV	11	-	-	-
neHD138 22	1-69	2-15	2	5	EDCSGGSCYRWFDP	14	2-14	1	SSYTSSSTRLYV	12	+	-	-
neHD138 29	3-7	3-22	2	6	ADYYDSSGYYPYGMDV	16	1-47	3	AAWDDSLSGRV	11	-	-	-
neHD138 30#	3-23	6-13	2	5	TYSSSWYDWFDP	12	2-8	3	SSYAGSNNLKV	11			
neHD138 31	3-9	2-2	3	6	DNSPEVVPAGGDDYYYYYMDV	21	8-61	3	VLYMGSGSWV	10	-	-	-
neHD138 35	1-8	/	/	6	SMLPLDV	7	1-44	3	AAWDDSLNGHWV	12	-	-	-
neHD138 40	3-9	6-19	3	3	EYVKLAVALGEQSDAFDI	18	1-51	3	GTWDSSLSAGV	11	-	-	-
neHD138 44#	1-2	6-13	3	3	IAAAGPNSYNDAFDI	15	1-40	3	QSYDSSLSGWV	11			
neHD138 46	3-49	3-22	2	1	GGLAYTYYYDSSGSEYFQH	19	2-18	3	SSYTSSSTFGWV	12	+	-	-

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 8 Repertoire and reactivity of antibodies from new emigrant B cells of healthy donor 535

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neHD535 03	3-23	/	/	5	DRGSLNWFDP	10	1-5	1	QQYNSYSRT	9	-	+	N
neHD535 06	4-59	4-17	2	4	SPHYGDYVS	9	1-33	3	QQYDNLPPT	9	-	-	-
neHD535 08	3-23	2-15	3	2	SPPSGLVVVAATRYFDL	17	1-5	2	QQYNSYYT	8	+	+	-
neHD535 12	3-9	5-12	2	5	DIGYSGYGWFDP	12	3-11	4	QQRSNWPPRLT	11	-	+	-
neHD535 14	3-30	6-19	3	4	DFSVAGTSDYFDY	13	3-11	4	QQRSNWPLT	9	-	-	-
neHD535 15	4-34	3-10	2	4	AAPSSGSYYTAFGY	14	1-39	1	QQSYSTPPT	9	-	+	-
neHD535 20#	3-30	3-10	2	4	DLSGSGSYSDY	11	2-30	1	MQGTHWPPA	9			
neHD535 23	4-61	2-2	2	3	GYCSSTSCYGRRVHAFDI	18	1-5	1	QQYNSYPGT	9	+	+	N
neHD535 25	4-34	/	/	5	GGRPVVQNPWFDP	13	3-20	2	QQYGSSPQYT	10	-	+	-
neHD535 26	4-34	5-12	3	5	GQVDIVATDPANWFDP	16	4-1	2	QQYYSTPRT	9	-	-	-
neHD535 32	3-30	/	/	3	DDSPRRESYRGAFDI	15	1-39	2	QQSYSTPYT	9	-	-	-
neHD535 33	1-69	2-2	3	6	DPGKQVVPAASF	12	1-39	1	QQSYSTLWT	9	+2	+2	-
neHD535 35	4-61	/	/	5	GRPALFDP	8	1-33	3	QQYDNLPFT	9	-	-	-
neHD535 38	3-48	4-4	3	6	LIGSLTTVTTHADYYYGMDV	20	3-11	3	QQRSNWPLT	9	+	+2	-
neHD535 44κ	4-34	2-2	3	5	GGNIVVVPAATWFDP	15	1-39	1	QQSYSTPWT	9	-	+	-
neHD535 45	3-23	3-10	1	6	IPHHVWFGESPWGPGDYYGMDV	22	2-28	1	MQALQTPS	8	-	-	-
neHD535 46#	3-30	3-3	1	6	AQGFLEWSYYYYGMDV	16	4-1	3	QQYYSTPFT	9			
neHD535 49	3-23	3-22	3	4	LLIVVVIGDFDY	12	1-6	2	LQDYNYPYT	9	+	+	-
neHD535 56	4-30-2	4-4	3	6	TVTTAEDYYYGMDV	14	1-12	2	QQANSFPYT	9	-	-	-
neHD535 57	3-23	1-26	2	4	HYSGSYYGYFDY	12	1-27	3	QKYNSAPLT	9	-	-	-
neHD535 63	3-30	3-22	2	4	DVYYYDSSGYYDY	13	1-8	4	QQYYSYPALT	10	-	-	-
neHD535 64	3-30	6-19	3	4	DFYVLAVAGPYYFDY	15	1-5	4	QQYNSIGCT	9	+	+	-
neHD535 68	1-18	5-5	2	4	VPHWSYSYGQKSPINFDY	18	1-39	2	QQSYSTPYT	9	+2	+	-
neHD535 69	3-15	2-21	2	4	DPAAYCGGDCFFFDY	15	1-16	4	QQYNSYPST	9	-	-	-
neHD535 76	3-53	3-22	2	3	LGIYYYDSSGAKAFDI	16	1-39	2	QQSYSTPPYS	10	-	-	-
neHD535 77#	4-39	/	/	6	HPRGSSYYYYGMDV	14	1-9	4	QQLNSYPLT	9			
neHD535 02							1-39	2	QQSYSTPPYT	10			
neHD535 11							1-39	1	QQSYSKSWT	9			
neHD535 28							1-13	5	QQFNSYPIT	9			
neHD535 29							2-28	2	MQALQTPQT	9			
neHD535 52							4-1	2	QQYYSTPYS	9			
neHD535 55							1-39	1	QQSYSTPRT	9			
neHD535 60							1-17	4	LQHNSYPALT	10			
neHD535 75							1-5	1	QQYNSYSGT	9			
neHD535 78							3-20	4	QQYGSSPRT	9			
neHD535 80							4-1	1	QQYYSTPPWT	10			
neHD535 81							1-9	4	QQLNSYPLT	9			
neHD535 82							1-39	2	QQSYSTPPWYS	11			
neHD535 83							2-28	4	MQALQTPS	8			
neHD535 84							3-15	4	QQYNNWPLT	9			
neHD535 85							1-33	2	QQYDNLPRS	9			
neHD535 90							1-39	4	QQSYSTPLT	9			
neHD535 92							1-16	4	QQYNSYPLT	9			
neHD535 93							3-15	2	QQYNNWPFYS	10			
neHD535 94							2-28	3	MQALQTPFT	9			
neHD535 96							3-20	2	QQYGSSPPYMYT	12			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neHD535 16	4-34	3-10	3	6	RHVSMVRGVRTPSYGMDV	18	1-47	1	AAWDDSLSGPNYV	13	+	+2	-
neHD535 21	3-11	5-5	1	4	EYRLKGVWLPDY	12	3-21	1	QVWDSSSDHNYV	12	-	+	-
neHD535 31	3-66	3-16	2	4	SGDDYVWGGEGY	12	3-1	2	QAWDSSTVV	9	-	-	-
neHD535 40#	1-69	2-15	3	6	DRVVAATAGYYYYGMDV	17	3-21	2	QVWDSSSDLVV	11			
neHD535 43	4-59	3-22	2	4	LDSSGYNFDY	10	3-27	2	YSAADNNVV	9	-	+	-
neHD535 44λ,#					See kappa		3-1	1	QAWDSSAYV	9			
neHD535 58	3-48	3-22	2	3	DGLREPTGAYYYDSSGYRPWAFDI	24	3-21	1	QVWDSSSDSYV	11	-	-	N
neHD535 59	4-61	/	/	6	DSPPVGRGGMDV	12	1-40	1	QSYDSSLSAYV	11	-	-	-
neHD535 61	1-24	6-13	3	5	DRGAAAGPRGWFDP	14	3-1	2	QAWDSSTVV	9	-	-	-
neHD535 67#	1-69	/	/	6	DEGGYYYYGMDV	12	2-14	2	SSYTSSSTLVV	11			
neHD535 70	3-30	3-3	1	6	SRFLEWLLYYYGMDV	15	1-44	2	AAWDDSLNGHVV	12	+	-	-
neHD535 71#	3-30	4-17	2	6	DVNGDYYYYYGMDV	14	3-1	2	QAWDSSTHVV	10			
neHD535 07							3-21	2	QVWDSSSDHVV	11			
neHD535 50							2-14	3	SSYTSSSTLV	10			
neHD535 65							1-47	3	AAWDDSLSGTGV	12			
neHD535 73							1-44	2	AAWDDSLNGVV	11			
neHD535 86							1-51	1	GTWDSSLSAYV	11			
neHD535 87							2-14	2	SSYTSSSTVV	10			
neHD535 88							1-44	2	AAWDDSLNVV	10			
neHD535 89							2-14	1	SSYTSSSTLYV	11			
neHD535 91							3-21	1	QVWDSSSDHYV	11			
	VH	D	RF	JH	CDR3 (aa)	Length							
neHD535 17	4-59	3-10	2	4	GHYGSGSYYFDY	12							
neHD535 72	3-30	1-26	3	6	GGAVGATYYYYGMDV	15							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 9 Repertoire and reactivity of antibodies from new emigrant B cells of healthy donor 837

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neHD837 01	3-23	/	/	2	ATWRYFDL	8	3-15	4	QQYNNWPPAT	10	+	+	F
neHD837 04	3-33	/	/	6	DTEVGGGYYYYYGMDV	16	3-11	4	QQRSNWPLT	9	-	-	-
neHD837 05	1-69	3-16	2	4	DPYDYVWGSYRPPGGLIPFYFDY	23	3-15	4	QQYNNWPPLT	10	+	+	-
neHD837 07#	4-34	/	/	2	PGPLVRYFDL	10	4-1	2	QQYYSTPPYT	10			
neHD837 08	3-30	2-2	3	6	DNLIVVVPAARVGMDV	16	1-39	1	QQSYSTPWT	9	+	-	-
neHD837 09	4-34	4-17	3	5	GGGMTTVTTVWFDP	14	4-1	2	QQYYSTPYT	9	-	-	-
neHD837 11	4-31	/	/	5	ERLGNWFDP	9	3-20	2	QQYGSSPTT	9	-	+	-
neHD837 12	4-34	3-22	2	3	HTTNYDSSCAFDI	13	1-39	3	QQSYSTPRT	9	-	+	-
neHD837 13	3-15	3-3	2	6	EVLGYYDFWSGYY	13	2-28	4	MQALQTPG	8	-	-	-
neHD837 16	4-34	6-19	2	5	GGGSSGEHPRPGWFDP	16	4-1	2	QQYYSTPAT	9	-	-	-
neHD837 18	4-31	/	/	3	FQPTVVDKGAFDI	13	1-6	1	LQDYNYPLT	9	-	-	-
neHD837 20	1-69	/	/	4	ELANEPVGY	9	3-20	1	QQYGSSPQT	9	-	-	-
neHD837 22	4-34	2-2	3	5	GHGDDGVVVTRAHANWFDP	19	4-1	1	QQYYSTPPT	9	-	-	-
neHD837 25	1-69	2-2	2	6	AASGRYCSSTSCIWGAYYGMDV	22	1-39	3	QQSYSTPFT	9	+	+	c
neHD837 26	3-7	5-5	2	6	DRTVGYSYGLGMDV	14	1-8	3	QQYYSYPFT	9	-	+	M
neHD837 29	4-31	3-22	2	5	SNYYDSGSLSG	9	3-15	2	QQYNNWPAER	10	-	+	M
neHD837 30	3-48	3-22	3	4	GRITMTDY	8	1-6	1	LQDYNYPWT	9	-	+	F
neHD837 32	3-30-3	6-19	1	4	EWLVQGAGPFDY	12	1-8	3	QQYYSYPFT	9	-	-	-
neHD837 33	4-34	1-7	3	5	PGKATGTTRNPNWFDP	16	4-1	2	QQYYSTPYT	9	-	-	-
neHD837 34#	6-1	/	/	5	EDSTIDP	7	1-8	3	QQYYSYPPFT	10			
neHD837 35	3-21	6-19	2	4	VSSGWYYHY	9	1-27	3	QKYNSAPFT	9	-	+	-
neHD837 36	3-48	/	/	4	DGRSTYYETFDY	12	1-5	2	QQYNSYSYS	9	-	-	-
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neHD837 02#	3-23	1-26	3	3	GLRVGATGAFDI	12	3-21	3	QVWDSSSDPWV	11			
neHD837 06	3-15	2-15	3	3	EVVAATQVFFYSSLGLI	17	1-40	1	QSYDSSLSGYV	11	-	-	-
neHD837 14	3-21	5-5	3	4	EHVDTAMVLYYFDY	14	3-21	2	QVWDSSSDHPV	11			
neHD837 15	3-33	/	/	6	SASGGRHYYYYYGMDV	16	3-21	2	QVWDSSSDHVV	11	-	+	-
neHD837 17	4-b	/	/	4	VRPGWPSTGGSFDY	14	1-40	3	QSYDSSLSGSV	11	-	+	F
neHD837 21#	3-30-3	/	/	6	DPVPYYYYYGMDV	13	2-14	2	SSYTSSSTLV	10			
neHD837 27	3-30	6-13	2	4	DLYLRSWYFLPIDY	14	2-14	2	SSYTSSSTLV	10	-	+	-
neHD837 31	3-23	5-24	2	3	PNRDGYNKGAFDI	13	1-44	3	AAWDDSLNGPV	11	-	-	-
	VH	D	RF	JH	CDR3 (aa)	Length							
neHD837 10	1-69	5-12	2	4	DYKSRGGYSGYGSDYFDY	18							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 10 Repertoire and reactivity of antibodies from mature naïve B cells of healthy donor 750

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mHD750 01	3-53	3-22	2	3	VYYDSFDAFDI	11	1-39	2	QQSYSTPMYT	10	-	-	-
mHD750 07	3-66	/	/	4	WGNEDGGNY	9	1-39	1	QQSYSTLWT	9	-	+	-
mHD750 21	1-46	5-5	1	6	GGTWIQPFGMDV	12	2-28	2	MQALQTPYT	9	-	+	-
mHD750 26	3-7	6-6	1	4	DWGLVKQLWGVDYFDY	16	1-39	4	QQSYSTPPRT	10	-	+	-
mHD750 33	4-59	3-22	2	6	GGPQYYYDSSGYQYYYYYGMDV	22	1-33	1	QQYDNLPQWT	10	-	-	-
mHD750 41	1-69	3-22	2	6	TYYDSSGYYYYYYGMDV	17	1-16	4	QQYNSYPLT	9	+	+2	-
mHD750 44#	1-18	2-21	3	4	DVSMGVTAIPVDYFDY	16	1-5	4	QQYNSYPLT	9			
mHD750 47	3-23	6-19	3	6	GEGAVAGYYYYYGMDV	16	2-28	3	MQALQTPIT	9	-	-	F
mHD750 62	4-59	5-12	2	6	DSGYDDPAAMDV	12	3D-15	2	QQYNNWPPYT	10	-	-	-
mHD750 67#	3-9	6-6	3	6	DRGIAAPYYYGMDV	14	3-20	5	QQYGSSPIT	9			
mHD750 70	3-21	3-3	2	3	ATVGYYDFWSGLDAFDI	17	4-1	4	QQYYSTPLT	9	+	-	-
mHD750 76	5-51	3-10	2	4	HGRIWGSGNY	10	3-11	4	QQRSNWLT	8	+	-	F
mHD750 77	4-31	3-22	2	4	GGGSSSGSPV	10	2-30	3	MQGTHWPPFT	10	-	-	-
mHD750 81	4-39	4-4	3	4	RTTVTRNGFDY	11	2-28	4	MQALQTLLT	9	+	+	-
mHD750 08							2-28	1	MQALQTPRT	9			
mHD750 17							1-39	1	QQSYSTPVT	9			
mHD750 23							2D-29	4	MQSIQLPLT	9			
mHD750 25							1-39	2	QQSYSTPYT	9			
mHD750 61							1-5	2	QQYNSYYMYT	10			
mHD750 63							3-20	2	QQYGSSPLT	9			
mHD750 78							3-20	4	QQYGSSPPLT	10			
mHD750 82							1-NL1	3	QQYYSTPFT	9			
mHD750 90							1-9	2	QQLNSYLYT	9			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mHD750 16	4-34	3-3	2	6	SQYYDFWSGYYPERDYMDV	19	3-21	3	QVWDSSSVKV	10	+	+	-
mHD750 20	3-23	6-13	3	4	MGAIAAAGFDY	11	2-8	2	SSYAGSNNWV	10	-	-	-
mHD750 27	4-34	3-10	2	4	AQGYYGSGSYYKGALGFDY	19	3-21	3	QVWDSSSDHWV	11	-	+	-
mHD750 29	1-8	/	/	6	VAYDYYYYYYGMDV	14	1-44	2	AAWDDSLNGVV	11	-	+	-
mHD750 37	3-11	4-23	2	4	GRYGGNSPMCY	11	6-57	3	QSYDSSNHWV	10	-	-	-
mHD750 38#	3-66	2-2	2	6	DLSTSFYGMDV	11	1-40	2	QSYDSSLSGVV	11			
mHD750 39#	3-64	6-19	1	4	EQWLGGYYFDY	11	2-11	1	CSYAGSYIHYV	11			
mHD750 49	3-66	6-13	3	4	MGLGIAAAGLDY	12	2-14	3	SSYTSSSTWV	10	-	-	-
mHD750 50	3-64	6-6	2	4	GYSSSSGRDY	10	3-21	1	QVWDSSSDHYV	11	-	-	-
mHD750 53#	3-11	3-3	2	4	VDHDFWSGNIDY	12	1-51	3	GTWDSSLSAGV	11			
mHD750 55	4-34	/	/	4	VPPGGQDY	8	3-21	1	QVWDSSSDHYV	11	-	-	-
	VH	D	RF	JH	CDR3 (aa)	Length							
mHD750 47	3-23	6-19	3	6	GEGAVAGYYYYYGMDV	16							
mHD750 87	4-34	7-27	3	4	GNPNWGFYY	9							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 11 Repertoire and reactivity of antibodies from mature naïve B cells of healthy donor 12

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mHD12 05#	4-59	6-6	2	4	DLAAYSMSDY	10	1-17	4	LQHNSYPLT	9			
mHD12 07	4-34	4-17	3	4	TLRGTVTIVGGIYYFDY	17	1-39	4	QQSYSTPLT	9	+	+	-
mHD12 09	3-23	6-6	3	5	SIAARRGRGNWFDP	14	3-20	1	QQYGSSWT	8	-	+2	-
mHD12 10#	3-23	4-17	2	3	DRPVGYGDYPGPDAFDI	17	4-1	1	QQYYSTPRT	9			
mHD12 12#	5-51	6-19	2	6	RGSGWYDEIYYYYGMDV	17	2-28	1	MQALQTPQT	9			
mHD12 16	1-18	3-10	3	4	ASPITMVRGASDPPGGY	17	1-27	1	QKYNSAPTWT	10	-	-	-
mHD12 17#	3-30	2-21	2	4	CGGKKYYFDY	10	1-8	4	QQYYSYPPLT	10			
mHD12 22#	3-23	3-22	2	4	SREYYYDSSGFGCFDY	16	3-11	3	QQRSNWLFT	9			
mHD12 26#	3-73	/	/	4	HQGADY	6	4-1	4	QQYYSTPLT	9			
mHD12 27	3-33	6-19	1	4	DLAEQWLVSGVDY	13	1-5	2	QQYNSYPYT	9	-	-	-
mHD12 34	3-23	/	/	6	DYEPPPGYYYYYYGMDV	17	1-39	2	QQSYSTPYT	9	-	+	-
mHD12 38	3-74	3-3	2	4	DRDYDFWSGYYPSGY	15	1-5	2	QQYNSYPYT	9	-	+	-
mHD12 39	5-51	4-17	2	4	RGDYGDERDYFDY	13	3-20	2	QQYGSSPPDT	10	-	-	-
mHD12 40	3-30	6-19	3	6	PIAVAGTVLPDV	12	1-6	2	LQDYNYPLT	9	-	-	-
mHD12 41#	4-59	4-23	3	4	TTVVTPDYFDY	11	1-39	3	QQSYSTPFT	9			
mHD12 42#	3-73	/	/	4	LGKVSTPDY	9	3-11	4	QQRSNWPPLT	10			
mHD12 50#	3-48	5-5	3	4	ELRKTAMAFDY	11	1D-8	2	QQYYSFPRT	9			
mHD12 51	3-48	5-12	2	4	VPSVGSGYPFDY	12	4-1	4	QQYYSTPST	9	-	-	-
mHD12 54#	4-34	3-16	2	4	GINDYVWGSYRYISGGSDY	19	3-20	3	QQYGSSPRT	9			
mHD12 55#	4-59	4-4	2	4	LDYSNSYFDY	10	3-15	4	QQYNNWPQLT	10			
mHD12 08							1-16	4	QQYNSYPLT	9			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mHD12 13	1-18	3-9	2	4	VLKAYYDILTGYFFQGPRGGFDY	23	2-14	2	SSYTSSSPVV	10	-	-	-
mHD12 18#	3-11	/	/	3	VHHQKNRQAWGAFDI	15	3-21	3	QVWDSSSDHQV	11			
mHD12 20#	4-34	3-16	1	4	GIRAYVWGSFSY	12	1-51	2	GTWDSSLSAGV	11			
mHD12 24	3-23	/	/	5	GEDTWFDP	8	2-14	3	SSYTSSSTLV	10	-	-	-
mHD12 28#	4-59	5-24	2	4	RDGYNTHRY	9	3-21	2	QVWDSSSDHLVV	12			
mHD12 33	3-11	3-22	2	3	DIFGTDYYDSSGYYLAFDI	19	2-14	1	SSYTSSSTLYV	11	-	-	-
mHD12 36	3-49	3-3	3	6	GDPPKRQATSIFGVVFPRPEDPTLGMDV	28	1-40	2	QSYDSSLSGGDVV	13	+	+2	-
mHD12 46	3-30	1-26	3	3	AGAQTTWGAFDI	12	1-44	3	AAWDDSLNGWV	11	-	-	c
mHD12 49	4-39	3-3	3	2	PIFGVVGANYWYFDL	15	2-14	1	SSYTSSSPYV	10	-	+	-
mHD12 56	3-23	3-22	3	4	DNRITTHAEFDY	12	3-1	2	QAWDSSTVV	9	+	+	-
mHD12 70	1-18	3-10	3	6	DPKPVTMVRGVILAYYYYYMDV	22	2-14	2	SSYTSSSTSVV	11	+	-	-
mHD12 74#	4-34	/	/	3	LTDAFDI	7	2-8	1	SSYAGSNNAYV	11			
mHD12 14							3-1	2	QAWDSSTAYVV	11			
mHD12 15							3-21	2	QVWDSSSDHPI	11			
mHD12 65							3-21	2	QVWDSSSDHPHVV	13			
	VH	D	RF	JH	CDR3 (aa)	Length							
mHD12 04	3-33	5-5	1	4	EVPGAQLWEGSYFDY	15							
mHD12 19	3-23	2-21	3	1	LVGWSVTAHPPGYFQH	16							
mHD12 21	3-23	2-21	3	4	VAVVVTAIRGFAFDY	15							
mHD12 25	3-11	3-3	3	4	EAGVVIQPFDY	11							
mHD12 44	3-30	2-15	2	4	EPKSHYCSGGSCHRGFFDY	19							
mHD12 45	3-33	1-1	3	6	VGTTDSYYYYYYMDV	15							
mHD12 53	3-13	3-3	3	6	ANITIFGVVSSAPYYYGMDV	20							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 12 Repertoire andreactivity of antibodies from mature naïve B cells of healthy donor 13

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mHD13 01	3-23	/	/	4	GGHFDY	6	1-8	1	QQYYSYPRT	9	+	+	N
mHD13 03	3-11	3-10	3	4	DFSWGVVDY	9	3-11	1	QQRSNWLWT	9	-	-	-
mHD13 07	3-7	3-3	2	6	DASRYDYDFWSGYPIYYYYGMDV	23	2-28	1	MQALQTRT	8	-	+2	-
mHD13 11	4-30-4	3-10	3	5	TQPTMVRGVIFEQGGGFDP	19	1-9	1	QQLNSYPRT	9	-	+	-
mHD13 15	3-11	1-26	2	4	EGFYSGSYSDY	11	1-39	3	QQSYSTPFT	9	-	-	-
mHD13 22	3-23	4-17	3	4	APSPTTVNGFDY	12	3-15	1	QQYNNWPLT	9	-	-	-
mHD13 23	4-4	4-17	3	6	DPDRGTVTDGMDV	13	2-30	2	MQGTHWLYT	9	-	-	-
mHD13 27	4-30-4	2-21	1	3	VNLLWWNAFDI	11	1-39	2	QQSYSILYT	9	-	+	-
mHD13 31	3-9	/	/	3	GTWRAYAYAFDAFDI	15	1-5	3	QQYNGIFT	8	+	+	-
mHD13 34	3-30-3	3-22	2	4	TPDYYDSSGYYAN	13	4-1	4	QQYYSTPPT	9	-	-	-
mHD13 35#	4b	/	/	1	DSGGR	5	1-33	4	QQYDNLPPFT	10			
mHD13 36	1-2	3-10	2	6	DEGSGYPPYYYYYMDV	16	3-20	4	QQYGSSPPRLT	11	-	+	-
mHD13 37	3-9	1-26	3	4	DAIVGAFGLPDY	12	1-5	1	QQYNSYSPWT	10	-	+	-
mHD13 40κ	3-30-3	6-13	3	3	DVLGAAAPHAFDI	13	3-20	2	QQYGSSPYT	9	-	-	-
mHD13 44	4-30-4	/	/	3	DLSRSGGGGSAFDI	14	1-33	1	QQYDNLPT	8	-	-	-
mHD13 47	1-24	/	/	4	SGILRGPFDY	10	3-20	4	QQYGSSPPLT	10	-	-	-
mHD13 09							1-39	1	QQSYSTPPST	10			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mHD13 05	4b	5-24	2	4	RLGRDGYNFPFDY	13	2-23	1	CSYAGSSTDNYV	12	+	+	-
mHD13 10	1-18	2-2	3	6	ALQDIVVVPAAPYMDV	16	2-14	3	SSYTSSSTLWV	11	-	-	-
mHD13 13	3-30			3	EQPRLGDDAFDI	12	3-25	2	QSADSSGTYRVV	12	-	-	-
mHD13 16	1-24	3-22	2	5	AVDSSGYYYLTPPGASRWFDP	21	3-21	1	QVWDSSSDHQV	11	-	+2	-
mHD13 26	3-30	3-3	3	6	DPMYYLVFGVALPDYYYYMDV	21	1-51	2	GTWDSSLSAVV	11	+	+	-
mHD13 40λ					see kappa		2-23	2	CSYAGSSTFVV	11	-	-	-
mHD13 41	3-11	2-2	3	4	DSRSDLIVVVPAAADY	16	3-21	2	QVWDSSSDHVV	11	-	-	-
mHD13 48	4-39	5-5	2	6	SIHSYSLDLVDYYGMDV	17	3-1	2	QAWDSSTVV	9	-	-	-
mHD13 33							3-1	2	QAWDSSTVV	9			

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 13 Repertoire and reactivity of antibodies from mature naive B cells of healthy donor P7

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mHDP7 49	4-34	2-21	2	4	GGGDCGGDCYSSYFDY	16	1-5	2	QQYNSYPYT	9	-	+	-
mHDP7 52	1-3	6-13	3	5	TLAAAGTREFDP	12	4-1	4	QQYYSTLPT	9	-	+	-
mHDP7 55	4-34	5-12	2	5	GYGGYSGYDQRWFDP	15	3-20	5	QQYGSSPIT	9	-	-	-
mHDP7 56	3-30-3	3-10	2	5	DSIFYGSGSPYRRNWFDP	18	1-12	4	QQANSFPLT	9	+	+	-
mHDP7 57	4-30-4	3-10	2	6	ENRPREYYYGSGGEGYYYYGMDV	23	2-28	3	MQALQTPFT	9	-	-	-
mHDP7 58	3-11	3-10	2	4	DARRGSGSYYRGVGY	15	3-11	1	QQRSNWPGT	9	+	+2	N
mHDP7 60#	1-69	5-12	3	4	DQSPIVATRNGLDY	14	1-17	1	LQHNSYPRT	9			
mHDP7 61	3-23	4-17	2	4	LTRTPNDYGDYGVFDY	16	3-20	1	QQYGSSPPT	9	-	-	-
mHDP7 62	4-31	2-21	2	4	RGGPYCGGDCSIDY	14	1-9	4	QQLNSYPLT	9	-	+	-
mHDP7 63	3-53	3-9	2	3	ASLTGYKDAFDI	12	1D-12	2	QQANSFPYT	9	-	-	-
mHDP7 64	3-49	6-19	3	5	DRIAVAGGANWFDP	14	1-12	4	QQANSFPLT	9	-	-	-
mHDP7 65#	1-18	1-26	3	4	GIVGANQADDY	11	2D-29	3	MQSIQLPFT	9			
mHDP7 70κ	3-48	3-9	2	4	VGRFGRGYDILTGYYHY	17	2-28	5	MQALQTPEGT	10	-	-	-
mHDP7 72	3-48	1-26	3	4	FLGIVGALYDY	11	3-15	1	QQYNNWPSWT	10	+	-	-
mHDP7 78	4-4	3-22	2	4	DDSSGYYNY	9	3-20	3	QQYGSSPQT	9	-	-	c
mHDP7 79	3-11	3-9	2	2	SRRYYDILTGYYNVGLWYFDL	21	1-5	2	QQYNSYSVP	9	+2	+	-
mHDP7 80	3-49	1-26	2	4	DSPPSGSYSRLHY	13	1-39	3	QQSYSTPFT	9	-	-	-
mHDP7 84	3-33	6-19	3	4	DSHSIAVAAMGY	12	3-20	3	QQYGSSPFT	9	-	-	-
mHDP7 85#	3-30	3-3	2	4	DVRFWSGYYFDY	12	3-20	1	QQYGSSRGWT	10			
mHDP7 88	6-1	5-12	2	6	DLHLSGYDPHYYYYYGMDV	19	3-20	2	QQYGSSPSYT	10	-	+	-
mHDP7 94#	1-69	5-12	2	4	GHYSGYDFTHYFDY	14	4-1	2	QQYYSTPPT	9			
mHDP7 92							3-15	1	QQYNNWPPWT	10			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mHDP7 51	4-34	6-13	3	5	GEIAASGTRWFDP	13	1-51	2	GTWDSSLSAVV	11	-	-	-
mHDP7 54	3-33	3-10	1	5	DLWFRDPTKFDP	12	2-14	2	SSYTSSSTVV	10	-	-	-
mHDP7 59	3-11	/	/	5	DFSGNGWFDP	10	2-14	1	SSYTSGSTPYV	11	-	-	-
mHDP7 66	3-23	4-23	2	6	DRDYDYGNTPPTRYGMDV	18	2-14	1	SSYTSSSTLHV	11	-	-	-
mHDP7 68#	3-53	/	/	4	DDY	3	2-14	3	SSYTSSS	7			
mHDP7 69	1-69	/	/	5	GASRFPQEEGADNWFDP	17	1-47	3	AAWDDSLSGWV	11	+	-	-
mHDP7 70λ					see kappa		2-23	3	CSYAGSSTWV	10	+	+2	c+N
mHDP7 71	3-9	6-19	3	5	DRSIAVAGEFDP	12	2-14	2	RSYTSSSTVV	10	-	+	c
mHDP7 73	3-30	4-17	2	4	DSPIVYGDYGPLDY	14	3-25	2	QSADSSGTYKVV	12	-	+	-
mHDP7 81	1-18	2-2	3	6	DLVVVPAAFMDV	12	2-11	3	CSYAGSYTFGV	11	-	-	-
mHDP7 90#	3-30-3	2-8	2	4	EDCTNGVCQAGRVIDY	16	2-23	3	CSYAGSSTWV	10			
mHDP7 93#	3-33	/	/	4	WDFDY	5	2-8	3	SSYAGSNN	8			
mHDP7 95#	5-51	3-22	3	5	GSSPGTMIVGNFDP	14	1-44	1	AAWDDSLNGSYV	12			

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 14 Repertoire and reactivity of antibodies from mature naive B cells of healthy donor 1191

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mHD1191 52	1-18	/	/	4	RGLYFDY	7	3-11	1	QQRSNWWT	8	-	-	-
mHD1191 53	3-15	3-3	1	5	SGGELEWLLQYNWFDP	16	3-11	2	QQRSNWYT	8	-	-	-
mHD1191 57	1-69	3-9	1	6	DRLGGIRYFDPMDV	14	1-39	2	QQSYSTPRT	9	+	+	-
mHD1191 58	1-69	2-15	3	4	VVVVAATSPFGD	12	1-39	4	QQSYSTPLT	9	+	+	-
mHD1191 59	5-a	5-12	2	5	HRGYSGYYQNWFDP	14	1-33	4	QQYDNLPLT	9	-	-	-
mHD1191 63#	3-64	4-4	2	4	ANSNYWGPYFDY	12	1-39	4	VEIKRTVAA	9			
mHD1191 64	1-69	3-3	2	5	EGYYDFWSGAFSRGANWFDP	20	1-39	1	QQSYSTLRT	9	+	+	-
mHD1191 71#	5-a	4-23	2	4	SDGGNSVGI	9	1-17	2	LQHNDYPPT	9			
mHD1191 72	1-69	/	/	6	GLGTHGHNPVRWGMDV	16	3-15	1	QQYNNWPPT	9	+	+	-
mHD1191 75	3-23	6-13	3	4	VDPAAAGILSGFDY	14	2-30	4	MQGTHWPPLT	10	-	-	-
mHD1191 78#	3-7	3-3	2	6	GGGGYDFWSGYSLYYYYYGMDV	22	1-5	1	QQYNSYPWT	9			
mHD1191 80	3-33	2-21	2	4	DYWAYCGGDCYPDY	14	2-30	4	MQGTHWPLT	9	-	+	-
mHD1191 82	3-30	/	/	4	DKEGNILDY	9	4-1	4	QQYYSTPPS	9	-	-	-
mHD1191 83	1-69	3-10	2	4	SRPYYYGSGSYYTPEAY	17	1-33	4	QQYDNLPT	8	-	+	c
mHD1191 84	4-31	2-8	1	4	TPVRYTLYHYFDY	13	1-39	3	QQSYSTPPRFT	11	+	+	-
mHD1191 86	3-23	4-17	2	4	GGDYEKFDY	9	3-15	2	QQYFFAAA	8	-	-	-
mHD1191 93	4-59	6-19	1	4	MKQWLVWDY	9	1-39	4	QQSYSTPT	8	-	+	c
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mHD1191 51	1-46	4-17	3	6	ATVTTHLYYYGMDV	14	3-1	2	QAWDSSTHVV	10	-	+	F
mHD1191 60	1-69	3-22	2	4	QGHYYDSSGYYRRGFDY	17	2-23	3	CSYAGSSSWV	8	2+	+	-
mHD1191 70#	3-11	3-10	1	6	ERRWEWFGELFLYYYGMDV	19	2-23	3	CSYAGSSV	8			
mHD1191 73	3-33	6-6	3	6	ATRIAARPQRRTYYYYGMDV	20	3-1	2	QAWDSSTANVV	11	2+	2+	N
mHD1191 74	1-24	1-26	1	4	TLEWELLSYFDY	12	3-25	2	QSADSSGTYRVV	12	-	+	-
mHD1191 81	4-59	3-10	2	3	GGSGKGVNAFDI	12	3-21	1	QVWDSSSDLYV	11	-	-	-
mHD1191 85	3-21	5-24	3	6	VKEEMATIEEPIEDYYYYYGMDV	23	2-23	2	CSYAGSSTHVV	11	-	-	-
mHD1191 87	5-a	2-15	2	4	HDTFGPYCSGGSCFPPNDY	19	3-1	1	QAWDSSTGV	9	-	-	-
mHD1191 91	4-34	3-22	2	4	GRPRGVYDSSGYFYFDY	17	2-14	1	SSYTSSSTLV	10	-	-	-
mHD1191 92#	1-69	3-22	2	4	YYDSSGYYRFDY	12	3-1	2	QAWDSSTA	8			
	VH	D	RF	JH	CDR3 (aa)	Length							
mHD1191 54	1-3	3-22	2	4	ASYDSSGYLSY	11							
mHD1191 55	4-4	2-15		4	RISSRNFFDY	10							
mHD1191 67	3-33	6-19	1	4	DPGQWLVKEFDY	12							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 15 Repertoire and reactivity of antibodies from mature naive B cells of healthy donor P4

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mHDP4 49	3-64	4-23	2	4	DNDYAHY	7	2-30	1	MQGTHWPPWT	10	-	-	-
mHDP4 50	1-46	1-26	3	5	LGAASRGPPFDP	12	3-20	5	QQYGSSPIT	9	-	+	-
mHDP4 61#	4-39	/	/	3	HEEAAGANAFDI	12	1-39	2	QQSYSTPPT	9			
mHDP4 63	3-64	5-5	2	4	DHGYSYGYASFDY	13	1-33	4	QQYDNLPLT	9	-	-	-
mHDP4 65	1-69	7-27	1	4	VLGYYFDY	8	1-12	2	QQANSFPRT	9	+	+	-
mHDP4 67	3-33	1-26	3	4	AGATGTLDY	9	2-30	2	MQGTHWPPT	9	-	+	-
mHDP4 68	3-15	3-10	2	6	NIWFGYYYYYYGMDV	15	3-11	4	QQRSNWPPLT	10	+	+2	c
mHDP4 70	3-30	/	/	6	CPYAEFAYYGMHL	13	2-28	2	MQALQTPYT	9	+	+	-
mHDP4 76	3-23	2-2	2	4	DRGYCSSTSCYFLFDY	16	3-11	4	QQRSNWPPT	9	-	+	-
mHDP4 79	4-34	2-2	3	5	IVPAALPFDP	10	1-39	2	QQSYSTPYT	9	-	+	-
mHDP4 86	4-34	4-23	2	6	WSLRFYNSRKYYYYGMDV	18	1-39	4	QQSYSTPRT	9	+	-	c
mHDP4 88κ	4-31	6-13	2	4	EGEFSSSSRAGTLQY	15	1-5	1	QQYNSYSAT	9	-	-	-
mHDP4 90	3-30	5-12	3	6	DLVATIRGTFGVYYYYGMDV	20	3-15	3	QQYNNWPFT	9	+	+	-
mHDP4 91	3-21	6-13	1	4	DRQQLVQFELGY	12	1-33	5	QQYDNLPIT	9	-	-	-
mHDP4 92#	3-21	6-19	2	4	ESGWSRVPGWGGWFPMDY	18	1-27	2	QKYNSAPYT	9			
mHDP4 93	4-30-4	4-17	3	5	EIPPTTVTTSGFDP	14	1-6	1	LQDYNYPGT	9	-	-	-
mHDP4 94	1-3	3-3	2	6	ESYDFWSGYPYYYYGMDV	18	3D-15	1	QQYNNWPPWT	10	+	+	c+N
mHDP4 62							3-20	2	QQYGSSPYT	9			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mHDP4 54#	3-7	3-9	2	4	DPPYYDILTGYFLYSVGDY	19	2-14	2	SSYTSSSTLVV	11			
mHDP4 60	3-73	5-5	3	4	LDTANTFDY	9	3-25	2	QSADSSGTYVV	11	-	-	-
mHDP4 66	3-49	/	/	4	DPPPPWTNYEDTRGY	15	1-47	1	AAWDDSLSGPV	11	-	+	-
mHDP4 69	5-51	3-22	2	5	HWAHYYDSSGYASNWFDP	18	2-14	3	SSYTSSSTLWV	11	-	-	-
mHDP4 71	3-30	/	/	4	HVALAFDY	8	3-10	1	YSTDSSGNHFYV	12	+	+	-
mHDP4 73#	5-A	2-15	2	4	VACSGGSCYFRLAGYFDY	18	1-47	2	AAWDDSLSGVV	11			
mHDP4 75	1-18	4-17	2	4	ASGDYDHFDF	10	2-14	2	SSYTSTRTLV	10	-	-	-
mHDP4 80	3-15	1-26	1	4	AFFNMWELYFFDY	13	1-47	2	AAWDDSLSALV	11	-	-	-
mHDP4 81#	1-46	/	/	6	VLLQYYYYGMDV	12	3-1	1	QAWDSSTYV	9			
mHDP4 82	3-23	/	/	6	GPAGVPYYYGLDV	13	1-51	3	GTWDSSLSAGV	11	-	-	-
mHDP4 88λ					see kappa		4-69	3	QTWGTGIL	8	-	-	-
mHDP4 95	3-21	3-10	2	4	ALGWEYNYGDFDY	13	2-14	2	SSYTSSSTLDVV	12	-	-	-
	VH	D	RF	JH	CDR3 (aa)	Length							
mHDP4 51	1-18	2-15	3	6	DSVVVVAATLLDYYYYGMDV	20							
mHDP4 64	1-18	6-13	2	6	DGGREDSSSWFPYYYYYGMDV	21							
mHDP4 72	3-21	3-10	1	6	DFGILLWFGELPSQYYYYGMDV	22							
mHDP4 85	3-30-3	5-12	3	4	DHGLGGSDIVATIDASYYFDY	21							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 16 Repertoire and reactivity of antibodies from mature naïve B cells of healthy donor 138

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mHD138 01#	3-15	5-5	3	3	RLYTAMGPIDAFDI	14	1-33	4	QQYDNLPLT	9			
mHD138 02	3-30-3	3-10	1	5	DNLWFGELLGWFDP	14	4-1	1	QQYYSTPWT	9	-	-	-
mHD138 03#	3-33	3-9	1	3	ASLRYFDWLLGVDAFDI	17	1-13	5	QQFNSYPFT	9			
mHD138 04	1-46	3-10	3	5	DPRDVFTMVRGKVGGNWFDP	20	4-1	2	QQYYSTPPT	9	+	+	-
mHD138 05	3-74	3-10	2	4	VVGSGSFDY	9	4-1	4	QQYYSTPLT	9	-	-	-
mHD138 08κ#	3-9	3-22	2	4	DPLSYRYYYDSSGYPYYFDY	20	2-40	2	MQRIEFPSYT	10			
mHD138 09	3-30	3-22	2	4	DFNDSSGLTDY	11	3-15	4	QQYNNWPPLT	10	-	-	-
mHD138 12	3-11	1-26	1	5	EGELAGEGFDP	11	2-28	3	MQALQTPLFT	10	-	-	-
mHD138 13	1-18	6-13	2	3	DGYSSSWPNPDAFDI	15	3-11	5	QQRSNWPPST	10	-	+	-
mHD138 17#	1-69	3-3	3	6	EPGITIFGVVIQGPEDYYYYGMDV	24	1-13	4	QQFNNYPQLT	10			
mHD138 19#	3-30	7-27	3	3	EWGTGGDAFDI	11	1-12	2	QQANSFPYT	9			
mHD138 20	3-74	1-26	1	4	SWEHLDY	7	1-17	1	LQHNSYPWT	9	-	+	-
mHD138 23	4-39	4-23	2	5	GSSVGYGGNSGWFDP	15	3-20	4	QQYGSSPLT	9	-	-	-
mHD138 25#	3-23	3-3	2	4	QYYDFWSGYYAELGY	15	2-24	2	MQATQFPYT	9			
mHD138 27	4-61	3-22	2	3	EGSDSYYDSSGYSNDAFDI	19	3-20	1	QQYGSSPWT	9	-	-	-
mHD138 32	3-21	6-13	2	4	DSFTEISWYEAHYFDY	16	3-11	1	QQRSNWPPWT	10	-	+	-
mHD138 33	1-69	1-26	3	5	LVGATYNWFDP	11	1-12	3	QQANSFPRT	9	+	+2	-
mHD138 34	3-15	3-9	2	6	DLVQNYDILTGYMRYYYGMDV	21	2-30	2	MQGTHWLRT	9	+	+2	-
mHD138 35	3-23	5-5	2	3	AGRGYSYGGKNDAFDI	16	3-20	4	QQYGSSRLT	9	-	+	-
mHD138 36κ	3-74	1-26	2	4	AGGSYPPGY	9	2-28	1	MQALQTPWT	9	-	+	-
mHD138 44	3-21	6-6	3	6	VLIATLRMNDYYYYMDV	17	1-39	2	QQSYSTPYT	9	-	+	F
mHD138 45#	3-48	3-9	2	6	LGPGILTGYYSYYYYGMDV	19	2-28	4	MQALQTPLT	9			
mHD138 47	3-30	6-19	3	4	DRVAVGGGADY	11	1-27	3	QKYNSAPFT	9	-	+	-
mHD138 07							1-5	2	QQYNSYSGT	9			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mHD138 08λ#					see kappa		1-51	1	GTWDSSLSAYV	11			
mHD138 10	1-46	2-2	1	4	VWGRRQLPDY	10	1-51	2	GTWDSSLSAVV	11	-	-	-
mHD138 11	3-48	2-8	3	3	ISSQNIVLIPKGAFDI	16	2-14	1	SSYTSSSLGV	10	+	+	-
mHD138 14	3-23	3-22	2	3	WEYYDSSGYIEDAFDI	16	1-44	1	AAWDDSLNGKV	11	-	-	-
mHD138 15	4-39	/	/	4	EVSGEINDY	9	4-69	3	QTWGTGIQV	9	-	-	-
mHD138 16	3-33	6-13	2	3	DRGYSSSWYMDI	12	2-14	3	SSYTSSSTWV	10	-	-	-
mHD138 28	3-48	4-23	2	3	DLDYGGNSDAFDI	13	3-21	3	QVWDSSSDHWV	11	-	-	-
mHD138 29	4-30-4	2-2	2	4	APLHCSSTSCYTVLFDY	17	1-51	3	GTWDSSLSAGHWV	13	-	-	-
mHD138 31	1-69	2-2	3	4	GEDVVVPAATIYYFDY	16	2-11	3	CSYAGSSYWV	10	+	+	-
mHD138 36λ					see kappa		8-61	3	VLYMGSGIWV	10	+	+	-
mHD138 38	4-4	2-8	2	6	DAPGYCTNGVCSQGVYMDV	19	3-10	3	YSTDSSGNHRV	11	-	-	-
mHD138 46	3-30	3-3	2	4	DNERVRYDFWSGYYLFDY	18	3-21	3	QVWDSSSDHPNWV	13	-	-	-
mHD138 06							3-25	2	QSADSSGTYVV	11			
mHD138 24							3-9	2	QVWDSSTHVV	10			

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 17 Repertoire and reactivity of antibodies from mature naïve B cells of healthy donor 535

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mHD535 14	3-30	3-10	3	6	DIVVRVLWYYYGMDV	15	2-28	4	MQALQTPLT	9	+	+	-
mHD535 18	3-30	4-17	2	4	DSLGDYSIFDY	11	3-15	1	QQYNNWPPWT	10	-	+	-
mHD535 21	1-2	4-17	2	6	ARDDYGDYEGMDV	13	1-39	2	QQSYSTPYT	9	-	-	-
mHD535 26	3-11	1-26	2	6	ESGSYYPARGEKTPPTPYYGMDV	23	2-28	4	MQALQTPRT	9	-	-	-
mHD535 31	1-69	6-13	3	3	GGEAAAGLKAFDI	13	3-11	2	QQRSNWPPGMYS	12	+	+	-
mHD535 35	3-30	/	/	4	DRDRVRRGENEPADY	15	3-15	3	QQYNNWPPRIT	11	-	+	N
mHD535 39	1-69	3-10	2	4	VPLGYYGSGSYYNPFDY	17	2-28	3	MQALQTPL	8	+	+	-
mHD535 40	4-39	2-15	3	4	TSSPDIVVVVAREALREFDY	20	3-11	4	QQRSNWPRLT	10	+	+	-
mHD535 43κ	4-39	6-13	3	5	CAAAGTRWFDP	11	1-39	3	QQSYSTPDT	9	-	-	-
mHD535 45	3-23	6-13	2	4	HLWDGYSSSWYFDY	14	3-11	3	QQRSNWPPIFT	11	+	+	c
mHD535 47	3-7	3-22	2	6	VEYYDSSQEDV	11	1-39	3	QQSYSTPRT	9	+	+	-
mHD535 54#	1-58	3-22	2	4	SSEGEDSSGYYSGG	14	3-15	2	QQYNNWPPYS	10			
mHD535 57	3-9	/	/	6	DSNGMDV	7	4-1	2	QQYYSTPYS	9	-	-	-
mHD535 58	3-21	3-16	3	3	DGVMITFGGVIVRLGAFDI	19	3-20	2	QQYGSSPRT	9	+	+	c
mHD535 62	4-4	/	/	3	PGAFDI	6	1-39	1	QQSYSTPRT	9	-	-	-
mHD535 66#	4-39	3-9	2	4	GNILTGYHVPLGAYYFDY	18	3-20	4	QQYGSSRLT	9			
mHD535 68	3-30	/	/	6	DRGGGMDV	8	1-39	4	QQSYSTSLT	9	-	-	-
mHD535 69	3-15	5-5	1	4	ESPIQLWTSYYFDY	14	1-5	1	QQYNSYSRT	9	+	+	-
mHD535 80	3-23	2-2	3	4	VNRVVPVTYYFDY	13	3-20	4	QQYGSSPLT	9	-	-	-
mHD535 90	3-21	3-10	1	4	GAQWFGETESDY	12	1-39	2	QQSYSTQYT	9	-	+	-
mHD535 91	3-53	/	/	6	EGSLGTGNYYYYYGMDV	17	2-28	2	MQALQTLYT	9	+	+	-
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mHD535 06	3-7	1-1	3	4	SRIRAPTGTTYYFDY	15	1-51	2	GTWDSSLSAVV	11	-	-	-
mHD535 22	1-69	/	/	3	EGNQGGAFDI	10	1-44	2	AAWDDSLNGPV	11	-	-	-
mHD535 25	3-74	/	/	3	EAVVLYGPGDAFDI	14	1-40	3	QSYDSSLSGWV	11	+	-	-
mHD535 37	3-48	5-5	2	4	DSAPYSYVAIPYFDY	15	2-8	2	SSYAGSNNFVV	11	-	+	-
mHD535 43λ					See kappa		1-51	2	GTWDSSLSAVV	11	-	-	-
mHD535 59	3-21	1-26	3	3	KAGATKSDAFDI	12	3-21	2	QVWDSSSDHVV	11	-	-	-
mHD535 65	5-51	5-5	1	6	HIIQPHSYGMDV	12	1-51	2	GTWDSSLSAGDVV	13	-	-	-
mHD535 72	1-8	3-3	2	6	STAGDFWSGYYPEPYYYYYGMDV	23	2-14	2	SSYTSSSTLV	10	-	-	-
mHD535 78	3-74	6-19	2	6	VTGYSSGWYRPENYYGMDV	19	2-8	1	SSYAGSNNPYV	11	+	-	-
mHD535 82	1-24	/	/	6	TAGLGFSYYYYGMDV	15	2-8	3	SSYAGSNNLV	10	-	-	-
mHD535 92	1-18	3-10	2	6	VAGGYYGSDFDLNYYYGMDV	20	3-25	3	QSADSSGTYA	10	-	-	-
mHD535 95	5-51	6-13	2	4	KYSSSWYTHYYFDY	14	2-14	1	SSYTSSSTPYV	11	-	-	-
	VH	D	RF	JH	CDR3 (aa)	Length							
mHD535 05	4-34	3-10	2	4	RYYGSGSYSY	10							
mHD535 33	3-23	6-13	2	4	HLWDGYSSSWYFDY	14							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 18 Repertoire and reactivity of antibodies from mature naive B cells of healthy donor 837

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mHD837 49	1-69	5-24	3	4	TVEMATIGQFGCDY	14	2-30	2	MQGTHWPYT	9	+	+	-
mHD837 50#	1-46	/	/	4	DRQRGFRTLTVFDY	14	1-39	1	QQSYSTPRT	9			
mHD837 51#	1-69	6-19	3	3	PAEVAVVGAFDI	12	3-20	1	QQYGSSPPWT	10			
mHD837 53	3-53	/	/	6	DRWIAAGGMDV	11	2-28	1	MQALQTPRT	9	+	-	-
mHD837 55#	1-46	1-26	3	4	DRVGASYDY	9	1-33	4	QQYDNLPLT	9			
mHD837 57	3-49	1-26	2	4	INPSVGGYYVLGFDY	15	1-39	2	QQSYSTPRYT	10	-	+	-
mHD837 60	4-31	4-17	2	5	DGTYGDLTPS	10	1-33	2	QQYDNLPYT	9	-	-	-
mHD837 64#	4-61	6-13	2	6	GRGYSSSWYRYYGMDV	16	3-11	4	QQRSNWPLT	9			
mHD837 65	3-23	1-7	2	4	VNNWNYFDY	9	3-20	4	QQYGSSPLT	9	-	+	-
mHD837 66#	3-21	/	/	6	MLAAAMRNYYYYGMDV	16	1-39	1	QQSYSTPWT	9			
mHD837 67	4-B	3-3	2	5	EEPQYYDFWSGYYKRWFDP	19	3-20	2	QQYGSSPGYT	10	+	+	-
mHD837 68	4-30-4	4-17	2	4	FDYGDYSGTFFDY	13	3-20	1	QQYGSSPRT	9	-	-	-
mHD837 72	4-4	3-10	2	4	VDGSGSRARLDY	12	1-39	4	QQSYSTPLT	9	-	-	F
mHD837 78	3-33	/	/	4	DLRGSELLGI	10	1-6	4	LQDYNYPLT	9	-	-	-
mHD837 80	4-31	/	/	6	GTTAGHYGMDV	11	1-39	1	QQSYSTPLT	9	-	+	-
mHD837 81	3-48	2-8	1	6	DQYRWPFPSFYYYGMDV	17	3-15	2	QQYNNWPPYT	10	+	+	F
mHD837 82	3-23	3-22	3	4	AKVVVINY	8	1-5	2	QQYNSYQYT	9	+	+	F
mHD837 83#	5-51	2-8	3	4	QQEGRVPIPISEY	13	4-1	1	QQYYSTPGT	9			
mHD837 85	3-64	2-2	3	4	VVPAAHDY	8	1-33	2	QQYDNLPPYT	10	-	-	-
mHD837 89	4-4	3-16	3	2	DGGGRKSREGYFDL	14	3-11	1	QQRSNWPPSWT	11	+	+	-
mHD837 94	3-30	3-22	2	6	DRWYYYDSSGYYYYYYYYGMDV	22	1-33	3	QQYDNLPFT	10	-	+	-
mHD837 95#	5-A	2-2	3	6	FPVPAPYGMDV	11	2-28	4	MQALQTPLT	9			
mHD837 96	4-31	3-22	2	4	TGRYYYDSSGYYYDY	15	1-39	4	QQSYSTSLT	9	-	+	-
mHD837 59							3-11	2	QQRSNWPGT	9			
mHD837 61							1-8	1	QQYYSYPWT	9			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mHD837 63	4-59	6-19	3	3	AFGGNIAVAGTLDAFDI	17	2-11	2	CSYAGSYTYVV	11	-	-	-
mHD837 69	5-51	6-19	2	4	QRRSSGWLHFDY	12	1-40	2	QSYDSSLSGWGV	12	-	-	-
mHD837 70	3-15	2-15	3	4	QPVLVVAATPRNYFDY	16	3-21	1	QVWDSSSDHLYV	12	-	-	-
mHD837 73	3-74	3-10	2	6	PIYGSGSYYKNSVYYYYGMDV	21	1-51	3	GTWDSSLSAWV	11	-	-	-
mHD837 79#	1-18	6-19	2	6	TSSSGWYDVYYYYYYGMDV	19	4-69	3	QTWGTGIL	8			
mHD837 88#	1-69	3-22	2	4	YYYDSSGYYYRDY	13	2-23	3	CSYAGSSTWV	10			
	VH	D	RF	JH	CDR3 (aa)	Length							
mHD837 58	3-48	2-15	2	6	DVYCSGGSCYFKNYYYYGMDV	21							
mHD837 76	3-30	4-17	2	5	GVDYGDYDGENWFDP	15							
mHD837 84	3-30	1-26	3	3	ELIVGDTEGGDAFDI	15							
mHD837 86	1-69	3-3	2	6	VRHFWSGYYTNNYYYYGMDV	20							
mHD837 87	1-2	/	/	3	ENGGITWYDAFDI	13							
mHD837 92	4-31	6-19	2	5	CQVGSSGLYWFDP	13							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 19 Repertoire and reactivity of antibodies from new emigrant B cells of type 1 diabetes patient 1

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neT1D01 09	3-21	3-3	1	5	AHVLRFLEWLGDWFDP	16	3-11	3	QQRSNWRIT	9	+	+	-
neT1D01 11	1-18	6-19	2	5	QGGSGWYGDWFDP	13	1-8	1	QQYYSYPPST	10	-	-	-
neT1D01 16	1-24	3-10	3	4	GYIITMVRGADQIDY	15	1-17	4	LQHNSYPLT	9	-	+	-
neT1D01 18	3-9	1-1 3-10	2 3	4	AYSNWNPRWVRGVYLDY	17	1-5	1	QQYNSYPWT	9	+2	+	c
neT1D01 19	3-53	2-21	2	4	DGWAYCGGDCWEGVDY	16	1-17	1	LQHNSYPPWT	10	-	-	-
neT1D01 20	4-4	/	/	4	TTSYFDY	7	3-20	2	QQYGSSYT	8	-	-	-
neT1D01 23	3-21	2-2	2	6	DGCSSTSCYTDYYYYGMDV	19	2-30	2	MQGTHWPPYT	10	-	-	-
neT1D01 28	4-39	/	/	4	QPGYIPDY	8	2D-29	4	MQSIQLPALT	10	-	-	-
neT1D01 33	3-21	3-10	2	6	YDRSGSYSYYYYYYGMDV	18	2-28	2	MQALQTPHT	9	-	-	-
neT1D01 43	4-39	3-10	2	1	HYYGSGSYYFPSAEYFQH	18	1-33	3	QQYDLNPRT	9	+	+2	N
neT1D01 53	3-21	3-3	1	4	EGIRFLEWLSYSNEFDY	17	3-20	4	QQYGSSPLT	9	-	+	-
neT1D01 55	3-15	/	/	3	PRYDI	5	1-33	4	QQYDNPFT	8	+	+	-
neT1D01 64	3-49	3-22	3	3	DTPPMIVVVDDAFDI	15	1-17	1	LQHNSYPRT	9	+	+	c
neT1D01 69	1-8	3-10	1	6	GRVLLWFGESPQDYYYYGMDV	21	3-20	1	QQYGSSSWT	9	-	-	-
neT1D01 73	3-30	3-3	2	6	DGYDFWSGYYSYYYYGMDV	19	1-17	3	LQHNSYPFT	9	+	+	c+N
neT1D01 87	3-23	6-19	3	6	AVAGQYYYYGMDV	13	1-5	1	QQYNSYPWT	9	+	-	-
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neT1D01 14	3-23	4-17	2	4	ASDYGDFIEYNDY	13	2-23	2	CSYAGSSTIVV	11	-	-	-
neT1D01 67	3-33	2-2	2	6	TLPEPYCSSTSCSYYYYGMDV	21	2-14	2	SSYTSSSTLV	10	-	-	-
neT1D01 68	3-53	4-17	2	2	GPGDPHYWYFDL	12	1-51	1	GTWDSSLSAYV	11	-	+	-
neT1D01 96	3-33	6-13	1	4	DQVLLQQLAPHFIDY	15	3-21	2	QVWDSSSDHLVV	12	-	-	-

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 20 Repertoire and reactivity of antibodies from new emigrant B cells of type 1 diabetes patient 2

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neT1D02 16	3-23	1-26	2	6	DSYSGSYKDYYYYYGMDV	18	3-20	4	QQYGSSLT	8	-	+	c
neT1D02 20#	1-69	5-12	2	6	DPTLPRYSGYDWYYYGMDV	19	1-39	4	QQSYSTPLT	8			
neT1D02 21	1-18	4-4	3	6	DSVTTSRIYYYYYYGMDV	18	2-28	1	MQALQTPWT	9	-	+	-
neT1D02 39	3-48	2-2	2	3	DPGYCSSTSCYTAAFDI	17	1-17	3	LQHNSYPLFT	10	-	-	-
neT1D02 40#	3-23	2-15	2	4	GPGGPFYY	8	1-8	1	QQYYSYAWT	9			
neT1D02 43	3-20	3-10	2	4	LRRGSGSYPLGY	12	1-5	2	QQYNSYSPTT	10	-	-	-
neT1D02 47	4-39	3-9	2	5	HGDGGGGADYDILTGYSDNWFDP	23	3-11	4	QQRSNWPPLT	10	-	-	-
neT1D02 48	3-48	6-19	3	4	AIRGPFIAVAGTYFDY	16	3-11	1	QQRSNWPS	8	+	+	N
neT1D02 55	4-39	2-21	3	4	HAAGVFRHVVVIAIPQLGFDY	21	1-33	4	QQYDNRPPT	9	+2	+2	-
neT1D02 57	3-43	6-19	1	5	ESGQWLAPKRNWFDP	15	1-39	4	QQSYSTPLT	9	-	-	c
neT1D02 58	3-30	1-26	1	4	DRPEWELLRSPLY	13	1-33	2	QQYETFPYT	9	+2	+	-
neT1D02 62#	1-69	3-22	3	5	GPIVGIGDWFDP	12	1-39	1	QQSYSTPRT	9			
neT1D02 65#	1-46	6-19	2	4	DLTPRHASSGWRGVLVSFDY	20	1-39	2	QQSYSTPPYT	10			
neT1D02 68	1-2	6-19	2	3	GGSSGWYAFDI	11	1-5	2	QQYNSSPYT	9	-	-	-
neT1D02 71	1-3	4-4	3	4	GPRLTTVTHPDY	12	1D-8	2	QQYYSFPPT	9	-	+	-
neT1D02 72	4-39	2-21	2	6	HAYCGGDCYHTPLYYYGMDV	20	2-28	4	MQALQTLT	8	-	-	-
neT1D02 74	3-49	6-13	3	4	VIAAAGNTVAQGY	13	1-27	1	QKYNSAPWT	9	-	+	-
neT1D02 76	4-34	3-22	2	4	GSNYDSSGYYYVFFDY	16	3-15	1	QQYNNWPPWS	10	-	+	-
neT1D02 78	3-30	3-22	2	4	DAPLTYYYDSSGYYPVDY	18	3-20	3	QQYGSSPFT	9	-	-	-
neT1D02 80	3-43	4-17	2	4	DIYPGHTGYGE	11	1-39	2	QQSYSTPPYT	10	-	-	-
neT1D02 83	4-61	2-2	2	6	VSSCSSTSCSIYYYYMDV	18	1-33	4	QQYDNLPLT	9	-	-	-
neT1D02 84	3-64	6-13	3	5	SSRIAAAGTSLDY	13	3-20	4	QQYGSSLT	8	+	+	-
neT1D02 85	3-30	2-2	2	6	DLNLPRLNFPLSSTSCQNYYYGMDV	25	1-39	1	QQSYSTPPT	9	+	-	c
neT1D02 90	3-48	5-12	3	5	DIGDLRNGWFDP	12	1-12	1	QQANSFPRT	9	-	-	-
neT1D02 91#	3-15	4-4	2	3	EERHYSVDAFDI	12	3-11	4	QQRSNWLLT	9			
neT1D02 94	3-30	5-24	3	3	EVEMATTDAFDI	12	3-20	1	QQYGSSPGT	9	-	-	N
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neT1D02 04	7-81	1-26	3	4	GVGLVGTGGYPDY	13	1-51	2	GTWDSSLSAVV	11	-	-	-
neT1D02 17	3-23	6-19	3	4	HNTAVAGKRGPFDY	14	2-23	1	CSYAGSSTYV	10	+	-	-
neT1D02 53	4-59	5-5	3	6	SQVDTAMAYHYYYYMDV	17	2-11	1	CSYAGSYGYV	10	+2	+2	-
neT1D02 60	1-18	3-9	2	3	VTDYDILTGYSHSAFDI	17	1-44	3	AAWDDSLNGRV	11	+	-	-
neT1D02 64	3-48	/	/	4	VVYRAFDY	8	2-23	2	CSYAGSSTIVV	11	-	+	c+N
neT1D02 79	4-59	6-13	3	4	DPAAAGHFDY	10	2-14	1	SSYTSSSPYV	10	-	-	-
neT1D02 81	4-39	2-2	3	3	RDNIVVVPAAIRGYAFDI	18	3-25	2	QSADSSGTYVV	11	+	+	-

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 21 Repertoire and reactivity of antibodies from new emigrant B cells of type 1 diabetes patient 3

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neT1D03 15	3-30	3-10	1	5	GLLWFGELLSARGWFDP	17	1-16	5	QQYNSYPLT	9	-	-	-
neT1D03 16	4-4	2-15	2	5	DRSHCSGGSCYVGNWFDP	18	1-17	4	LQHNSYPLT	9	-	+	-
neT1D03 17	3-49	3-22	3	3	DPITMIWVKVARNRSDAFDI	21	2D-29	1	MQSIQLPWT	9	+	+	N
neT1D03 18	4-34	6-6	3	6	GQLEARLPFRYYYYYMDV	18	3-11	5	QQRSNWIT	8	+	+	-
neT1D03 19	1-18	2-2	3	5	DWAANIVVVPGWFDP	15	3-20	4	QQYGSSRGT	9	-	-	-
neT1D03 20	4-39	2-21	2	4	PIHCGGDCYYFDY	13	1-39	1	QQSYSTPR	8	-	+	-
neT1D03 25#	3-15	3-3	2	4	GFYDFWSGDRRDFDY	15	3-20	4	QQYGSSLT	8			
neT1D03 34	1-69	6-13	3	4	GLNLEGIAAAGSPFDY	16	1-5	2	QQYNSYST	8	+	+	-
neT1D03 42	1-46	/	/	6	AVGDPYVGTYYYYMDV	16	1-16	4	QQYKTYPLT	9	-	+2	-
neT1D03 43	3-23	3-22	2	2	YYSYWYFDL	9	1-39	2	QQSYSTPGS	9	-	+	-
neT1D03 46	3-21	/	/	4	EAQRNVEPPSGY	12	1-33	4	QQYDNLPLT	9	-	-	N
neT1D03 52#	3-15	3-22	2	3	KYYYDSSGYYYVDQGPIGLPPGTLLQEHL	29	2-28	4	MQALQTPLT	9			
neT1D03 55	3-49	/	/	4	SSRYGLGY	8	1-5	1	QQYNTNAA	8	+	+	-
neT1D03 59#	1-69	3-22	2	4	TGGYYYDSSGYYPPPLDY	18	1-5	2	RQYNSYSDYT	10			
neT1D03 65	1-2	6-19	2	4	TYSRHYYFDY	10	3-20	1	QQYGSSPRT	9	-	+	-
neT1D03 68#	3-48	5-5	2	4	ENGYSRFDY	9	3-20	1	QQYGNSRT	8			
neT1D03 72#	4-39	3-22	2	4	HIDYYDSSGYYSDY	14	3-11	3	QQRSNT	6			
neT1D03 90	3-23	3-22	2	4	DPRDYYDSSGHHWY	14	4-1	1	QQYYSTPTWT	10	-	-	-
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neT1D03 35	4-61	3-22	2	6	TTYYYDSSGYYYDYYYMDV	19	1-44	3	AAWDDSLNGV	10	-	-	-
neT1D03 48	4-39	3-10	2	4	LTYYYGSGSYSNY	13	3-21	3	QVWDSSSDWV	10	+	+2	c
neT1D03 78	4-39	3-22	2	5	PKRIRDYYDSSGYYNNWFDP	20	2-14	1	SSYTSSSTLDV	11	-	+	-
neT1D03 90	3-23	3-22	2	4	DPRDYYDSSGHHWY	14	1-47	2	AAWDDSLSGVV	11	-	-	-
neT1D03 93	3-11	3-22	2	6	DYYDSSGDYYYGMDV	15	1-47	2	AAWDDSLSGPYVV	13	-	-	-

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 22 Repertoire and reactivity of antibodies from new emigrant B cells of type 1 diabetes patient 4

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neT1D04 1	3-21	3-22	2	3	GEGYYYDSSGYTAAFDI	17	2-30	1	MQGTHWPRT	9	-	+	-
neT1D04 5#	1-18	2-15	2	5	GLGYCSGGSCYRFDP	17	1-27	4	QKYNSAPLT	9			
neT1D04 12	4-39	4-17	2	6	PGGYGDYDNYGMDV	14	1-9	3	QQLNSYIFT	9	-	+2	-
neT1D04 13	3-23	6-13	3	5	DPIAAAGTKGDQGWFDP	17	1-8	4	QQYYSYPPT	9	-	-	-
neT1D04 18	3-30	5-18	3	6	DPEIPMVLYYYYGMDV	16	1-39	1	QQSYSTPRS	9	+	+	-
neT1D04 25#	3-23	5-5	1	6	FGGQLWFSVVRTYYYGMDV	19	2-40	4	MQRIEFPLT	9			
neT1D04 29	3-30	3-3	3	6	DRDVDTIFGVALSGMDV	17	1-8	1	QQYYSYPRS	9	-	-	-
neT1D04 31	4-59	4-23	2	5	HDYGVNGDWFDP	12	1D-12	2	QQANSFPYT	9	-	-	-
neT1D04 38	3-20	/	/	4	GNGVVTIPFDY	11	3-20	1	QQYGSSPPWS	10	-	+	-
neT1D04 39	4-31	6-19	3	6	DHIAVAGTDYYYGMDV	16	3-20	2	QQYGSSPPYT	10	-	+	c+N
neT1D04 47	3-30	2-15	2	4	DTNTSRYCSGGSCYPVEPPFFDY	23	1-39	2	QQSYSTPPYT	10	-	-	-
neT1D04 114	4-39	6-19	3	4	RLSRRFIAVAGNFDY	15	1-33	2	QQYDNLPPGYT	11	+2	+	-
neT1D04 118	4-31	4-17	2	5	VSPKGYGDYVRTFDP	15	1-39	2	QQSYSTPQYT	10	-	+	-
neT1D04 119	3-30	6-19	3	2	DWCSRIAVAGTCSYWYFDL	19	1-5	4	QQYGA	5	+	+	-
neT1D04 128	3-23	/	/	5	KSGRFDP	7	1-33	2	QQYDNLPPYT	10	-	+	-
neT1D04 129	3-23	2-21	2	2	GGCGGDCYGYWYFDL	15	3-15	1	QQYNNWLRT	9	-	-	-
neT1D04 130	1-18	3-22	3	4	SVVVINYDDY	10	1-39	1	QQSYSTPRT	9	+	+	-
neT1D04 137	3-23	3-22	3	4	VIVGALDY	8	1-39	2	QQSYSTRMYT	10	-	+	c
neT1D04 140	3-74	2-2	2	6	ASPRYCSSTSCYPPYYYYGMDV	22	2-28	4	MQALQTPPT	9	-	-	-
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neT1D04 21	3-33	3-22	2	3	DSVPTYYYDDGGTFDI	16	3-25	1	QSADSSGTYV	10	-	+	-
neT1D04 44	3-48	3-3	2	6	AQENYDFWSGATTYYYYGMDV	22	1-40	2	QSYDSSLSGSV	11	+	-	N
neT1D04 45#	4-31	2-2	3	5	GGATVPAAINWFDP	14	1-40	3	QSYDSSLSGWV	11			
neT1D04 46	4-39	6-13	1	3	PEGGQQRGDAFDI	13	2-14	2	SSYTSSSTLV	10	-	-	-
neT1D04 117	3-23	1-26	1	4	DLREWEPQDY	10	1-44	2	AAWDDSLNGVV	11	-	-	-
neT1D04 135	3-23	2-8	3	4	DLGPGIVLMVYALDY	15	2-11	2	CSYAGSYSVV	10	-	+	-
neT1D04 148#	7-81	3-22	2	5	QTGRADLPYDNPGWFDP	17	1-44	3	AAWDDSLNGWV	11			

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 23 Repertoire and reactivity of antibodies from new emigrant B cells of type 1 diabetes patient 5

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neT1D05 1#	1-58	3-3	2	4	ESYYDFWSGYFTWDY	15	3-20	2	QQYGSSPDT	9			
neT1D05 6	3-23	2-15	2	4	SISGGRVY	8	1-5	1	QQYNSYWT	8	-	-	N
neT1D05 7	3-33	3-10	2	6	DQERYYGSGSYFYYGMDV	18	1-39	3	QQSYSTPFT	9	-	+	-
neT1D05 8	3-15	3-9	1	4	GEPPVLRYFDWQTPFDY	17	3-20	1	QQYGSSPWT	9	-	+	-
neT1D05 13	3-48	/	/	4	DWSPGDY	7	2-30	1	MQGTHWPWT	9	-	-	-
neT1D05 16#	1-3	2-15	2	6	GEPRYCSGGSCYGYYYMDV	19	4-1	4	QQYYSTPLT	9			
neT1D05 19	4-39	7-27	2	4	RGNWDREDY	9	1-39	2	QQSYSTLPRCS	11	+	+2	-
neT1D05 21	4-39	3-10	2	4	LLDYYGSGRD	10	1-5	1	QQYNSYSPET	10	-	+	-
neT1D05 26	3-30	/	/	4	EDGTKPGFFDY	11	3-15	1	QQYNNWWT	8	-	-	-
neT1D05 29	3-21	3-10	2	6	EWDYGSGSYYMNYYYYGMDV	20	3-11	5	QQRSNWPPVT	10	-	-	-
neT1D05 31	4-34	3-10	3	4	GPMMVRGAPVDY	12	1-39	1	QQSYSTPWT	9	-	-	-
neT1D05 33#	3-15	3-10	1	4	DMELWFRELPNDY	13	4-1	1	QQYYSTPRT	9			
neT1D05 49	3-30	6-19	3	4	AVAGINPPYDY	11	1-5	2	QQYNSYSRT	9	-	-	c+N
neT1D05 51	3-30	2-15	2	4	DRGGAGCSGGSCYSAGFDY	19	3-15	1	QQYNNWWT	8	-	-	-
neT1D05 54	3-15	5-12	2	4	DLFSVYSGYI	10	1-39	5	QQSYSTLIT	9	-	+	-
neT1D05 58	1-69	5-12	3	6	GGGIVATFSLYYYYYMDV	18	1-39	1	QQSYSTPRT	9	+	+	-
neT1D05 96	3-30	2-15	2	5	ELYCSGGSCYQAWPGHGGFDP	21	3-11	3	QQRSNWPRFT	10	-	-	N
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neT1D05 3#	3-53	3-16 / 6-19	2 / 2	4	DLRWGSSGLDY	11	1-51	3	GTWDSNLTRV	10			
neT1D05 15	3-23	4-17	2	5	DLKLGYGDYNNWFDP	15	1-47	3	AAWDDSLSGWV	11	-	-	-
neT1D05 30	3-30	/	/	4	DGGSFDY	7	1-51	1	GTWDSSLSAYV	11	-	-	-
neT1D05 32	3-49	3-10	1	4	SLWSYYFDY	9	2-14	3	SSYTSSSTLDWV	12	-	+	-
neT1D05 41#	3-74	1-26	2	4	GGGSWHDY	8	2-11	3	CSYTSSATPNWV	12			
neT1D05 43	4-34	/	/	4	GPVHMARLDY	10	2-23	3	CSYAGSSTLV	12	-	+	-
neT1D05 44	4-34	6-13	2	4	GLRMEYSSSWFYFDY	15	2-8	2	SSYAGSNNAVV	11	-	+	-
neT1D05 65	3-53	6-19	3	6	TIAVAYYYYYMDV	13	3-1	2	QAWDSSTVV	9	+	+2	-
neT1D05 67	3-23	2-15	3	4	QVGVVVAEGLGY	12	1-47	3	AAWGDSLSGQV	11	-	-	-
neT1D05 71	4-31	3-3	2	4	IYDFWSGHFDY	11	1-47	2	AAWDDSLSGVV	11	-	+	-
neT1D05 72	3-23	6-13	2	4	RAGGAYSSIDY	11	3-21	2	QVWDSSSDHVV	11	-	+	-
neT1D05 76	3-21	3-3	2	4	FWSGYSLFDY	10	2-11	3	CSYAGSYTGV	10	+2	+2	-

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 24 Repertoire and reactivity of antibodies from new emigrant B cells of type 1 diabetes patient 903

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neT1D903 03	3-7	2-15	2	5	EGGLPKPGYCSGGSCYSSWFDP	22	3-11	4	QQRSNWPQVT	10	-	-	-
neT1D903 12#	1-3	2-2	3	4	EGDIVVVPAAFDY	13	4-1	1	QQYYSTPRT	9			
neT1D903 16	1-24	3-16	3	4	DLRMITFGGVIAGTDF	16	3-11	4	QQRSNWPLT	9	+	+	-
neT1D903 17	1-69	3-16	1	4	EGEGTGTISY	10	3-20	4	QQYGSSPRLT	10	-	+	-
neT1D903 18#	3-7	5-24	2	3	TPTAGDGYNLDI	12	1-33	4	QQYDNLPLT	9			
neT1D903 20	3-23	3-3	2	4	QDGDFWSGFTFLGDY	15	3-20	1	QQYGSSPT	8	-	-	-
neT1D903 29	5-51	5-12	2	4	RPQGHDSGYDYAFDY	15	1-39	1	QQSYSTPWT	9	-	+	-
neT1D903 31	3-48	6-13	3	1	DGIAAAGIRYFQH	13	1-5	1	QQYNSYSRT	9	+	+	-
neT1D903 33	4-61	3-22	2	4	MYYYDSSGYLDY	12	3-11	3	QQRSNWPFT	9	-	-	-
neT1D903 39	3-11	4-23	2	4	RNSDGGDY	8	2-28	1	MQALQTLWT	9	-	+	-
neT1D903 41#	4-34	/	/	4	GEKGRARFREGSYYFDY	17	1-27	1	QKYNSAPRT	9			
neT1D903 42	3-7	6-13	2	4	DPDSSSWSLGGHFDY	15	1-9	4	QQP	3	-	-	-
neT1D903 06							2-28	4	MQALQTALT	9			
neT1D903 25							1-5	1	QQYNSYSRT	9			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neT1D903 07	5-51	2-15	2	5	QPLGYCSGGSCPPFDP	16	1-51	3	GTWDSSLSAGV	11	+	+	-
neT1D903 08	3-7	5-24	2	3	GGDGYNFDDAFDI	13	1-47	3	AAWDDSLSGLL	11	-	-	-
neT1D903 11	4-39	/	/	5	RIGPNWFDP	9	3-21	2	QVWDSSSDHSVV	12	-	-	-
neT1D903 15	1-3	/	/	3	DFDI	4	3-27	2	YSAADNNPVV	10	+	+	N
neT1D903 21	7-4-1	6-13	3	5	EGDAAAGTSDWFDP	14	1-44	1	AAWDDSLNGLYV	12	-	-	-
neT1D903 22	1-8	/	/	4	GRPTNYFDY	9	3-1	2	QAWDSSTGV	9	-	-	-
neT1D903 26#	3-9	/	/	3	VEAAEDAFDI	10	3-1	2	QAWDSSTVV	9			
neT1D903 27	3-23	6-19	2	4	GLGGGSGQYYFDY	13	3-21	2	QVWDSSSDHFVV	12	-	-	-
neT1D903 34	4-39	4-17	2	4	HYLSYGDLYYFDY	13	1-40	1	QSYDSSLSGPCYV	13	-	-	-
neT1D903 35	4-4	3-22	2	4	DRGYYDSSGYYYPYYFDY	18	1-51	2	GTWDSSLSAVV	11	-	-	-
neT1D903 36	3-30	3-22	2	4	DRSVEGSGYFDY	12	1-51	2	GTWDSSLSAGL	11	-	-	-
neT1D903 37	3-30	3-3	3	4	THHIGDSVTIFGVVEPNFDY	20	1-47	7	AAWDDSLSGRAV	12	-	-	-
neT1D903 38	3-66	3-16	3	4	ARTLGGKFDY	10	1-44	1	AAWDDSLNGYV	11	-	-	-
neT1D903 44	3-30	4-17	3	4	GGMTTVTRFDY	11	1-44	2	AAWDDSLNGVV	11	-	-	-
neT1D903 47	1-58	5-5	2	3	DRGGYSYGYDPLAFDI	16	2-14	2	SSYTSSHVV	9	+	+	-
neT1D903 04							2-14	2	SSYTSSSTVV	10			
neT1D903 45							3-25	2	QSADSSGTYVV	11			
neT1D903 46							1-51	2	GTWDSSLSAGQV	12			
neT1D903 48							2-11	1	CSYAGSSYV	9			
	VH	D	RF	JH	CDR3 (aa)	Length							
neT1D903 23	4-39	/	/	3	RGGIADDAFDI	11							
neT1D903 24	1-69	3-22	2	2	SLYYDSSGPSGWYFDL	16							
neT1D903 40	3-48	3-3	3	4	VAIFGVVIILDY	12							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 25 Repertoire and reactivity of antibodies from new emigrant B cells of type 1 diabetes patient 929

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neT1D929 01	3-11	1-26	2	3	FFGGYSGSQGAFDI	14	1-8	4	QQYYSYPLT	9	-	+	-
neT1D929 02	3-23	3-22	2	4	PVYYYDSSGYYGFDY	15	1-39	4	QQSYSTLLT	9	-	-	-
neT1D929 03	3-21	/	/	4	GGPEKIHDRPPQIDY	15	3-11	1	QQRSNWPPT	9	-	-	N
neT1D929 05	3-33	6-19	2	1	SPIEGWSPHFASAEYFQH	18	3-20	2	QQYGSSPYT	9	-	-	-
neT1D929 06	3-49	1-26	1	4	DGKLLRGDY	9	1-5	2	QQYNSYPCS	9	+	+	-
neT1D929 10	3-15	1-26	2	3	DFSGNVGAFDI	11	3-20	1	QQYGSSPRT	9	-	-	-
neT1D929 12	4-59	3-22	2	4	GGSGYYDSSGKTFDY	15	3-20	4	QQYGSSPLT	9	-	-	-
neT1D929 17	4-34	1-26	3	3	DGVGAKAFDI	10	3-15	1	QQYNNWPPWT	10	-	-	-
neT1D929 18#	4-31	2-2	2	6	VRYCSSTSCPSYYMDV	16	3-20	2	QQYGSSPPECS	11			
neT1D929 20	3-23	/	/	5	LGREYYHNT	9	3-11	4	QQRSNWPPLA	10	-	-	c
neT1D929 29	4-39	3-22	3	3	ITMIAMENAFDI	12	1-39	2	QQSYSTPYT	9	+	+	-
neT1D929 31	3-66	5-24	2	2	SQARDGYSIVGYFDL	15	1-27	1	QKYNSAPWT	9	-	-	-
neT1D929 33	3-48	6-13	2	6	DSSSWGGLYYYGMDV	15	3-20	4	QQYGSSPPGLT	11	-	+	-
neT1D929 40	3-7	3-22	2	5	DHYYDSSGYYGWFDP	15	3-20	1	QQYGSSPRT	9	-	-	-
neT1D929 14							1-39	3	QQSYSTFT	8			
neT1D929 37							1-6	2	LQDYNYPYT	9			
neT1D929 39							1-5	1	QQYNSYPWT	9			
neT1D929 41							3-15	1	QQYNNWPQT	9			
neT1D929 42							3-15	1	QQYNNWPRT	9			
neT1D929 43							2-28	1	MQALQTPGA	9			
neT1D929 47							1-27	3	QKYNSAPPFT	10			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neT1D929 15	3-7	1-26	2	4	APRWYSGSHFDY	12	3-21	2	QVWDSSSDQVV	11	-	-	-
neT1D929 19	1-2	2-2	1	5	DPHQLLFWFDP	11	2-23	2	CSYAGSSTFVV	11	+	+	N
neT1D929 26	3-74	6-6	2	4	ALFDFDSSSSWGGFDY	16	3-25	2	QSADSSGTYV	10	-	-	-
neT1D929 30#	4-39	5-5	3	2	HVCVDTAMGDPIYWYFDL	18	2-23	2	CSYAGSSTGV	10			
neT1D929 43	1-2	2-2	1	5	NPMYQNSP	8	1-44	3	AAWDDSLNGWV	11	+	+	-
neT1D929 44	1-3	4-23	3	4	EGTVVTTQYYFDY	13	1-51	2	GTWDSSLSAVV	11	-	-	-
neT1D929 45#	3-21	/	/	5	MDKLVGPLRGWFDP	14	2-14	1	SSYTSSSTLLYV	12			
neT1D929 46	4-4	/	/	2	VGASRGLPWGWYFDL	15	2-14	1	SSYTSSSSSYV	11	+	-	-
	VH	D	RF	JH	CDR3 (aa)	Length							
neT1D929 09	3-43	6-19	3	4	DIAVAGIRGGDEFDY	15							
neT1D929 11	4-30-2	3-16	1	5	AGNLGVNWFDP	11							
neT1D929 22	4-34	2-2	3	4	DSRGIVVVPAASSGFDY	17							
neT1D929 23	1-18	5-12	3	4	ILVAPKGALDY	11							
neT1D929 24	4-39	2-8	1	5	HLYSYNWFDP	10							
neT1D929 25	4-4	5-24	2	4	ASKDGYTLNYFDY	13							
neT1D929 32	4-59	3-22	2	4	HAGYDSSGYPMYYFDY	16							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 26 Repertoire and reactivity of antibodies from new emigrant B cells of type 1 diabetes patient 430

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neT1D430 01	6-1	6-13	3	4	DRGGVEEPGIAAQVFDY	17	4-1	1	QQYYSTPRT	9	-	-	-
neT1D430 03	3-21	1-7	2	4	AGDNWNPELHYFDY	14	3-20	2	QQYGSSPVT	9	-	-	-
neT1D430 07	4-59	4-17	3	6	GPSVTTVYYYYGMDV	15	3-20	3	QQYGSSRFT	9	+2	+	-
neT1D430 08	1-69	6-6	2	6	GEYSSSSYYYYYYMDV	16	1-12	4	QQANSFPLT	9	+	+	-
neT1D430 10κ#	1-24	3-22	2	4	HQGGNYYDSNYFDY	14	3-11	5	QQRSNWPLT	9			
neT1D430 11	4-30-2	/	/	4	GKTGYYYFDY	10	1-39	1	QQSYSTRT	8	+2	+	-
neT1D430 17	4-31	4-17	2	6	SDYGDDYYYYYMDV	14	1-12	2	QQANSFPWT	9	-	-	-
neT1D430 21	3-11	2-2	3	6	GEGGVVPAAIKHIYYYYYMDV	21	3-20	2	QQYGSSLYT	9	+	+	-
neT1D430 23#	1-69	3-9	1	3	ERSVVDLDWTELENGAFDI	19	3D-20	3	QQYGSSPPGGAQPFT	15			
		1-20	1										
neT1D430 25	4-34	3-9	2	4	ASTYYDILTGYYKSDCLDY	19	2D-29	5	MQSIQLPPA	9	-	+	-
neT1D430 27	1-69	2-15	3	6	RAPVAPNIVVVVAAPLKYGMDV	22	4-1	4	QQYYSTPLT	9	+	+	-
neT1D430 33	3-30	1-7	3	6	DHITGTTLGYYYYMDV	16	1-8	1	QQYYSYPPT	9	+	-	-
neT1D430 36	1-18	1-26	2	4	HPGDSGSYLLPDY	13	1-5	2	QQYNSYMYT	9	+	+	-
neT1D430 41κ#	3-53	3-10	2	6	EGDYYYGSGSYYPNNNYYYMDV	22	1-39	1	QQSYSTPRT	9			
neT1D430 42	3-30	3-3	1	6	DTLRSLLYYMDV	12	315	5	QQYNNWPPIT	10	-	-	-
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neT1D430 02	4-61	3-10	2	3	AVYYGNAFDI	10	3-21	2	QVWDSSSDVV	10	-	-	-
neT1D430 10λ					see kappa		1-47	2	AAWDDSLSGHVV	12	-	-	-
neT1D430 15	3-33	4-23	3	3	VSGEVVTHGAFDI	13	3-1	2	QAWDSSTVV	9	-	-	-
neT1D430 22	4-59	3-10	1	4	APGGLWFRESSAYFDY	16	1-44	3	AAWDDSLNGPWV	12	+	+	-
neT1D430 26	4-59	6-19	2	4	GDSSGWYYF	9	1-44	2	AAWDDSLNGYVV	12	-	-	-
neT1D430 28	3-23	3-22	2	4	ADRSGYWGHDY	11	3-1	2	QAWDSSIVV	9	-	-	-
neT1D430 32	3-30	3-16	2	3	DTYDYVWGSYRTNAFDI	17	3-21	1	QVWDSSSDHPFYV	13	-	-	-
neT1D430 41λ					see kappa		1-40	3	QSYDSSLSGRV	11	-	-	-
neT1D430 43	3-30	6-13	3	6	QSPAADPSYMDV	12	1-47	2	AAWDDSLSGVV	11	-	-	-
neT1D430 44#	1-2	/	/	6	GETLVGYYYMDV	12	2-14	2	SSYTSSSTVV	10			
	VH	D	RF	JH	CDR3 (aa)	Length							
neT1D430 45	4-39	3-22	2	4	HTPPWGGYYYGFDY	14							
neT1D430 06	5-51	2-21	2	2	HAYCGGDCYQDWYFDL	16							
neT1D430 12	4-31	1-26	2	5	AQEGASGSYSRDGNWFDP	18							
neT1D430 16	4-39	4-17	3	4	HTMTTVTIDY	10							
neT1D430 19	3-15	3-22	3	3	DPTPAVIVVARGGYDAFDI	19							
neT1D430 31	1-69	2-2	2	4	GGRYCSSTSCYRAPDY	16							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 27 Repertoire and reactivity of antibodies from mature naive B cells of type 1 diabetes patient 1

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mT1D01 07	3-13	4-23	2	2	AIRYYGGNSVPFSYFDL	17	3-11	4	QQRSNWLT	8	+	+	-
mT1D01 21	3-11	1-7	3	5	DSTMLRGGTGTPQIPYDWFDP	21	1-39	2	QQSYSTPRT	9	-	-	-
mT1D01 22	1-2	3-22	2	3	DSSGYYRDAFDI	12	1-33	4	QQYDNLPPT	9	-	+	-
mT1D01 28	3-23	3-10	2	6	DLDGSGSAMDV	11	1-8	2	QQYYSYPYT	9	-	-	-
mT1D01 30#	4-4	2-2	3	6	AIVVVPAAMKVDYYYGMDV	19	1-39	1	QQSYSTPRT	9			
mT1D01 39	3-9	6-13	2	4	ELSSWYGPLDY	11	3-20	2	QQYGSSLYT	9	-	-	c
mT1D01 40	3-9	2-15	2	4	DMEGYCSGGSCYSGSFDY	18	3-20	4	QQYGSSVLT	9	-	-	-
mT1D01 41	1-18	6-19	2	4	XGSYLGYSSGWPDY	14	3-15	3	QQYNNWPRT	9	-	-	-
mT1D01 44	3-23	6-19	3	4	GIAVAGRGARSRKNYFDY	18	1-5	2	QQYNSYPYT	9	+2	+2	N
mT1D01 51	3-20	3-16	1	6	DLHPSLGYGMDV	12	1-8	2	QQYYSYPRT	9	-	-	-
mT1D01 53	4-4	3-9	2	3	NEMDYDILTGYYRNAFDI	18	3-20	2	QQYGSSRVMY	11	+	+	-
mT1D01 57	3-11	2-21	3	4	DLEGAIPRSYGY	12	1-39	1	QQSYSTPPT	9	-	-	-
mT1D01 59	1-2	5-12	3	4	SYDPEDIVATIDY	13	1-5	1	QQYNSYLWT	9	-	+	-
mT1D01 61	1-69	2-15	2	6	PTYCSGGSCYVRTTYYYYGMDV	22	2-28	3	MQALQTPLFT	10	+2	+	-
mT1D01 64	4-4	1-26	2	6	DEIGGSYSGFYYYGMDV	17	2-28	1	MQALQTPRT	9	-	-	-
mT1D01 67	3-53	5-24	2	4	DGYYFDY	7	3-15	2	QQYNIGRYT	9	-	+	-
mT1D01 70	1-8	/	/	3	ILRKKPGAFDI	11	3-11	4	QQRSNWPPLT	10	+	+	N
mT1D01 73	1-8	3-22	2	4	GDLSSASDFDY	11	1-39	1	QQSYSTPWT	9	-	-	-
mT1D01 76	3-23	5-5	2	4	DKGRGYSYEYYFDY	14	3-20	1	QQYGSSRT	8	-	-	-
mT1D01 77	4-31	1-26	2	4	TDSGSPYYFDY	11	3-15	2	QQYNNWPYT	9	-	+	-
mT1D01 79#	3-30	7-27	2	4	DLSNWGSPAGFGPFDY	16	1-33	2	QQYDNLPPA	9			
mT1D01 89	4-4	1-26	1	4	FVGDWELLRGGGFDY	15	3-20	1	QQYGSSPWT	9	-	-	-
mT1D01 91	3-23	3-3	2	4	DHDFWSGSFLPLDY	14	1-6	1	LQDYNYPRT	9	-	-	-
mT1D01 93#	3-23	3-22	2	4	DKREDYYDSSGSFDY	15	3-20	1	QQYGSSLTWT	10			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mT1D01 08	3-30	3-16	2	3	DYDTDAFDI	9	2-8	2	SSYAGSNNAVV	11	-	-	-
mT1D01 14	3-30	4-17	2	4	VLSYGAPWEY	10	2-14	1	SSYTSSSTLDV	11	-	+	c+N
mT1D01 32	3-9	6-19	2	4	ASSGSGGWSKTNNFDY	16	2-23	3	CSYAGSSAWV	10	-	+	-
mT1D01 36	4-59	5-5	2	3	YGYSYGFRNDAFDI	14	1-47	3	AAWDDSLSGVV	11	-	+	-
mT1D01 55	3-30	2-2	3	4	DYGDIVVVPAAIDY	14	3-27	2	YSAADNNVV	9	-	+	-
mT1D01 72	3-23	6-13	1	4	DRTQQLISQFDY	12	2-23	7	CSYAGSSTLAV	11	-	-	-

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 28 Repertoire and reactivity of antibodies from mature naive B cells of type 1 diabetes patient 2

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mT1D02 11	4-39	6-13	3	4	IVAAAGLRFDY	11	1-33	2	QQYDNLPYT	9	-	-	-
mT1D02 12	3-23	3-3	2	3	EKYYDFWSGYSYDAFDI	17	4-1	4	QQYYSTPLT	9	+	-	c
mT1D02 18	3-23	3-22	3	4	IHGITMIVVVTYFDY	15	1-5	1	QQYNSYSGT	9	+	+	c
mT1D02 19	1-69	/	/	3	EVNGAFDI	8	1-33	2	QQYDNLPPYT	10	-	-	-
mT1D02 20	3-21	3-22	2	6	VPNYYDSSGYYYYYGMDV	18	4-1	1	QQYYSTPWT	9	-	+	c
mT1D02 21	3-15	3-3	2	4	TYYDFWSGYYYFDY	14	3D-20	4	QQYGSSPLT	9	-	+	c+N
mT1D02 23	3-21	1-26	1	3	RWELLKNNAFDI	12	3-20	3	QQYGSSPPFT	10	+	+	c+N
mT1D02 27#	1-46	4-17	2	4	DEPHYGDPFDY	11	1-5	1	QQYNSYPRT	9			
mT1D02 44	3-30	2-15	2	4	DMRYCSGGSCYSQLFDY	17	1-5	5	QQYNSYSPIT	10	-	-	-
mT1D02 57	3-66	/	/	6	EGDYYYYMV	9	3-20	4	QQYGSSSLT	9	-	+	-
mT1D02 71#	1-69	2-15	2	5	DSHCSGGSCYSWDY	14	1-5	5	QQYNSYPIT	9			
mT1D02 74	3-21	2-2	2	1	DGSYCSSTSCYTLTEYFQH	19	1-5	2	QQYNSYYT	8	-	-	-
mT1D02 76	1-69	3-22	2	5	PTHYYDNNWFDP	12	3-11	2	QQRSNWPPT	9	+	+	-
mT1D02 82	1-2	6-13	2	6	GLGSSSCLGCYYMDV	15	1-5	1	QQYNSPSA	8	-	-	-
mT1D02 84	4-39	2-2	3	6	QWDIVVVPAAINYYYYMDV	19	3-11	3	QQRST	5	-	+	-
mT1D02 88	3-74	3-10	1	6	GDGGFGEYYYYGMDV	15	1-13	4	QQYNSYPHT	9	-	+	-
mT1D02 93	4-61	3-22	2	4	TRYYYDSSGYYFDY	14	1-33	4	QQYDNLPLT	9	-	-	-
mT1D02 95	3-9	3-3	3	6	DSVFGVAQPYYYYMDV	16	1-5	1	QQYNSYRVT	9	-	-	-
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mT1D02 02	1-69	3-10	1	5	EEVLRFGELLRWFDP	15	2-14	1	SSYTSSSTYV	10	+	+	-
mT1D02 03	1-58	6-19	3	5	DVWYAVAGTGWFDP	14	1-44	3	AAWDDSLNGWV	11	-	+	-
mT1D02 05	3-11	3-10	3	4	DLATMVRGDYVDY	13	1-44	3	AAWDDSLNGRV	11	-	+	c+N
mT1D02 07	1-69	3-10	1	5	QLLWFGELFGWFDP	14	2-8	2	SSYAGSNNAVV	11	+2	+2	-
mT1D02 24	4-39	3-22	3	3	RGKIVVESRGDDAFDI	16	3-1	2	QAWDSSLVV	9	-	-	-
mT1D02 43	3-23	3-3	2	4	DRDFWSGYPQYYFDY	15	2-14	2	SSYTSSSNVV	10	-	-	-
mT1D02 52	4-31	6-13	2	4	EPGGEGGYSSSWYVDY	16	2-14	3	SSYTSSSTPWV	11	-	+	-
mT1D02 63	1-46	3-9	2	6	DRDHYDILTGYSDYYYYGMDV	21	2-11	1	CSYAGSYTFV	10	+	+2	-
mT1D02 66	1-24	3-22	2	4	TNYYDSSGYRGFVDY	15	3-25	1	QSADSSGTYV	10	-	-	-
mT1D02 77	3-11	3-11	/	3	EGGGRSTFDAFDI	13	2-14	1	SSYTSSSRV	9	-	-	-

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 29 Repertoire and reactivity of antibodies from mature naive B cells of type 1 diabetes patient 3

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mT1D03 4	4-4	6-19	2	5	DHSSGLENWFDP	12	1D-13	4	QQHNNYPLT	9	-	+	-
mT1D03 8	3-21	3-3	3	4	DWEGTIFGVVIHYYFDY	17	1-39	3	QQSFSTPFT	9	-	+	-
mT1D03 13	3-15	6-6	3	4	VNLYVAARPRYFDY	14	1-27	3	QKHNGAPFT	9	+	+	-
mT1D03 18	4-39	2-15	3	5	VYVVVAATSLYNWFDP	16	3-20	3	QQYGSSPPFT	10	+	+	-
mT1D03 25	3-74	/	/	3	LDAFDI	6	3-11	2	QQRSNWPYT	9	-	-	-
mT1D03 32	3-49	6-19	3	4	RVFSVAGKGDLDY	13	1-33	2	QQYDNLPRS	9	+	+	-
mT1D03 35	3-64	4-17	3	4	DTGAVTTWGYFDY	14	1-39	2	QQSYGVPHT	9	-	+	-
mT1D03 37	4-59	3-10	2	5	RHFSGWFDP	9	2-28	5	MQALQTAIT	9	-	-	-
mT1D03 39	1-69	1-26	2	4	GESRFYSGSYFSLGTTAPVR	20	1-39	1	QQSYTGWT	8	+	+2	-
mT1D03 42	3-7	1-20	2	4	ESFFWNEGTYEFGTNDQ	17	1-5	4	QQYDSYPLT	9	-	-	c+N
mT1D03 43	3-21	3-16	3	4	GVTTGGCFDY	10	1-27	1	QKYNSAPWT	9	-	-	-
mT1D03 48	1-18	3-16	3	4	AGGVGFDY	8	1-5	1	QQYNSYLWT	9	+	+	c+N
mT1D03 54#	1-18	5-5	3	5	DLNVDTAMVA	10	1-27	1	QGET	4			
mT1D03 56	3-9	6-13	2	4	DMETYSSSWTSFDY	14	1-5	2	QQYNSYPGT	9	-	-	-
mT1D03 62	3-21	3-22	3	6	DKGRIVVNYYYYGMDV	16	1-5	1	QQYNSYSWT	9	-	-	-
mT1D03 65	3-23	2-2	2	4	ATLGHCTGSTCYFIDY	16	3-20	4	QQYGSSHFLT	10	-	+	-
mT1D03 70	3-7	3-22	3	3	CGWGITMIVVAQTQEPDDDAFDI	23	1-5	1	QQYNSYPWT	9	-	-	-
mT1D03 74	4-34	4-23	3	4	GGGRGATTVVTLGY	14	1-8	2	QQYYSYPRS	9	-	+	-
mT1D03 78	3-33	6-19	2	3	LLDYSSGWNAFDI	13	1-9	3	QQLNSYP	7	+	+2	-
mT1D03 84#	3-15	5-5	3	4	VEDTAMVWTDIDY	13	1-12	4	QQANSFPLT	9			
mT1D03 93	3-23	6-19	2	4	VRSGWYG	7	1-39	2	QQSYSTPLCS	10	+2	+	c+N
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mT1D03 7	3-33	5-24	2	6	TGRDGYKGNYYYGMDV	16	3-21	2	QVWDSSSDHVV	11	-	-	-
mT1D03 49	4-39	6-19	2	4	VTGARASGWYELFGFDY	17	2-23	2	CSYAGSSTFAV	11	+	+	-
mT1D03 68	4-39	3-22	2	4	HQRDSSHFDY	10	2-14	1	SSYTSSSTLYV	11	-	-	-
mT1D03 78	3-33	6-19	2	3	LLDYSSGWNAFDI	13	2-14	1	SSYTSSSTL	9	-	+	-
mT1D03 79	3-9	6-13	2	4	DKTSSSWYYFDY	12	2-23	1	CSYAGSSTYV	10	-	+	c

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 30 Repertoire and reactivity of antibodies from mature naive B cells of type 1 diabetes patient 4

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mT1D04 1#	3-74	5-5	2	6	SDRYSYVDGMDV	12	1-5	1	QQYNSYSRT	9			
mT1D04 2	3-53	4-17	2	2	GNDYGILNYWYFDL	14	1-9	3	QQLNSYPPFT	10	+	+	-
mT1D04 3	3-7	6-19	2	4	DRGSGRIDY	9	2-28	2	MQALQTRYT	9	-	-	-
mT1D04 13	3-15	/	/	4	DLAPRVYENN	10	1-33	3	QQYDNLPFT	9	-	-	-
mT1D04 14	3-9	3-22	2	4	DPSPYYYDSSGSYFDY	16	1-39	4	QQSYSTRPLT	10	-	-	-
mT1D04 15	3-33	6-13	2	4	VGHTYSSSWRGDFGY	15	2-28	1	MQALQTPPWT	10	-	+	-
mT1D04 18	3-30	2-2	3	6	DLRPPIVVVPAAMHDYYYGMDV	22	3-15	1	QQYNNWPPFA	10	-	+	-
mT1D04 19	3-49	3-22	2	4	DPYDSSGYYPYYFDY	15	1-5	1	QQYNSYSRT	9	+	-	c
mT1D04 21	3-11	4-17	2	3	VQGYGDYWDI	10	3-15	1	QQYNNWPRT	9	-	-	-
mT1D04 23	4-28	6-19	2	4	QGIDSSGWYSFVDY	14	2-28	1	MQALQTPWT	9	-	-	-
mT1D04 28	4-34	6-13	2	5	SIPGGGKSSSQTKNWFDP	18	3-20	4	QQYGSSLT	8	-	+	-
mT1D04 30	3-33	2-2	2	6	DGRYCSSTSCDHYYYYGMDP	20	3-11	1	QQRSNWPPTWT	11	-	-	-
mT1D04 31	3-21	2-21	2	4	AGGGDYRFDY	10	1-33	2	QQYDNLP	8	-	-	-
mT1D04 32	3-30	2-8	2	4	DRYSLGYCTNGVCPNDFDY	19	3-15	2	QQYNNWPPYT	10	+	-	-
mT1D04 37	3-23	5-5	2	4	EGYGGYSYGYVCY	13	3-11	3	QQRSNWPPIFT	11	+	+	N
mT1D04 39	3-23	3-22	2	4	DHYYDSTGGSDY	12	3-11	4	QQRSNWGLT	9	-	-	-
mT1D04 40	3-9	6-6	2	4	DTPRKIYSSSFDG	13	1-39	3	QQSYSTPHSA	10	-	-	-
mT1D04 41	4-34	5-5	2	6	GLQLRSYGYYYYYGMDV	17	1-6	2	LQDYNYPRT	9	+	+2	c+N
mT1D04 42	4-31	3-22	2	1	AFYDSSGYYLGN	12	2-30	1	MQGTHWPRT	9	-	+	-
mT1D04 44	3-15	6-13	2	4	DPYSSSWYNPYFDY	14	1-33	2	QQYDNLPPYT	10	-	-	-
mT1D04 46	3-23	3-10	1	6	DFLWFGELLGGGMDV	15	1-39	1	QQSYSTRWT	9	+	+	-
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mT1D04 10	1-18	4-17	2	4	GGGLWGLYDYGDYIDY	16	1-44	3	AAWDDSLNGRV	11	+	+	-
mT1D04 48	4-59	7-27	2	4	TFYWGRIDY	9	2-23	2	CSYAGSSTIVV	11	+	+	-

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 31 Repertoire and reactivity of antibodies from mature naive B cells of type 1 diabetes patient 5

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mT1D05 1	3-15	3-22	2	4	SGSGYYFDY	9	1-5	2	QQYNSYSYT	9	-	-	-
mT1D05 2	4-31	/	/	5	VPPGGWFDP	9	3-11	4	QQRSNWPPRLT	11	-	+	c
mT1D05 17#	3-30	2-2	3	4	PQDIVVVPAAMLIDY	15	2-30	5	MQGTHWPPS	9			
mT1D05 27	3-30	3-3	1	4	EEWLH	5	3-15	3	QQYNNWPPPPKFT	13	-	-	-
mT1D05 32	3-33	3-10	2	1	SPFSQYFQH	9	1-5	2	QQYNSYPYT	9	-	-	-
mT1D05 49	4-39	6-19	2	1	ARYSSGSDRVGYFQH	15	1-39	3	QQSYSTPLFT	10	-	-	-
mT1D05 52	3-11	2-15	2	4	DLLDGYCSGGSCYSGVDY	18	2-30	1	MQGTHWPGT	9	-	-	-
mT1D05 54#	1-8	/	/	6	GTTNYYYYYMDV	12	3-20	3	QQYGSSPFT	9			
mT1D05 56	3-23	2-15	2	4	TEDCSGGSCYSFDY	14	1-39	4	QQSYSTLPLT	10	-	-	-
mT1D05 60	3-23	4-17	2	4	DVSGDYDY	8	3-15	1	QQYNNWPGT	9	-	-	-
mT1D05 66	1-46	4-17	2	4	GIGRGGLDDYGDYDLDY	17	1-17	2	LQHNSYPYT	9	-	-	-
mT1D05 70	3-30	3-16	1	4	DGHLGELSWGYFDY	14	3-20	1	QQYGSSLWT	9	-	-	-
mT1D05 74	4-39	/	/	6	HSSGWDYYYYYGMDV	15	3-20	3	QQYGSSLLFT	10	+	+	-
mT1D05 75	3-15	3-9	1	4	DLPLGLRYFDWLLYENPNFDY	21	3-20	1	QQYGSSPRT	9	+2	+	c+N
mT1D05 79	4-39	4-17		5	PRTVNSWFDP	11	3-11	5	QQRSNSIT	8	+	+	-
mT1D05 81	3-33	2-2	1	6	DHEPLLYTEDGMDV	14	1-5	1	QQYNSYPWT	9	-	-	-
mT1D05 82	3-48	4-17	2	6	DRRYGDPYYYYGMDV	15	2-28	2	MQALQTPLYT	10	-	-	-
mT1D05 84	3-21	2-15	2	4	GLGYCSGGSCYCDY	14	1-39	2	QQSYSTPRT	9	+	+	c+N
mT1D05 86	3-23	/	/	4	GGVYVNDY	8	3-15	1	QQYNNWPRT	9	-	+	A
mT1D05 87	4-34	3-3	1	4	GRKRFLEWSTIDY	13	1-5	2	QQYNSYQYT	9	+2	+	-
mT1D05 93	1-18	3-10	2	4	LGSSIDY	7	1-39	1	QQSYSTPRT	9	-	+	-
mT1D05 94	4-59	6-13	3	4	GIAAAGMMALPDYFDY	16	1-39	4	QQSYSTPLT	9	-	+	-
mT1D05 72							3-11	4	QQRSNWPLT	9			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mT1D05 5	3-33	4-17	3	4	ISKTTVTTFGNYFDY	15	1-40	1	QSYDSSLSGSV	11	-	+	N
mT1D05 18	1-46	2-15	2	4	DSGVNCSGGSCYSHYFDY	18	1-40	1	QSYDSSLSALYV	12	-	-	-
mT1D05 19	3-64	/	/	4	AFPGYFDY	8	1-51	1	GTWDSSLSAYV	11	-	-	-
mT1D05 21	1-18	3-16	3	4	PSLGGGLDY	9	2-14	3	SSYTSSSSWV	10	-	-	-
mT1D05 31	3-23	6-13	1	4	VYHSSQQLVSFIFDY	15	2-14	1	SSYTSSSTLV	10	-	-	-
mT1D05 36#	3-33	6-19	2	4	GRSGWYPDFDY	11	2-14	3	SSYTSSSTWV	10			
mT1D05 39	4-39	5-24	3	4	LVGEMATILDY	11	1-47	3	AAWDDSLSGLNWV	13	-	+	-
mT1D05 48	3-9	6-13	2	4	PSSSWAGHISYYFDY	15	2-23	3	CSYAGSSTWV	10	-	+	-
mT1D05 50	3-15	1-1	3	4	PTGTFDY	7	3-25	3	QSADSSGTYEV	11	-	-	-
mT1D05 58	3-15	3-10	1	6	SFGELYYYYGMDV	13	2-11	3	CSYTSSATYPYWV	13	+	+	-
mT1D05 69	4-31	3-22	3	4	EEGGTMIVGY	10	1-44	3	AAWDDSLNGWV	11	-	-	-
mT1D05 95	3-33	3-22	2	4	EANYDSSGYYYYFDY	15	2-14	2	SSYTSSSAYVV	11	-	-	-

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 32 Repertoire and reactivity of antibodies from mature naive B cells of type 1 diabetes patient 903

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mT1D903 10	1-2	4-23	2	3	TNYGGNSVGAFDI	13	1-39	2	QQSYSTPPYT	10	-	-	N
mT1D903 15κ#	3-21	2-2	2	6	EPYYCSSTSCEYEDYYYGMDV	21	3-20	4	QQYGSSPPLT	10			
mT1D903 19	4-39	2-2	3	5	QSLNIVVVPAAEWTPFDP	18	3-20	1	QQYGSSPWT	9	+	+	-
mT1D903 21κ	3-11	/	/	4	EDKGNDY	7	1-5	1	QQYNSYFRT	9	-	+	c+N
mT1D903 25	4-4	/	/	5	GSTAGLQRVGFDP	13	3-20	4	QQYGSSPLT	9	-	-	-
mT1D903 29#	4-34	5-24	1	4	VREWLRPVDY	10	4-1	1	QQYYSTPQT	9			
mT1D903 30	3-23	6-19	2	4	DQGYSSGWYDY	11	1-5	2	QQYNSYSRS	9	-	-	-
mT1D903 34#	1-3	6-6	2	4	DSSSSLGGRRGSFDY	15	3-11	5	QQRSNWPPIT	10			
mT1D903 35	3-30	3-22	2	2	DQRYYYDSSGYYSWYFDL	18	1-5	1	QQYNSYGT	8	-	+	-
mT1D903 40	4-34	4-17	2	6	NLYGDYRRLAYYYYGMDV	18	3-20	1	QQYGSSPQT	9	+	+	c
mT1D903 41	5-51	6-19	3	4	GPPTTIAVAGTLFDY	15	4-1	2	QQYYSICS	8	-	-	-
mT1D903 45	3-30	6-13	2	3	SRSSSWYLDAFDI	13	1-39	1	QQSYSTPPWT	10	-	-	-
mT1D903 04							3-20	1	QQYGSSLWT	9			
mT1D903 13							1-9	2	QQLKERS	7			
mT1D903 22							1-39	1	QQSYSTPWT	9			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mT1D903 11	4-39	5-5	2	4	DGSYGTRVFDY	11	2-14	3	SSYTSSSTRV	10	-	-	-
mT1D903 14	3-73	3-9	2	4	VGGDYDILTGYYSFDY	16	1-47	2	AAWDDSLSGHVV	12	+	-	-
mT1D903 15λ					see kappa		2-11	2	CSYAGSYTFKV	11	+	-	N
mT1D903 17	3-21	6-13	2	6	VQSRYSSSWYGPYYYYYYGMDV	22	2-11	2	CSYAGSYTSV	10	+2	+2	M
mT1D903 20	5-51	4-17	3	4	HPPTMTTVTTGFDY	14	3-1	2	QAWDSSTVV	9	-	+	-
mT1D903 21λ#					see kappa		1-47	2	AAWDDSLSGHVV	12			
mT1D903 26#	3-20	2-8	3	4	DGGIVLMVYAKGFDY	15	2-23	1	CSYAGSSTYV	10			
mT1D903 42#	3-64	3-3	3	6	DRGITIFGVVTRYGMDV	17	7-43	3	LLYYGGAWV	9			
mT1D903 24							2-23	2	CSYAGSSTVV	10			

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 33 Repertoire and reactivity of antibodies from mature naive B cells of type 1 diabetes patient 929

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mT1D929 06	4-59	2-2	2	5	APRYCSSTSCYKGWFDP	17	1-39	1	QQSYSTPRET	10	+	+	F
mT1D929 07#	3-53	6-19	2	4	ALRAGYSSGWYYFDY	15	3-11	5	QQRSNWPPIT	10			
mT1D929 12	1-18	6-19	3	4	GGNSVAFDY	9	1-5	4	QQYNSYPLT	9	-	-	-
mT1D929 19#	3-23	3-16	2	6	VLGDYDYVWGSSDGMDV	17	3-15	1	QQYNNWPPRGT	11			
mT1D929 24#	4-39	3-10	2	4	QRYYYGSGDY	10	3-15	2	QQYNNWPACS	10			
mT1D929 25κ	7-4-1	3-22	2	4	DSQDSSGYHSHFDY	14	2-28	4	MQALQLT	7	-	+	-
mT1D929 28	3-15	2-2	1	4	DQLLS	5	2-30	2	MQGTHWPRT	9	-	-	-
mT1D929 29	4-39	3-22	2	3	ERFDDSSGYYLAGAFDI	17	3-11	1	QQRSNWRT	8	-	-	-
mT1D929 31	3-21	2-2	3	4	DGAVVVPAAIDY	12	3-20	2	QQYGSSPMYT	10	-	+	N+c
mT1D929 32	4-30-4	6-13	1	4	EQQLVHAFFDY	11	1-39	2	QQSYSTPYT	9	-	-	-
mT1D929 33	3-9	1-20	3	6	DMGAWVTGTTGRGGDYYMDV	20	1-12	3	QQANSFPFT	9	-	-	-
mT1D929 34#	4-4	3-10	3	4	ARTMSFDY	8	3-11	1	QQRSNWPPEGT	11			
mT1D929 38#	4-59	6-13	2	6	GKLLSWYYGMDV	12	1-39	1	QQSYSTPDVA	10			
mT1D929 39κ	4-59	1-26	3	4	LSRIVGATHDY	11	3-15	4	QQYNNWPPLT	10	+	+	-
mT1D929 42	1-8	1-26	2	3	GWSGSYYGGDAFDI	14	1-5	2	QQYNSYLMCS	10	-	-	-
mT1D929 46	3-48	5-12	3	6	DIKVATIGVPFYYYYYMDV	19	3-20	1	QQYGSSPPWT	10	+	+	-
mT1D929 48#	1-2	3-22	2	3	DKGSSGYSALGAFDI	15	3-20	2	QQYGSSPHT	9			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mT1D929 01	3-33	5-5	3	6	DINVDTATSSVLDV	14	2-14	2	SSYTSSSTSVV	11	-	-	-
mT1D929 04	1-46	3-22	2	4	DLAPNYYDSSGYPRSETTDDY	21	1-47	2	AAWDDSLSGHVV	12	-	+	-
mT1D929 10	3-48	/	/	4	LVIRSDYFDY	10	1-51	2	GTWDSSLSAVV	11	-	-	-
mT1D929 14#	3-9	3-3	1	6	DLTVRFLGPSYYYGMDV	17	2-11	3	CSYAGSYTWV	10			
mT1D929 25λ					see kappa		3-1	2	QAWDSSPNVV	10	-	-	-
mT1D929 26	1-8	3-3	2	4	ADDFWSGYWD	10	3-1	2	QAWDSSTVV	9	-	-	-
mT1D929 30#	1-18	3-9	2	4	GGSLRALTDLDY	12	2-23	3	CSYAGSSTLV	10			
mT1D929 39λ					see kappa		1-51	7	GTWDSSLFAV	10	+	-	-
mT1D929 44	4-39	3-10	3	5	HPTSERVRGVPRGGWFDP	18	1-40	2	QSYDSSLSGSV	11	-	-	-
	VH	D	RF	JH	CDR3 (aa)	Length							
mT1D929 02	3-66	3-3	2	6	DSLSGDFWSGYRYYYYYGMDV	21							
mT1D929 13	1-3	2-2	3	5	DRGIVVVPAATVGWFDP	17							
mT1D929 15	3-43	6-13	3	6	DSIAAEAAYGMDV	13							
mT1D929 27	3-23	3-3	2	6	VFWSGYYPQVYYYYGMDV	18							
mT1D929 41	3-23	/	/	3	VGGKSTSHGAFDI	13							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 34 Repertoire and reactivity of antibodies from mature naive B cells of type 1 diabetes patient 430

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mT1D430 01	3-30	2-2	2	4	GGRLLGYCSSTSCYFPDY	18	3-11	4	QQRSNWPLT	9	-	-	-
mT1D430 02	4-31	6-6	3	4	VMGIAARSRYYFDY	14	3-20	4	QQYGSSPALT	10	+	+	F
mT1D430 06#	3-23	1-26	2	2	ARVPYSGSYWYFDL	14	3-20	4	QQYGSSLT	8			
mT1D430 07#	4-34	2-2	2	3	VWKRVSVKYCSSTSCYRDAFDI	22	1-39	1	QQSYSTLWS	9			
mT1D430 12	1-69	/	/	4	DHDGLGGTDY	10	1-39	1	QQSYSTPRT	9	+	+	-
mT1D430 19	4-39	3-10	3	4	RSFSSSMVQGGGYYFDY	17	1-5	1	QQYNSYVGT	9	+	+	-
mT1D430 20	4-4	2-2	3	5	DFGVVVPAAIWGWFDP	16	1-9	4	QQLNSYPPA	9	+	+	-
mT1D430 23	3-11	3-10	2	4	EAPYGSGSYYVDY	13	1-39	2	QQSYSTPYT	9	-	+	-
mT1D430 26#	5-a	3-16	2	4	LPSDYIWGSYREFDY	15	1-5	3	QQYNSYSH	8			
mT1D430 27	1-58	5-5	2	4	LYSYFDY	7	1-39	4	QQSYSTPRT	9	+	+	-
mT1D430 28	4-30-2	3-22	3	6	AVVSRGGYYYYYMDV	15	1-5	5	QQYNSYPIT	9	+2	+	-
mT1D430 31#	1-46	2-2	3	6	DPGVVVPAATYYYYYYMDV	19	3-20	4	QQYGSSPPLT	10			
mT1D430 33	3-23	3-10	2	4	DREGYGSGSYFYY	13	3-11	5	QQRSNWRVT	9	-	-	-
mT1D430 34#	1-2	3-9	2	5	GDYYDILTGYYNANYWFDP	19	3-11	3	QQRSNWL	7			
mT1D430 35	3-30-3	1-26	2	4	LYSGRPFDY	9	1-17	1	LQHNSYPWT	9	+	+	-
mT1D430 39	4-30-4	2-2	2	4	VPYCSSTSCYLLIFDY	16	4-1	1	QQYYSTPPT	9	-	-	-
mT1D430 40	3-30	4-4	3	6	EVTTEMGKYYYYYMDV	16	1-9	2	QQLNSYPPKYT	11	-	+	-
mT1D430 43	1-24	4-17	2	4	DRDGDYSPFDY	11	3-20	4	QQYGSSPLT	9	-	-	-
mT1D430 09							1-27	1	QKYNSAPRT	9			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mT1D430 05	3-15	6-13	2	6	GHSSSWYTYYYYYMDV	17	1-44	2	AAWDDSLNGVV	11	+	-	-
mT1D430 15	1-24	6-19	2	3	VSSGWYPNDAFDI	13	1-44	2	AAWDDSLNGVV	11	-	-	-
mT1D430 16	3-15	/	/	4	DWGWVRWTAEDY	12	2-14	2	SSYTSSSTLKV	11	+	+	-
mT1D430 25	1-46	4-23	2	4	EDYGGNPFVFDY	12	1-40	1	QSYDSSLSGYV	11	-	-	-
mT1D430 32	4-34	4-17	3	4	GFRKGRVTTVTTPTPSFDY	19	2-23	1	CSYAGSSTSFYV	12	+	+	-
mT1D430 46	4-39	4-17	2	4	QVGYGDYISGGNYFDY	16	3-1	2	QAWDSSTHVV	10	-	-	-

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 35 Repertoire and reactivity of antibodies from new emigrant B cells of type 2 diabetes patient 1

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neT2D01 05	4-59	3-10	2	4	ANYYGSGSYYFDY	13	1-5	4	QQYNSYPLT	9	-	-	-
neT2D01 08#	3-30	/	/	3	TPGTNAFDI	9	1-39	1	QQSYSTPHWT	10			
neT2D01 14κ#	1-18	3-10	1	6	DQPLLERFGELLAPNYYYYYMDV	23	1D-43	4	QQYYSTPPA	9			
neT2D01 18#	1-69	3-10	3	2	DQGVPWYFDL	10	3-15	1	QQYNNWPGT	9			
neT2D01 21	3-66	5-12	3	4	DLGATISGDDY	11	1D-17	1	LQHNSLTWT	9	-	-	-
neT2D01 22	3-9	4-17	2	4	LSGDYGFDY	9	1-8	2	QQYYSYPYT	9	-	-	-
neT2D01 25	4-39	3-22	2	1	NQPSYYYDSSGYYLAEYFQH	20	3-11	4	QQRSNWLT	8	-	+	-
neT2D01 28κ#	4-34	4-17	2	4	APQDGDLSESFDY	13	3-11	2	QQRSNWPRT	9			
neT2D01 30	4-59	6-19	2	5	EGGGWYSENWFDP	13	3-20	2	QQYGSSPYT	9	-	+	-
neT2D01 40	4-4	3-22	2	5	GNYYDSSGYYSNWFDP	16	1-5	3	QQYNSYSPLFT	11	+	+	-
neT2D01 41	3-21	3-22	2	4	DGFHNYYDSSGYYYYFDY	18	3-20	1	QQYGSSTGT	9	-	-	-
neT2D01 43	4-59	5-24	2	4	GDGYNYYFDY	10	3-15	1	QQYNNWPPWT	10	-	-	-
neT2D01 45#	1-69	3-10	2	5	PYGSGSFLTQS	11	1-16	1	QQYNSYPLT	9			
neT2D01 47	3-30	5-5	2	4	GGIYSNDYWDY	11	3-15	2	QQYNNWPPYT	10	-	-	-
neT2D01 48	1-46	3-22	2	4	DPIYDSSGLTAD	12	3-20	3	QQYGSSPPIT	10	-	-	-
neT2D01 49	4-59	5-5	2	4	DPGYSYGHDY	10	3-20	2	QQYGSSSYT	9	-	-	-
neT2D01 53	1-69	5-5	3	4	KADTAMV	7	3-11	2	QQRSNWPPAGYT	12	-	+	-
neT2D01 54	5-51	3-22	2	5	TGYDSSGYSELGWFDP	16	3-20	1	QQYGSSPWT	9	-	-	-
neT2D01 57	3-30	3-9	2	4	DPDDILTGYSVVAY	14	1-5	1	QQYNSYLWT	9	-	-	-
neT2D01 58#	3-48	/	/	4	EEGPWSGVDY	10	1-9	4	QQLNSYPLT	9			
neT2D01 61	3-74	3-3	2	6	EGDFWSGPPPQYYYYYGMDV	20	3-11	2	QQRSNWLYT	9	-	-	-
neT2D01 63	4-34	4-23	1	4	GRVRWSISDY	10	3-20	1	QQYGSSPRT	9	-	+	-
neT2D01 64	4-4	3-16	3	5	ERITFGGVIVSGWFDP	16	1-39	4	QQSYSTPLT	9	-	-	-
neT2D01 50							1-12	2	QQANSFPHT	9			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neT2D01 10	3-33	3-22	2	4	GAYYYDSSGYYTLDY	15	6-57	3	QSYDSSTHWV	10	-	-	-
neT2D01 11#	1-3	5-24	2	4	GSRDGYSYFDY	11	3-1	2	QAWDSSTRVV	10			
neT2D01 12	5-51	5-5	1	5	IQNPTNNWFDP	11	3-1	2	QAWDSSTAV	9	-	+	-
neT2D01 14λ					see kappa		6-57	3	QSYDSSNHGRV	11	+	+	-
neT2D01 15	4-39	2-21	2	4	HGSGAYCGGDCYFFDY	16	2-14	2	SSYTSSSTVV	10	-	-	-
neT2D01 17	3-48	3-22	2	3	ELGSSGTTELILAFDI	16	1-36	2	AAWDDSLNGVV	11	+2	+	c+N
neT2D01 24	4-39	5-12	2	4	TSGYDSVY	8	7-46	3	LLSYSGAWV	9	-	+	-
neT2D01 28λ#					see kappa		1-47	3	AAWDDSLSGRV	11			
neT2D01 31	3-33	/	/	3	HPERLDAFDI	10	3-1	1	QAWDSSTYV	9	-	+	-
neT2D01 36#	3-48	3-16	1	6	DGGLGTYGMDV	11	3-1	2	QAWDSSTRV	9			
neT2D01 37	1-46	3-22	2	3	VPQYYYDRGDAFDI	14	1-40	3	QSYDSSLSGWV	11	-	-	N
neT2D01 38	3-11	3-10	2	5	DISISSGWFDP	11	2-11	3	CSYAGSYTRWV	11	-	-	-
neT2D01 46	4-39	3-22	2	4	TRGEYYYDSSYDY	13	1-44	1	AAWDDSLNGHYV	12	-	-	-
neT2D01 52	4-59	3-10	2	4	DGGSGSYAGNFDY	13	2-14	1	SSYTSSSAYV	10	-	-	-
neT2D01 59	4-39	3-10	2	4	HYGSGSYYRFYFDY	14	1-51	1	GTWDSSLSAYV	11	-	-	c
neT2D01 62	1-69	2-8	3	5	MVQNWFDP	8	2-14	3	SSYTSSSTWV	10	-	-	-
neT2D01 23							1-44	2	AAWDDSLNGPV	11			
	VH	D	RF	JH	CDR3 (aa)	Length							
neT2D01 09	3-43	6-19	3	6	DIRAVAGTGYPRYYGMDV	18							
neT2D01 27	3-73	3-10	2	5	HDYYGSGSRVLP	12							
neT2D01 26	4-39	3-10	2	4	YTSHSDYYGSGSYGAY	16							
neT2D01 29	3-43	2-15	2	4	TVCSGGSCYYNYYFDY	16							
neT2D01 32	3-33	1-26	1	4	DGEWELLHYFDY	12							
neT2D01 42	3-33	3-10	3	4	DASDITMVRGVIDY	14							
neT2D01 60	3-30	3-10	3	5	DRGHITMARPPASNWFDP	18							

RF, reading frame; #, antibody failed to be expressed
-, non-reactive; +, reactive; +2, highly reactive
c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 36 Repertoire and reactivity of antibodies from new emigrant B cells of type 2 diabetes patient 2

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neT2D02 05	3-30	6-19	3	4	GGDSAVAGYFDY	12	4-1	4	QQYYSTLLLT	10	-	-	-
neT2D02 09	3-43	3-16	2	4	DIGGDDYVWGSGAGGDY	17	1-8	3	QQYYSYPLT	9	-	-	-
neT2D02 14	3-30	2-2	2	4	DLGCSSTSCWGPAFDY	16	3-15	4	QQYNNWPPLT	10	-	-	c
neT2D02 15	4-4	/	/	2	ALEIGYWYFDL	11	3-11	4	QQRSNWPPLT	10	-	+	-
neT2D02 17	3-48	3-10	1	4	DKGKLVLWFGELSHFDY	17	2-28	1	MQALQTPWT	9	-	+	-
neT2D02 24	1-2	3-22	2	4	RAYYDSSGYGSPHYFDY	17	4-1	3	QQYYSTPLT	9	-	+	-
neT2D02 29	4-34	1-26	3	5	GDGVVGATMVNWFDP	15	1-13	4	QQFNSYPLT	9	-	-	-
neT2D02 39	4-39	5-24	3	4	LAVEMATITPDY	12	2-30	5	MQGTHWPIT	9	-	-	-
neT2D02 40	3-33	6-19	2	4	DMSYSSGWYGPFDY	14	3-20	4	QQYGSSPLT	9	-	-	-
neT2D02 51κ	3-33	/	/	4	ERVGCFDY	8	3-15	1	QQYNNWPSWT	10	+	+	c+N
neT2D02 54	4-34	3-9	2	4	RHYDILTGYYEDY	13	2-28	4	MQALQTPHT	9	+	+	-
neT2D02 64#	3-11	6-19	3	3	EPRIAVAGTHAFDI	14	3-15	3	QQYNNWRRA	9			
neT2D02 74	3-64	2-2	2	6	GPYCSSTSCPDYYYYGMDV	19	2-30	1	MQGTHWPPL	9	-	-	-
neT2D02 75	1-24	6-19	2	4	DRIGSGWDFDY	11	2-40	3	MQRIEFPCTT	10	-	+	-
neT2D02 76κ#	7-81	5-5	1	4	GFNEQLWYVDIDY	13	3-20	4	QQYGSSALT	9			
neT2D02 81	3-21	5-12	3	6	DGGVATIYSYYYMDV	15	3-20	4	QQYGSSLT	8	-	+	-
neT2D02 82	3-7	2-2	3	4	TLVPDAISYDYVWGIPH	17	1-5	2	QQYNSYPYT	9	-	-	-
		3-16	2										
neT2D02 83κ	4-39	/	/	5	HPTLNNPNPANPENWFDP	18	1-13	4	QQFNSYPLT	9	-	-	-
neT2D02 96	4-4	4-17	2	4	VYDYGDYGRGFFDY	14	1-8	1	QQYYSYPRT	9	-	-	-
neT2D02 12							3-15	1	QQYNNWQT	8			
neT2D02 46							1-39	5	QQSYSTIT	8			
neT2D02 47							2-28	4	MQALQTPLT	9			
neT2D02 94							1-12	4	QQANSFPLA	9			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neT2D02 03	4-4	5-5	2	6	GQRGYSYGDYYYYYMDV	17	1-51	2	GTWDSSLSPDVV	12	-	-	-
neT2D02 18#	1-18	/	/	4	DDNSAFDY	8	2-14	3	SSYTSSSTLV	10			
neT2D02 28	3-53	/	/	6	EWGRSGSYYYGMDV	14	1-47	2	AAWDDSLSGRV	11	-	-	-
neT2D02 31	4-34	3-3	2	4	RYSAYDFWSGYYEFDY	16	1-44	3	AAWDDSLNGPNWV	13	-	+	-
neT2D02 32	4-39	3-9	2	4	SRPYDILTGYYFDY	14	3-9	2	QVWDSSIDVV	10	-	-	-
neT2D02 45	3-21	3-22	2	4	GYDSSVPYYFDY	12	1-51	1	GTWDSSLSAYV	11	-	-	-
neT2D02 51λ					see kappa		1-51	3	GTWDSSLSAGPWV	13	-	-	-
neT2D02 56	7-81	3-22	2	4	VNDDSSGYADY	11	1-44	3	AAWDDSLNEGV	11	-	-	-
neT2D02 67		4-23	2	3	SHDYGGQPGAFDI	13	1-44	3	AAWDDSLNGWV	11	-	-	-
neT2D02 73	5-51	5-24	3	4	HDEMATIGPTDY	12	1-47	3	AAWDDSLSGLNWV	13	-	-	-
neT2D02 76λ					see kappa		2-11	2	CSYAGSYTVV	10	-	+	-
neT2D02 83λ					see kappa		3-1	2	QAWDSSTVV	9	-	+	-
neT2D02 87							1-44	3	AAWDDSLNGWV	11			
	VH	D	RF	JH	CDR3 (aa)	Length							
neT2D02 08	3-33	3-10	1	4	QELLWFGEHTGVDY	14							
neT2D02 22	3-23	4-23	3	4	PSTVVDSDPSAIDY	14							
neT2D02 53	4-34	3-22	3	3	ASITMIVGDAFDI	13							
neT2D02 58	3-48	5-5	2	4	VGVSGYSYGLVDY	13							
neT2D02 80	1-2	2-2	3	6	EVVPAAMDYYYYGMDV	16							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 37 Repertoire and reactivity of antibodies from mature naive B cells of type 2 diabetes patient 1

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mT2D01 04	3-11	2-2	2	4	PHCSSTSCYTY	11	2-28	1	MQALQTSWT	9	-	-	-
mT2D01 06#	1-3	4-17	3	6	GPVTTYYYYYYMDV	14	1-33	1	QQYDNLPP	8			
mT2D01 07	4-59	/	/	6	DWSPPGVNYYYGMDV	15	1-39	4	QQSYSTPLT	9	-	-	-
mT2D01 15	4-34	3-10	3	4	RVRGVIPFDY	10	3-20	1	QQYGSSPRT	9	-	+	-
mT2D01 16#	1-69	2-8	2	6	VRVNNGVCYQCPLLYYYGMDV	21	3-20	1	QQYGSSPWT	9			
mT2D01 28	4-55	6-19	3	4	EGERGAGTTFDY	12	1-33	2	QQYDNLPMYT	10	-	-	-
mT2D01 34	1-3	3-10	1	4	GGLLWFGEALTYFDY	15	1-39	2	QQSYSTPDT	9	-	+	-
mT2D01 40κ#	1-69	3-10	2	4	VMGSGSSDY	9	2-28	3	MQALQTP	7			
mT2D01 50#	1-69	3-10	2	4	VYGSGSYIY	9	1-5	1	QQYNSYWA	8			
mT2D01 51	1-2	4-23	2	3	LRGGNSGRRAFDI	13	3-20	2	QQYGSSPYT	9	+	-	N
mT2D01 54	4-39	4-17	2	4	EGDGDYLVFDY	11	3-11	4	QQRSNWLT	8	-	-	-
mT2D01 58#	1-69	/	/	4	AHVS	4	1-33	1	QQYDNLPPA	9			
mT2D01 61	3-30	/	/	5	GELYPPWWFDP	11	1-16	4	QQYNSYPLT	9	-	+	-
mT2D01 65	3-23	/	/	1	QNQH	4	1-5	1	QQYNSYSWT	9	-	-	c
mT2D01 71	3-9	6-19	3	4	DIKGIAVYYFDY	12	1-17	4	LQHNSYPPA	9	-	-	-
mT2D01 72	3-48	3-22	2	4	DRAGKTYYYDSSGLSN	16	1-39	2	QQSYSTPPYT	10	-	+	-
mT2D01 75	1-24	6-13	2	5	WSSSGDWFDP	10	1D-16	2	QQYNSYPYT	9	-	-	-
mT2D01 76	1-8	1-26	2	3	GVRGSYYDAFDI	12	1-39	2	QQSYSTLYT	9	-	-	-
mT2D01 85	4-b	4-23	2	4	GDYGFFDY	8	1-8	1	QQYYSYPWT	9	-	-	-
mT2D01 90	4-39	6-19	2	4	HPRFEYSSGWYAYYFDY	17	3-20	4	QQYGSSPT	8	-	-	-
mT2D01 91	4-34	1-26	3	4	RRIVGATPD	9	3-15	3	QQYNNWPPA	9	-	-	-
mT2D01 30							1-16	1	QQYNSYPSWT	10			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mT2D01 08	4-39	6-13	2	4	HSFGSSWYVQGDY	13	2-14	2	SSYTSSSTLVV	11	-	-	-
mT2D01 13#	4-61	6-19	3	6	APGIGYYYYYGMDV	14	3-1	2	QAWDSSTRVV	10			
mT2D01 22	3-30	5-5	2	4	VERDARYSYGPGEY	14	2-18	3	SSYTSSSTWV	10	-	-	-
mT2D01 31#	5-51	/	/	4	LGFD	4	1-44	3	AAWDDSLNGWV	11			
mT2D01 33	1-46	1-26	3	4	VGATVPDY	8	2-14	1	SSYTSSSTLAYV	12	-	-	-
mT2D01 37	3-48	4-17	3	6	EQVTTMYYYGMDV	13	6-57	3	QSYDSSNHWV	10	-	-	-
mT2D01 38	4-b	6-19	2	4	QPPASGWSVFDY	12	2-14	2	SSYTSSSTLV	10	-	-	c
mT2D01 39	4-4	5-12	2	6	SRTGGYDRNYYYYYGMDV	18	1-40	2	QSYDSSLSDVV	11	-	-	-
mT2D01 40λ#					see kappa		4-60	3	ETWDSNTWV	9			
mT2D01 68	4-61	3-22	2	4	AVVNYYDSSGTLDY	14	3-25	2	QSADSSGTYVV	11	-	-	-
mT2D01 69	3-66	4-23	3	4	VTTVRLYYQISN	12	(l)-70	3	STWDYSLSAWV	11	+	+	c
mT2D01 78	4-61	5-5	3	4	VARTYDTAIPWGGGGNFDY	19	2-23	2	CSYAGSVV	8	-	+	c+N
mT2D01 94	3-33	3-10	1	4	SEAGWFGDLSGY	12	1-44	3	AAWDDSLNGWV	11	-	-	-
mT2D01 27							1-40	3	QSYDSSLSGSV	11			
	VH	D	RF	JH	CDR3 (aa)	Length							
mT2D01 14	4-39	/	/	5	ILGSRPIEDWFDP	13							
mT2D01 96	3-33	3-3	3	4	DRSIFGVVTYYFDY	14							

RF, reading frame; #, antibody failed to be expressed
-, non-reactive; +, reactive; +2, highly reactive
c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 38 Repertoire and reactivity of antibodies from mature naive B cells of type 2 diabetes patient 2

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mT2D02 01	3-21	/	/	4	DVNGDRTFAPQQN	13	3-15	1	QQYNNWPPWT	10	-	-	-
mT2D02 02	1-18	4-23	1	5	DPLLRYGDIVATPNWFDP	18	1-39	1	QQSYSTPRT	9	-	-	-
		5-12	3										
mT2D02 08	1-46	7-27	2	4	SLHGQVWGYDY	11	2-40	2	MQRIEFPYT	9	-	-	-
mT2D02 15	3-73	3-3	3	3	TLFTIFGVVIASDDDAFDI	19	1-39	1	QQSYSTLTWT	10	+	+	-
mT2D02 17	4-34	3-22	2	4	RSINHDSSGYYRY	13	1-5	2	QQYNSYSPYT	10	-	-	-
mT2D02 23	3-64	/	/	6	EARLPGTAPTDYYYMDV	17	3-11	3	QQRSNWPLFT	10	-	-	-
mT2D02 25	1-2	3-9	2	4	RRTYYDILTALEVQFYFDY	19	1-39	4	QQSYSTPRALT	11	-	+	-
mT2D02 33	4-34	6-19	2	5	AVESSGWYPYGWFDP	15	3-15	2	QQYNNWPPYT	10	-	-	-
mT2D02 35	3-11	6-19	3	4	GRGIAVAGTGAFDY	14	3-20	1	QQYGSSPT	8	-	-	-
mT2D02 41	5-51	4-17	2	2	QVEVYGDSRELDLYGYFDL	19	1-27	4	QKYNSAPLT	9	-	-	-
mT2D02 51	1-69	6-19	3	3	RAVAGTSYAFDI	12	4-1	2	QQYYSTPYT	9	+	+	c
mT2D02 52	4-59	6-13	1	5	QTSEQQLVPGWFDP	14	3-15	2	QQYNNWPPYT	10	-	-	-
mT2D02 53	3-66	4-17	2	4	GHDYGDHPPIY	11	1-5	1	QQYNSYSYTWT	11	-	-	-
mT2D02 59#	4-4	1-1	2	5	VKIFWNDVFLAGWFDP	16	4-1	4	QQYYSTPLT	9			
mT2D02 09							4-1	1	QQYYSTPWT	9			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mT2D02 05	1-2	3-10	2	5	GPAPYYGSGSYPKPFGWFDP	20	1-44	2	AAWDDSLNGVV	11	-	-	-
mT2D02 20	3-23	3-22	3	4	GGIVVVITYYFDY	13	3-1	2	QAWDSSTVV	9	+	-	-
mT2D02 24	3-48	3-22	2	3	DLEAYDSSGYYPNDAFDI	18	3-1	1	QAWDSSTAYYV	11	-	-	-
mT2D02 29#	4-61	6-13	3	3	EAAAAFDI	8	2-11	2	CSYAGSYTLV	10			
mT2D02 31	4-59	/	/	3	GSRLHLSAFDI	11	1-44	2	AAWDDSLNGHVV	12	-	-	-
mT2D02 32	3-7	6-13	2	4	DGPSSTPGD	9	2-11	2	CSYAGSYVV	9	-	-	-
mT2D02 46	3-48	4-23	3	5	VPAAGRARTTVVAP	13	1-51	1	GTWDSSLSPNYV	12	+2	+	N
mT2D02 49#	3-48	3-16	1	3	EGETDAFDI	9	1-40	1	QSYDSSLSGSV	11			
mT2D02 54	3-43	/	/	6	DIGFNYGSHPYYYYYYMDV	19	1-44	3	AAWDDSLNGHWV	12	-	-	-
mT2D02 55#	3-7	2-2	1	3	MVGKYQLLFRAFDI	14	1-51	2	GTWDSSLSAVV	11			
mT2D02 58	3-15	3-10	3	5	DLLTMVRGVMVGGR	14	1-47	3	AAWDDSLSGRV	11	-	+	-
mT2D02 26							1-44	3	AAWDDSLNGPV	11			
	VH	D	RF	JH	CDR3 (aa)	Length							
mT2D02 06	4-59	2-2	3	5	LVAENIVVVPAAMPLRSWFDP	21							
mT2D02 34	3-23	4-17	2	4	VEYGDALDY	9							
mT2D02 43	3-20	/	/	5	GRDLSIPHWFDP	12							
mT2D02 44	4-61	5-12	2	6	SMWGYSGYDLVDYYYYMDV	19							
mT2D02 47	3-23	/	/	4	DRGSLWADPFDY	12							
mT2D02 60	3-33	6-6	2	3	EWVYSSSGDAFDI	13							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 39 Repertoire and reactivity of antibodies from new emigrant B cells of rheumatoid arthritis patient 11

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neRA11 01#	1-18	3-3	3	4	GITIFGVVIMDY	12	3-20	3	QQYGSSPFT	9			
neRA11 06	3-23	6-19	3	3	FSGWSIAVAALGPTADAFDI	20	1-9	4	QQLNSYPLT	9	-	+	-
neRA11 14	3-48	3-3	3	4	GFRITIFGVVTKVYYFDY	18	1-33	2	QQYDNLPYT	9	+	+2	-
neRA11 21#	4-34	6-19	2	4	AFGSGWYRSGWYLRGYFDY	19	3-20	2	QQYGSSPPYS	10			
neRA11 32	4-34	6-13	3	5	RYSSWYIAAAGRTWFDP	17	1-39	1	QQSYSTPPT	9	+2	+	F
neRA11 37	3-33	1-7	3	4	APMYGTGRGGADY	13	2-30	1	MQGTHWPPT	9	-	-	-
neRA11 38	4-61	5-24	3	4	DREMATIDY	9	1-33	5	QQYDNLPIT	9	-	-	-
neRA11 42	3-7	/	/	3	AFDI	4	1-39	4	QQSYSTPLT	9	-	-	-
neRA11 47	4-61	/	/	3	LDTLKAFDI	9	1-5	4	QQYNSYSGLT	10	-	-	-
neRA11 55	3-9	/	/	2	DGGERGGSGYFDL	13	3-20	1	QQYGSSPRT	9	-	+	-
neRA11 70	1-18	5-5	2	4	EFAGGYSYGAPFDY	14	3-15	1	QQYNNWPRT	9	-	+	-
neRA11 71	4-34	/	/	4	GGPHYFDY	8	3-20	3	QQYGSSPFT	9	-	-	-
neRA11 75#	1-18	3-22	2	4	DSSGYYSTYFDY	12	3-11	3	QQRSNWPT	8			
neRA11 79	3-11	1-26	2	4	EWGYSGSHVDY	11	1-39	3	QQSYSTPPFT	10	-	-	-
neRA11 80#	1-2	2-15	2	4	VFSVVDDAPDIICSGGSCTLRDY	23	1-33	5	QQYDNLPFT	9			
neRA11 92	3-30	1-26	2	3	VKGGSYSDAFDI	12	1-5	2	QQYNSYPYT	9	-	-	-
neRA11 95	3-33	4-4	2	4	GFSDYSNEGGY	11	4-1	1	QQYYSTPWT	9	-	-	-
neRA11 04							1-27	3	QKYNSAPQT	9			
neRA11 10							3-20	2	QQYGSSKYT	9			
neRA11 17							1-39	2	QQSYSTPYS	9			
neRA11 22							3-20	1	QQYGSSPRT	9			
neRA11 27							3-20	3	QQYGSSLGFT	10			
neRA11 29							3-15	5	QQYNNWPPIT	10			
neRA11 30							2-28	3	MQALQTPFT	9			
neRA11 31							3-20	2	QQYGSSLYS	9			
neRA11 51							4-1	4	QQYYSTPPT	9			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neRA11 08	3-30	/	/	4	GTNPKAFDY	9	1-44	2	AAWDDSLNGVV	11	-	-	-
neRA11 26	1-18	1-7	3	5	DQGGRVTGTTGP	12	1-47	1	AAWDDSLSGYV	11	+	+	-
neRA11 90	1-46	3-9	2	4	DPNYDIFSYYFDY	13	3-21	3	QVWDSSSDHWV	11	+	+	-
neRA11 18							2-23	3	CSYAGSSTWV	10			
neRA11 33							1-44	3	AAWDDSLNGRV	11			
neRA11 81							2-14	2	SSYTSSSTYVV	11			
neRA11 89							3-25	2	QSADSSGTYVV	11			
	VH	D	RF	JH	CDR3 (aa)	Length							
neRA11 23	5-51	6-13	2	4	GGRSSWYGLGY	11							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 40 Repertoire and reactivity of antibodies from new emigrant B cells of rheumatoid arthritis patient 24

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neRA24 01#	4-31	3-10	3	4	VGAPMNDELHFVTMVRGPGYFDY	23	3-20	1	QQYGSSPWT	9			
neRA24 02#	4-34	2-2	3	4	AVSVVVVVPAATSYGLTNHVVIARGPFDY	28	4-1	1	QQYYSTPPWT	10			
neRA24 09	3-9	1-26	3	3	DIRLSGVGALGGAFDI	16	3-20	3	QQYGSSPLT	9	-	-	-
neRA24 11	1-8	2-15	2	5	GPTMYCSGGCYSFDP	15	1-39	2	QQSYSTLYT	9	-	-	c+N
neRA24 14	1-18	2-15	2	4	VSCSGGSCYPGY	12	1-5	1	QQYNSYWT	8	+	+	-
neRA24 15	4-34	6-13	3	4	AITPHRIAAAGPFDY	15	1-27	1	QKYNSAPRT	9	-	+	N
neRA24 18	4-59	3-22	2	4	VPVYDSSGYEDY	12	2-30	1	MQGTHWLWT	9	-	-	-
neRA24 21	4-34	3-16	2	4	GYGGYVWGGPNGDY	14	3-15	3	QQYNNWPRA	9	+	+	-
neRA24 22	3-15	3-10	3	4	DHRITMVRGAD	11	2-28	2	MQALQTPYT	9	-	-	-
neRA24 23#	1-69	3-9	2	6	RAALYDILTGAAIYYYYGMDV	21	2-28	1	MQALQTRT	8			
neRA24 28	1-69	6-13	3	1	GGGAAAGTAYFQH	13	3-20	1	QQYGSSPT	8	+	+	-
neRA24 33	4-59	5-5	2	2	FRGSYGTEWYFDL	13	1D-12	4	QQANSFPLT	9	-	-	-
neRA24 36#	4-34	2-2	3	3	LVVVVPAPDDAFDI	14	3-20	1	QQYGSSPRT	9			
neRA24 38	4-39	2-21	3	1	VLVTATHAEYFQH	13	1-39	2	QQSYSTPYT	9	-	-	-
neRA24 39#	1-24	3-9	2	3	AILTGLDAFDI	11	2-30	5	MQGTHWPPIT	10			
neRA24 40	3-43	/	/	6	DITYSHTYYYMDV	13	3-15	4	QQYNNWPPLT	10	-	-	-
neRA24 42#	1-18	2-2	2	4	ERYCSSTSCYPSGY	14	3-20	1	QQYGSSPRT	9			
neRA24 43κ	4-39	5-24	1	4	DLQSRGPFDY	10	1-8	1	QQYYSYPRT	9	-	-	-
neRA24 47	4-31	3-10	3	6	DSGVIEEGYGMDV	13	4-1	2	QQYYSTPYT	9	-	-	-
neRA24 48	3-9	2-21	3	6	DSSVVTLGMDV	11	2-29	2	MQGIHLRT	8	-	-	-
neRA24 03							3-15	1	QQYNNWPPWT	10			
neRA24 04							1-9	4	QQLNSYPPT	9			
neRA24 07							1-5	1	QQYNSYWT	8			
neRA24 13							3-15	1	QQYNNWPRT	9			
neRA24 17							1-33	3	QQYDNLLLFT	10			
neRA24 20							1-39	2	QQSYSTPYT	9			
neRA24 26							2-30	2	MQGTHWPYT	9			
neRA24 29							1-39	2	QQSYSTPDT	9			
neRA24 34							3-15	1	QQYNNWPRT	9			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neRA24 06	4-39	6-13	3	6	HAGNVHYYYYYYMDV	15	2-8	3	SSYAGSNNLV	10	-	-	-
neRA24 16	3-48	3-10	3	6	DLMVRGVIAYYYYGMDV	17	1-44	3	AAWDDSLNGWV	11	+	-	-
neRA24 19	3-33	5-12	3	4	SLVATTPCGY	10	7-46	1	LLSYSGALYV	10	+	+	c
neRA24 24#	1-18	6-13	1	4	EAEQQLDPFDY	11	3-21	2	QVWDSSSDLEV	11			
neRA24 41#	4-34	3-10	2	6	GNYGSGRHSACYYMDV	16	2-14	2	SSYTSSSTRV	10			
neRA24 43λ					see kappa		2-14	3	SSYTSSSTLV	10	-	-	-
neRA24 44	3-30-3	3-10	2	6	DRYYYGSGRGYYYYGMDV	18	3-21	2	QVWDSSSDHVV	11	-	-	-
neRA24 45#	4-59	3-10	3	5	DMVRGVIHP	9	2-14	2	SSYTSSTLVV	10			
neRA24 10							1-51	2	GTWDSSLSAVV	11			

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 41 Repertoire and reactivity of antibodies from new emigrant B cells of rheumatoid arthritis patient 30

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neRA30 101	1-58	6-13	3	6	DQWAAAGYYYGMDV	14	3-20	4	QQYGSSPLT	8	-	-	-
neRA30 102	3-49	1-26	3	4	ANPLGVGAVDY	11	2-40	4	MQRIEFPLT	9	-	-	-
neRA30 104	3-66	5-5	2	4	VGGYSYDHFDY	11	3-11	3	QQRSNWPKFT	10	-	-	-
neRA30 105	4-59	/	/	5	GGVLTTEGNWFDP	13	1-8	3	QQYYSYPFT	9	+	+	-
neRA30 110	4-59	1-26	3	5	AIVGRNESSWFDP	13	3-20	3	QQYGSSPLFT	10	-	-	-
neRA30 112	3-21	2-15	2	3	DRSPRYCSGGSCYPEAFDI	19	3-20	4	QQYGSSLT	8	-	-	-
neRA30 115	4-59	4-4	3	4	TTPGRVDY	8	3-20	4	QQYGSSSLT	9	-	-	-
neRA30 118#	4-59	3-10	2	6	DGSGTYYSFKDYHHYMDV	18	3-20	1	QQYGSSPWT	9			
neRA30 120	3-30	2-15	3	4	DLPVVVVAATQGGPLDY	17	3-20	4	QQYGSSPLT	9	+	+	-
neRA30 122#	3-64	2-8	2	4	GYCTGGVCYTPGDAGDYFDY	20	1-5	1	QQYNSYPWT	9			
neRA30 123κ#	3-23	3-10	2	4	DXYYYGSGSYIYRFDY	16	3-20	1	QQYGSSPT	8			
neRA30 126	4-31	2-15	2	4	AIGGGGSCYVDY	12	1-39	1	QQSYSTPWT	9	+2	+	-
neRA30 127κ#	3-15	6-6	3	4	DLGPQIAARGY	11	3-20	1	QQYGSSPT	8			
neRA30 131	3-30	2-8 6-13	2 3	2	DGAVLGYCTGGVCYRIAAAGTGGYFDL	27	1-5	1	QQYNSYSRWA	10	+	+	-
neRA30 133	4-34	6-6	2	4	GPKASSSLAY	10	1-33	2	QQYDNLPPPT	10	-	-	-
neRA30 134#	3-30	5-12	2	6	DHSGYDQALARTYYYYYGMDV	21	1-8	5	QQYYSYPLT	9			
neRA30 141#	3-7	6-13	2	6	DGFRPSSSWDNYYYYYMDV	19	1-39	3	QQSYSTPFT	9			
neRA30 143#	3-23	6-13	3	4	DTPSAGALIEYNFDY	15	2-20	1	MQGTHWPPT	9			
neRA30 114							3-20	3	QQYGSSLFT	9			
neRA30 137							3-20	1	QQYGSSPRT	9			
neRA30 138							2-28	1	MQALQTPRT	9			
neRA30 145							1-39	1	QQSYSTTPT	9			
neRA30 146							3-11	2	QQRSNWPPRYT	11			
neRA30 148							1-5	1	QQYNSYPWT	9			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neRA30 103	5-a	3-10	2	5	HPSVYGSGTSGWFDP	15	3-21	3	QVWDSSSDHQV	11	-	-	-
neRA30 107#	4-34	3-10	1	4	GGPHPRLTSNQSILWFGELFHDY	23	3-21	2	QVWDSSSDHVV	11			
neRA30 109	3-30	3-10	2	6	DTGESIYYYYYMDV	14	3-14	2	SSYTSSSTDVV	11	-	-	-
neRA30 117#	3-66	/	/	5	DIGGVTGWFDP	11	3-1	2	QAWDSSTVV	9			
neRA30 121#	1-69	4-17	2	2	VGGGLNDYGDYETPPLSWYFDL	22	2-14	2	SSYTSSSTLV	10			
neRA30 123λ#	3-23	3-10	2	4	see kappa	16	1-40	7	QSYDSSLSGSSAV	13			
neRA30 124	3-30	3-10	2	6	YYYGSGSYGEWYMDV	15	2-11	1	CSYAGSYTLGV	11	-	-	-
neRA30 125	3-30	6-13	2	4	DQSSSWYSFSLGY	13	1-44	2	AAWDDSLNGVV	11	-	-	-
neRA30 127λ	3-15	6-6	3	4	see kappa	11	3-10	3	YSTDSSGNHRGV	12	+	+	c
neRA30 130	3-43	2-2	3	6	EGVNVVPQAHYYYYYMDV	18	2-14	2	SSYTSSSTYVV	11	-	-	-
neRA30 135	3-30	2-15	2	4	DVVEYCSGGSCSYFDY	16	1-44	3	AAWDDSLMGPV	11	-	-	-
neRA30 139	5-51	6-13	2	5	CCGEGPRFSSGWDNWFDP	18	3-1	2	QAWDSSTVV	9	+	+2	-
neRA30 140#	1-3	/	/	4	GANYFDY	7	2-14	1	SSYTSSSTRV	10			
neRA30 106							2-14	7	SSYTSSSTPHAV	12			
	VH	D	RF	JH	CDR3 (aa)	Length							
neRA30 117	3-66	/	/	5	DIGGVTGWFDP	11							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 42 Repertoire and reactivity of antibodies from new emigrant B cells of rheumatoid arthritis patient 33

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neRA33 02	4-61	5-5	3	6	GVTYVDTAMVLYYYYYGMDV	20	3-20	4	QQYGSSPALT	10	+	+2	-
neRA33 03	3-23	2-21	2	6	AGCGGDCYSGPYYGMDV	17	3-15	2	QQYNNWPLMYT	11	-	-	-
neRA33 04	4-39	2-15	2	4	LLYCSGGSCYLFDY	14	2-28	5	MQALQTPIT	9	-	-	-
neRA33 05	1-3	4-17	2	5	HGYGDYRHNWFDP	13	1-39	5	QQSYSTPT	8	-	+	-
neRA33 07#	3-33	6-19	2	4	VRGTLRGWYPYFDY	14	1D-8	1	QQYYSFPPTWT	11			
neRA33 12	3-30	3-10	1	5	DPKSGFGELLPNWFDP	16	1-5	1	QQYNSYSRT	9	+	+2	-
neRA33 17	1-18	/	/	4	EGAVPDY	7	3-20	2	QQYGSSPKT	9	-	-	-
neRA33 18	4-39	4-17	2	4	ETANYGDLD	9	1-18	1	QQYYSYPWT	9	-	+	-
neRA33 22	3-49	3-22	2	4	DRLYYDSSGYNDY	13	3-15	4	QQYNNWRGT	9	-	-	-
neRA33 26#	1-69	6-19	3	4	LAGTVAGSN	9	1-16	1	QQYNSYPQT	9			
neRA33 29	4-61	6-13	2	6	GWNSSSWCKGEKCYYYGMDV	20	2-28	4	MQALQTPLT	9	-	-	-
neRA33 32	1-58	3-10	2	6	DQVTYYYGSGTYYGMDV	17	1-33	4	QQYDNLRLT	9	-	+	-
neRA33 33	3-23	2-2	3	6	LVVPAAMRGYYYGMDV	16	1-39	1	QQSYSTPWT	9	+	-	-
neRA33 34	1-24	/	/	5	ARGSRGGGWFDP	12	1-39	1	QQSYSTLWT	9	-	-	-
neRA33 35κ	4-39	4-17	2	4	LSSPDYGDYEGVFDY	15	1-33	1	QQYDNLPT	8	-	-	-
neRA33 36	4-39	2-2	3	6	VVPAAIYYYYGMDV	14	1-39	2	QQSYSTLGT	9	+	+2	M
neRA33 38	3-23	1-26	3	5	ALGAMSP	7	3-20	1	QQYGSSPT	8	+	+	M
neRA33 39	4-34	6-13	3	4	GRIAAAGKNGIDY	13	3-15	1	QQYNNWPT	8	-	-	-
neRA33 102	4-31	3-3	2	4	RNPAGFWRLDY	11	1-9	3	QQLNSYSGT	9	+	+	c
neRA33 103#	3-23	2-15	3	3	DHFIWDIVVVAHPVDAFDI	19	1-12	5	QQANSFPIT	9			
neRA33 104	4-39	/	/	2	HPPDRRRVHWYFDL	14	3-20	2	QQYGSSPYT	9	-	+	-
neRA33 105#	4-39	1-26	1	4	RHPWWELDY	9	1-33	3	QQYDNLPFT	9			
neRA33 107	3-53	/	/	3	DQNDAFDI	8	1-33	3	QQYDNPLNPLSPLFT	15	-	-	-
neRA33 110	3-23	/	/	3	NTQWSVAIDAFDI	13	3-20	4	QQYGSSPQNT	10	-	-	-
neRA33 112	4-39	3-10	2	6	FLYGSGSYEGPTYYYYYGMDV	21	3-11	4	QQRSNWPLT	9	+	+	-
neRA33 115κ	3-7	/	/	5	VPTRANWFDP	10	3-15	4	QQYNNWLT	8	-	-	-
neRA33 116	4-4	6-19	2	4	DRSSSL	6	1-5	2	QQYNSYSRT	9	+	+	-
neRA33 118	4-61	3-22	2	4	SPGGRYYDSSGYIDY	15	4-1	1	QQYYSTPQT	9	-	-	N+c
neRA33 119	3-7	2-2	2	6	SGAAYCSSTSCYLDGMDV	18	2-28	4	MQALQTPLT	9	-	-	-
neRA33 120	3-74	2-2	3	3	GSIVVVPAAIRAFDI	15	1-39	2	QQSYSTPRT	9	+	+	F
neRA33 122	4-39	6-6	2	3	QPYSTRKDPLQNAFDI	16	1-12	2	QQANSFPYT	9	-	-	-
neRA33 124	1-69	6-13	2	6	DKFSSSWHGGENRYYYYGMDV	21	1-5	1	QQYNSYPWT	9	+	+	-
neRA33 126κ	1-18	6-19	2	3	VDSGWYEAALVLTSKNAFDI	20	1-5	1	QQYNSYPWT	9	+	+	-
neRA33 127	4-59	/	/	6	DSSFRQVSTAGGAVRYYYYGMDV	23	1-39	1	QQSYSTPRT	9	+	+	c
neRA33 129	1-69	3-22	2	5	AQRDYDSSGYRHWFDP	16	3-20	2	QQYGSSPYT	9	+	+	-
neRA33 132	3-15	6-13	2	4	ASSYSSSWYGAWALTYY	17	1-5	4	QQYNSYSQVT	10	+	+	-
neRA33 133	3-64	3-10	1	5	DFGVSPDP	8	1-5	1	QQYNSYTWT	9	-	-	-
neRA33 01							1-39	2	QQSYSTLPYT	10			
neRA33 16							2-28	1	MQALQTPPT	9			
neRA33 19							1-17	1	LQHNSYPRT	9			
neRA33 20							2-30	2	MQGTHWYT	8			
neRA33 24							1-17	1	LQHNSYPPT	9			
neRA33 31							1-39	2	QQSYSTPPYT	10			
neRA33 37							4-1	2	QQYYSTPYT	9			
neRA33 41							3-20	4	QQYGSSPRLT	10			
neRA33 42							4-1	4	QQYYSTPS	8			
neRA33 43							3-20	5	QQYGSSRIT	9			
neRA33 44							1-5	1	QQYNSRWT	8			
neRA33 45							3-11	1	QQRSNWPPWT	10			
neRA33 48							3-20	1	QQYGSSRKT	9			
neRA33 123							3-15	1	QQYNNWPPWT	10			
neRA33 135							4-1	3	QQYYSTPFT	9			
neRA33 136							3-20	3	QQYGSSLFT	9			
neRA33 144							1-5	4	QQYNSYPLT	9			
neRA33 145							2-28	3	MQALQTPGFT	10			
neRA33 146							1-27	5	QKYNSAPFT	9			
neRA33 147							3-20	1	QQYGSSPRT	9			
neRA33 148							3-20	1	QQYGSSRT	8			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
neRA33 06#	1-69	2-15	2	6	DKGLGYGSGGSCYSYYYYYGMDV	23	7-43	3	LLYYGGAQLV	10			
neRA33 09	4-59	3-16	3	4	SPDYMITFGGVIATDYFDY	19	1-40	2	QSYDSSLSGWV	11	+	+	-
neRA33 10	3-53	3-16	2	6	DTPYYDYVWGSYRYYYGMDV	20	2-14	2	SSYTSSSTRV	10	+	+	N
neRA33 13#	1-69	1-26	3	4	GGFVGATPSFDY	12	3-1	2	QAWDSTDVV	9			
neRA33 15	3-72	/	/	4	LRSGPDY	7	7-46	3	LLSYSGARPV	10	+	+	-
neRA33 23#	4-39	2-15	2	5	RLGYCSGGSCYSDSVFWFDP	20	1-40	2	QSYDSSLSGVV	11			
neRA33 25	3-48	/	/	4	EGLQKDYFDY	10	3-25	2	QSADSSGTSYVV	12	-	-	-
neRA33 27	3-23	3-22	3	6	GDITMIDYGMDV	12	3-1	2	QAWDSSTAA	9	-	-	-
neRA33 35λ					see kappa		2-14	2	SSYTSSSTLDVV	12	-	-	-
neRA33 101	4-61	3-22	2	4	SLYDSSGYYRSGFDY	15	3-1	2	QAWDSSTVV	9	-	-	-
neRA33 106	3-23	3-10	3	6	DSTMVRGAAYYYGMDV	16	3-25	1	QSADSSGTYV	10	-	-	N+c
neRA33 108	4-34	4-17	2	6	NGDYGDYYYGMDV	13	2-14	2	SSYTSSSTLRV	11	-	-	-
neRA33 115λ					see kappa		1-44	3	AAWDDSLNGRV	11	+2	+	-
neRA33 117	4-31	2-15	2	4	SCSGGSCYFEFDY	13	2-14	2	SSYTSSSTPYVV	12	-	-	-
neRA33 121	3-43	3-22	2	4	EGPYDSSGYWDY	12	2-8	1	SSYAGSNNLYV	11	-	-	-
neRA33 126λ					see kappa		2-11	3	CSYAGSYTWV	10	+	+	-
neRA33 130	3-23	3-10	1	4	LSGGRWFGELSGYFDY	16	1-47	3	AAWDDSLSGWV	11	+	-	-
neRA33 134	4-31	2-15	2	4	GRRYCSGGSCYHFDY	15	8-61	3	VLYMGSGISV	10	+	+	-
neRA33 30							3-1	2	QAWDSSTTV	9			
	VH	D	RF	JH	CDR3 (aa)	Length							
neRA33 14	3-23	3-16	3	4	LITFGGVIVYFDY	13							
neRA33 109	4-39	3-22	2	3	HGDNYYDSSGYYFHAFDI	18							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 43 Repertoire and reactivity of antibodies from mature naive B cells of rheumatoid arthritis 11 patient

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mRA11 03	3-7	3-10	2	4	SPRFDWNYYGSGSYYAAFDY	20	1-39	2	QQSYSTRRWS	10	+	+	-
mRA11 04	3-49	3-3	2	4	GTTYYDFWSGSYFDY	15	3-11	4	QQRSNWPT	8	-	-	-
mRA11 11	4-39	6-6	3	4	EGSIAARDY	9	3-11	4	QQRSNWPLT	9	-	+	-
mRA11 12	4-30-4	5-5	3	3	DATAMVTDPEAFDI	14	3-15	2	QQYNNWPPYT	10	-	-	-
mRA11 23	4-b	/	/	5	GIKMGVEFDP	10	3-15	4	QQYNNWPLA	9	-	+	-
mRA11 24	4-59	/	/	1	NVRGVPNYFQH	11	3-20	3	QQYGSSQFT	9	-	-	-
mRA11 32	4-4	3-3	2	4	VNYDFWSGHYYFDY	14	1-33	2	QQYDNLLRT	9	-	+	-
mRA11 33	4-61	4-23	3	4	EGGPTVVTEVGVIDY	15	3-15	1	QQYNNWPPWT	10	-	-	-
mRA11 35	3-23	2-2	2	6	PFRGRYCSSTSCYRGDYYYYYYMDV	25	3-20	4	QQYGSSPRVT	10	+	+2	c
mRA11 36	1-8	3-9	2	4	DYDILTGYYYYFDY	14	1-39	2	QQSYSTPRS	9	-	-	-
mRA11 37	1-69	2-2	2	1	NKGYCSSTSCYTHFQH	16	1-33	3	QQYDNLPT	8	-	-	c+N
mRA11 40κ	1-18	3-3	2	5	CPPNYDFWSGYGNWFDP	17	1-33	2	QQYDNLPYS	9	+2	+2	c
mRA11 45	3-64	3-3	3	6	DGRGGGTIFGVVIIGGMDV	19	1-33	4	QQYDNLPPLT	10	-	-	-
mRA11 47	3-23	2-21	2	4	DPLPELAYCGGDCYFFDY	18	4-1	4	QQYYSTPLT	9	-	-	-
mRA11 50	1-18	/	/	5	DFHTESNWFDP	11	1-39	3	QQSYSTPVT	9	-	-	-
mRA11 56	4-34	6-6	2	3	RIPYSRSFDI	10	3-20	2	QQYGSSQYT	9	-	-	-
mRA11 58κ	1-2	1-26	2	3	ENSGSNGGPLAFDI	14	1-5	2	QQYNSYSNS	9	-	-	-
mRA11 08							1-12	2	QQANSFPYT	9			
mRA11 26							1-27	1	QKYNSAPWT	9			
mRA11 46							1-6	1	LQDYNYPRT	9			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mRA11 05#	4-4	1-26	2	2	SMGGSYSSGWYFDL	14	1-51	1	GTWDSSLSAGGYV	13			
mRA11 13	1-2	3-3	2	6	PTTYYDFWSGYREDYYYGMDV	21	3-21	1	QVWDSSSDHYV	11	+	+	-
mRA11 21	3-30-3	1-7	2	6	PNHNWNYPYYYYYYMDV	17	2-14	1	SSYTSSSTYV	10	-	+	c+N
mRA11 28#	7-4-1	2-2	3	4	GTDSLVVPAANDY	13	2-8	2	SSYAGSNTLVV	11			
mRA11 29#	3-30-3	3-22	3	4	GGGIVVVPSYYFDY	14	1-40	2	QSYDSSLSGVV	11			
mRA11 40λ#					see kappa		2-23	2	CSYAGSSTLV	10			
mRA11 53	3-30-3	6-6	2	2	DSRRLEYSSSPDYGDYVRANWYFDL	25	2-11	1	CSYAGSYTYV	10	-	+	-
		4-17	2										
mRA11 57	5-51	2-8	3	5	SPLAAIVLMEGWFDP	15	3-1	2	QAWDSSTVV	9	+	+2	-
mRA11 58λ					see kappa		1-44	2	AAWDDSLNGPVV	12	-	-	-
mRA11 60	1-18	/	/	4	GEGGYDY	7	3-1	3	QAWDSSTAV	9	-	+	N
mRA11 61	3-30	6-19	3	4	FYIAVAGSDY	10	2-23	3	CSYAGSSTLGV	11	+	+	-
mRA11 65	4-34	4-4	2	2	TGYSKTWYFDL	11	6-57	2	QSYDSSNPVV	10	-	+	-
	VH	D	RF	JH	CDR3 (aa)	Length							
mRA11 14	3-21	4-4	1	3	TLQRTPDAFDI	11							
mRA11 30	3-21	/	/	3	GFDAFDI	7							
mRA11 49	1-18	/	/	3	NNYLDAFDI	9							
mRA11 66	3-15	5-24	3	4	TGMGATNDY	9							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 44 Repertoire and reactivity of antibodies from mature naive B cells of rheumatoid arthritis 24 patient.

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mRA24 04	1-8	5-5	2	4	VLKGGLGRGYSYAYWGY	17	3-20	4	QQYGSSPPLT	10	+	+	-
mRA24 19	3-23	6-13	2	4	DLGSSWSHPGACGY	14	4-1	1	QQYYSTPLT	9	-	+	-
mRA24 25	3-23	/	/	3	PVVPSGAFDI	10	3-20	2	QQYGSSMPWT	10	-	-	-
mRA24 27	3-21	3-22	2	4	VRPNYYDSSGYLDY	14	1-5	2	QQYNSYSYT	9	-	-	M
mRA24 31	1-8	5-12	2	4	AQGGYSGYMGIDY	13	1-39	2	QQSYSTLRGYT	11	-	-	-
mRA24 39#	3-30	5-12	1	5	EWLLESNWFDP	11	3-11	1	QQRSNWPPWT	10			
mRA24 45	3-21	/	/	3	DSVRAFDI	8	1-33	2	QQYDNLPYT	9	-	-	M
mRA24 47κ	3-11	3-22	3	3	GGLIVASDAFDI	12	2-28	1	MQALQLWT	8	-	-	c
mRA24 64	4-31	5-5	1	6	SWIQLWLGEGYGMDV	15	1-39	2	QQSYSTPYT	9	+	+2	c
mRA24 79	4-30-4	5-5	3	5	GHTAMVLGNWFDP	13	3-15	2	QQYNNWPPYT	10	+	-	-
mRA24 80	4-30-4	1-26	3	4	ETIVGATRYFDY	12	3-11	1	QQRSNWPPT	9	-	-	-
mRA24 95	4-59	2-2	3	3	GVPAAHDAFDI	11	1-39	1	QQSYSTPWT	9	-	-	-
mRA24 96	3-30-3	6-19	1	4	DMDQWLVRGGEAFDY	15	1-39	1	QQSYSTPVT	9	-	+	-
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mRA24 47λ					see kappa		3-21	3	QVWDSSSDHWV	11	-	-	-
mRA24 74	4-59	4-23	2	5	GYGGNWFDP	9	3-21	2	QVWDSSSDHVV	11	-	-	-
mRA24 91	3-9	3-3	2	4	VGRLTDFWSGYYD	13	7-46	3	LLSYSGARLWV	11	+2	+	-
	VH	D	RF	JH	CDR3 (aa)	Length							
mRA24 21	3-30-3	5-5	1	4	DELWLNYFDY	10							
mRA24 68	3-33	3-22	2	3	DNLYYYDSSGEDDAFDI	17							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 45 Repertoire and reactivity of antibodies from mature naïve B cells of rheumatoid arthritis patient 30

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mRA30 01	3-23	3-9	2	6	EAYDILTGTPLGFYYGMDV	19	1-39	4	QQSYSTPALT	10	+	+	-
mRA30 07	1-24	4-17	2	6	GLYGDYPNYYYYGMDV	16	3-20	1	QQYGSSPR	8	-	-	-
mRA30 11	3-15	2-8	2	5	TWRDCTGGVCYKVKGGGWFDP	21	1-39	2	QQSYSTLGYT	10	-	+	-
mRA30 14	3-7	2-2	2	6	DDRYCSSTSCYGAGARYYYYGMDV	24	2-28	5	MQALQTPT	8	-	-	-
mRA30 16	3-7	3-9	2	6	DEPLYDILTGDGYYYGMDV	19	2D-29	2	MQSIQLPPYT	10	-	-	-
mRA30 17	1-2	1-1	2	2	DRGNWNPGDWYFDL	14	3-20	4	QQYGSSPLT	9	-	+	-
mRA30 18	3-30	6-13	2	6	DGGSSRGSYYYYYMDV	16	3-20	2	QQYGSSRYT	9	-	+	-
mRA30 19	4-34	4-17	2	6	NSVDEPDYGDWLSYYYGMDV	20	3-20	1	QQYGSSPWT	9	-	+	-
mRA30 21	3-73	5-24	3	4	LEMATINY	8	3-15	4	QQYNNWPPVT	10	-	-	-
mRA30 23κ					see lambda		1-5	1	QQYNSYPWT	9	-	-	-
mRA30 24	4-61	1-1	1	5	RMVQLERPYFDP	12	1-39	1	QQSYSTLWT	9	-	-	-
mRA30 34	3-21	/	/	4	DWTLSFDY	8	1-39	4	QQSYSTPLT	9	-	-	-
mRA30 36	3-30	6-13	2	6	PRSSWYDYYYGMDV	14	1-33	3	QQYDNLPVT	9	-	-	-
mRA30 43	1-2	/	/	3	PFMDDAFDI	9	3-15	5	QQYNNWPPIT	10	-	-	-
mRA30 48	3-66	3-16	2	6	GVWGNFPIYYYGMDV	15	3-20	2	QQYGSSPPYT	10	+	+	-
mRA30 47							1-8	1	QQYYSFPWT	9			
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mRA30 06	3-33	/	/	3	GAGPEYAFDI	10	2-23	3	CSYAGSSTCWV	11	-	-	-
mRA30 13	3-30	2-2	1	4	DLGRGQPLLYPDY	13	1-47	3	AAWDDSLSGWV	11	-	-	MS
mRA30 20	3-21	/	/	4	DWTLSFDY	8	3-1	2	QAWDSSTVV	9	-	+	-
mRA30 23λ	3-30	4-17	3	4	LPLTVTTPDPFDY	13	3-25	7	QSADSSGTRAV	11	+	+	-
mRA30 33	1-18	3-9	2	6	EGLNYYDILTGYYHMDV	17	1-40	2	QSYDSSLSGSHVV	13	+	+	-
mRA30 38	3-7	/	/	4	GHYMDY	6	2-14	2	SSYTSSSTLV	10	-	-	-
mRA30 42	3-30	2-15	2	6	DLVPRGYCSGGSCRLYYYYYYGMDV	24	1-51	2	GTWDSSLSAGV	11	+	-	-
mRA30 45	5-a	3-10	2	5	VVLYYYGSGSFRSRDGNWFDP	21	1-44	3	AAWDDSLNGWV	11	-	-	-
mRA30 46	4-31	6-13	2	4	ESFREGSGNPYSSSWYYFDY	20	3-21	3	QVWDSSSDQRV	11	-	+	-
mRA30 12							3-21	2	QVWDSSSDHVV	11			
mRA30 22							2-11	3	CSYAGSYTPFWV	12			
	VH	D	RF	JH	CDR3 (aa)	Length							
mRA30 31	3-74	4-17	2	4	EGDYREQLAVADY	13							
		6-6	1										
mRA30 37	3-21	5-12	3	4	GVRGIVATIPGLRY	14							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 46 Repertoire and reactivity of antibodies from mature naïve B cells of rheumatoid arthritis patient 33

Ig	HEAVY						LIGHT				REACTIVITY		
	VH	D	RF	JH	CDR3 (aa)	Length	Vκ	Jκ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mRA33 02	3-23	3-16	1	4	AARERLGELSLLGLLDY	17	1-5	1	QQYNSYPWT	9	+	+	-
mRA33 05#	1-18	3-3	2	5	LNDFWTSWPKRGGRGIDP	18	1-5	4	QQYNSYLPT	9			
mRA33 07	3-48	6-13	3	6	DEAAAGTYYYYYGMDV	16	3-20	1	QQYGSSPWT	9	-	-	-
mRA33 08#	1-69	5-24	3	4	DGGSEMATDGPSY	13	1-5	1	QQYNSYSWT	9			
mRA33 17	3-30	/	/	5	DPYFSMS	7	3-11	2	QQRSNWPYT	9	-	-	-
mRA33 18#	4-59	3-3	3	6	DRLRLFGGMDV	11	1-5	1	QQYKT	5			
mRA33 25	4-39	1-26	2	6	RIGSYYYYGMDV	12	2-28	2	MQALQTPQT	9	+	+	F
mRA33 32	3-23	/	/	5	VGWNQRSPLDWFDP	14	3-15	1	QQYNNWPQT	9	-	-	-
mRA33 36	3-23	/	/	3	AVVIYDAFDI	10	2-24	4	MQATQFPLT	9	-	-	-
mRA33 37#	3-15	3-10	1	4	TGVLLWFGELFN	12	2-28	2	MQALQTPYT	9			
mRA33 38	4-34	3-3	2	3	AGQDYDFWSGYYRSAGAFDI	20	1-39	4	QQSYSTPLT	9	+2	+	-
mRA33 43	1-18	/	/	4	SRGY	4	2-30	2	MQGTHWPYT	9	-	+	-
mRA33 44	4-59	3-9	1	3	VVETRLRYFDWQGMAFDI	18	1-33	3	QQYDNLPLFT	10	+	+	-
mRA33 45	1-3	4-17	3	6	LTTVTPIRTPEYYYYGMDV	19	1-9	3	QQLNSYPQT	9	+2	+	-
mRA33 103	3-23	2-15	3	4	ESRYVVVVAATHFDY	15	1-39	1	QQSYSTPRT	9	+	+	F
mRA33 104	4-34	1-7	2	4	GTAYNWNYSVGSHFDY	16	1-5	5	QQYNSYSPIT	10	-	-	-
mRA33 108#	3-48	/	/	4	ASFSRQPGEYDY	12	1D-8	2	QQYYSFPLT	9			
mRA33 109	3-23	5-5	2	6	GDVAGYSYGYYYYGMDV	17	1-17	1	LQHNSYPPT	9	+	-	-
mRA33 110	3-23	6-19	2	3	STLREKYSSGWYTNAFDI	18	3-20	4	QQYGSSPRALT	11	+	-	-
mRA33 112	3-30	2-15	2	6	DLNYCSGGSCYEYYYYGMDV	20	1-12	4	QQANSFPFT	9	-	-	-
mRA33 113	4-39	4-4	2	4	QHRFPVYSNPLLAY	14	3-15	2	QQYNNWPSCT	10	+2	+2	-
mRA33 115#	3-23	3-22	3	4	EAFDITMIVVSGYFDY	16	4-1	1	QQYYSTPRT	9			
mRA33 116	5-51	4-4	3	4	LGTTALDY	8	3-20	1	QQYGSSPET	9	-	-	-
mRA33 117	3-23	/	/	3	DGPIDGSAREAFDY	14	1-17	4	LQHNSYPT	8	-	-	-
mRA33 120	3-53	5-12	3	2	SRVATIGRWYFDL	13	1-33	2	QQYDNLYT	8	+	+	-
mRA33 121	3-23	/	/	6	VEAAKLYYYYYGMDV	15	1-6	1	LQDYNYPRT	9	+	+	N+c
mRA33 123	3-48	3-10	3	3	DTPDLITMVRGEDAFDI	17	3-11	2	QQRSNWLYT	9	+	+	-
mRA33 125	3-15	3-10	1	4	APVLLWFGELLSGYFDY	17	3-15	1	QQYNNWPKT	9	+	+2	-
mRA33 126	3-30	2-21	2	2	ESCGGDCYWYFDL	13	2-28	5	MQALQTSIT	9	-	-	-
mRA33 131	5-a	2-2	3	6	ANIVVVPAATQNYYYYGMDV	20	1-5	1	QQYNSYSPWT	10	+	+	-
	VH	D	RF	JH	CDR3 (aa)	Length	Vλ	Jλ	CDR3 (aa)	Length	Poly	HEp-2	Staining
mRA33 09	4-59	6-19	3	3	TIAVADAGDAFDI	13	3-25	2	QSADSSGTYVV	11	-	-	-
mRA33 12	1-18	4-17	2	4	GDYGDPFDY	9	2-14	2	SSYTSSSTLV	10	-	-	-
mRA33 13	4-59	3-22	2	4	TKNPGAYYYDSSGYYSGGFDY	21	1-47	3	AAWDDSLSGWV	11	+2	+2	-
mRA33 14	1-3	2-2	1	6	ADQLLFGGVYGMDV	14	3-25	3	QSADSSGAV	9	+	+	-
mRA33 16	1-69	3-22	2	4	EGLSYYYDSSGCEGCFDY	18	2-14	2	SSYTSSSTVV	10	+	+	-
mRA33 22	3-7	6-19	1	5	LQWPEDHSWFDP	12	3-25	2	QSADSSGTHVV	11	-	-	-
mRA33 24	3-23	6-13	2	6	DVSGYSSSWIYYYYGMDV	18	1-51	1	GTWDSSLSAYV	11			
mRA33 30	3-23	3-3	2	4	DRFGDFWSGYPTYFDY	16	3-1	1	QAWDSSTFYV	10	-	-	-
mRA33 41#	3-48	3-10	3	5	HMVRGVIRQYNWFDP	15	9-49	3	GADHGSGSNFVEV	13			
mRA33 101	3-30	3-22	2	4	GGEKYYYDSTVDY	13	2-8	1	SSYAGSNNFV	10	-	-	-
mRA33 102	4-4	2-15	3	6	DLAIVTRDYYYGMDV	15	1-44	3	AAWDDSLNGWV	11	-	-	-
mRA33 105	3-15	3-3	3	6	SITIFGESDYYYYYGMDV	18	4-60	2	ETWDSNAVV	9	-	-	-
mRA33 106	5-51	6-6	2	5	YSSSSRENNWFDP	13	3-25	2	QSADSSGTNVV	11	-	-	-
mRA33 107	3-15	/	/	6	GVGRYYYYGMDV	12	3-1	3	QAWDSSTAGV	10	-	-	-
mRA33 111	3-23	2-8	3	4	DRDGVLMVYAPPDY	14	2-23	1	CSYAGSSTLYV	11	+	-	-
mRA33 119	3-23	6-19	3	4	EERILTVAGTTNYFDY	16	1-40	2	QSYDSSLSGSV	11	-	-	-
mRA33 122	3-30	2-2	2	5	GGIAYCSSTSCLYNWFDP	18	1-51	3	GTWDSSLSAGGV	12	-	-	F
mRA33 127	3-33	2-2	2	6	DDRYCSSTSCYTDGYYYYGMDV	22	3-1	2	QAWDSSTAAV	10	-	-	-
mRA33 129	3-15	3-22	2	4	EAYDSSGYDFDY	12	2-14	2	SSYTSSSTPV	10	-	-	-
mRA33 130	3-23	2-15	2	4	VEAHCSGGSCYSGGDY	16	3-25	3	QSADSSGTWV	10	-	-	-
mRA33 132#	1-69	3-22	3	6	SIVVVIPYYYYYGMDV	16	9-49	2	GADHGSGSNFVVV	13			
mRA33 134	1-69	6-19	3	4	SVISGIAVAGTVPYFDY	17	3-1	2	QAWDSSTVV	9	+	+	-
mRA33 135	4-31	/	/	4	GRRWLGYFDY	10	2-11	1	CSYAGSYSQV	10	+2	+	N+c
mRA33 136	1-69	2-2	3	3	VGPAAHDAFDI	11	2-11	1	CSYAGSYFYV	10	+	+	-
mRA33 137	3-21	6-19	1	4	GRQWLTFDY	9	1-51	2	GTWDSSLSAVV	11	-	+	N+c
mRA33 01							4-69	1	QTWGTGIHV	9			
	VH	D	RF	JH	CDR3 (aa)	Length							
mRA33 03	3-23	3-3	2	4	MDRANSGYFDY	11							
mRA33 04	4-4	3-10	2	4	VGYGSGSPDY	10							
mRA33 09	4-59	6-19	3	3	TIAVADAGDAFDI	13							
mRA33 11	3-7	3-22	2	4	TLGYYDSSGYSFPPYYFDY	19							
mRA33 21	1-69	1-26	2	5	DHWSGSSPERRNWFDP	15							
mRA33 26	3-23	3-10	1	4	YRFGEFDY	8							
mRA33 40	3-23	4-17	2	4	SPDYGDYRVNFDY	13							

RF, reading frame; #, antibody failed to be expressed

-, non-reactive; +, reactive; +2, highly reactive

c, diffuse cytoplasmic staining; A, actin staining; G, Golgi staining; M, mitochondria staining; MS, mitotic spindle staining; N, nuclear staining; F, cytoplasmic fibers

Supplemental Table 47: Healthy donors enrolled for gene array experiments

	Genotype	Age	Gender
HD17	C/C	28	female
HD07	C/C	48	female
HD16	C/C	29	male
HD10	C/C	36	male
HD06	C/C	60	female
HD1400	C/C	unknown	unknown
HD1424	C/C	unknown	unknown
HD1425	C/C	unknown	unknown
HD750	C/T	58	male
HD12	C/T	30	female
HD13	C/T	34	male
HD862	C/T	53	male
HD-CT2	C/T	unknown	unknown
HD535	T/T	52	female
HD837	T/T	49	female
HD138	T/T	45	female

Supplemental Table 48: fold change values and p-values for each probe shown on Figure 5

Gene Symbol	Fold Change	*p* value
IGHM	*1.886*	0.0443
	1.405	0.0221
	1.61	0.00336
CD79A	*1.687*	0.0263
CD19	*1.681*	0.0042
CD22	*1.675*	0.0151
	1.581	0.0149
BLK	3.115	0.0153
FYN	2.14	0.0137
	1.947	0.0363
CARD11	2.677	0.0296
MALT1	*1.673*	0.00536
	1.522	0.00887
MAP4K1	3.254	0.0127
	2.891	0.0138
	2.773	0.0141
MAP4K2	2.377	0.046
PTPN2	3.107	0.046
	1.852	0.00457
CALM2	2.407	0.0352
SLAMF1	0.337	0.0274
SLAMF6	0.269	n.s
ICOSL	38.19	n.s
	13.09	0.0409
	4.182	0.047
CD40	*1.901*	0.0357
	1.727	0.0322
TRAF1	10.76	0.0279
	7.083	n.s
TRAF2	6.139	0.0157
TRAF4	3.653	n.s
TRAF6	2.52	n.s
TRIP	2.352	0.0437
TANK	2.752	0.0357
MYD88	2.382	0.0371
IRAK1	2.364	0.046
IRAK3	7.194	n.s
NFKB1	3.24	0.0186
RELB	4.566	0.0452
IKBKB	*1.604*	0.0134
IRF3	2.17	0.0103
IRF5	3.699	0.0196
IRF7	4.769	0.0459
IL4R	*1.72*	0.00545
IL13RA1	2.455	0.0368
IL21R	5.373	0.00669
IL11RA	*1.925*	0.00842
	1.822	0.0161
IL17R	3.345	0.0363
BCL2	6.368	0.0415
	5.159	n.s
DICER1	0.195	0.00785
	0.231	0.0156

Supplemental Table 49: Fold Change values and p-values for each probe shown on Supplemental Figure 4

Gene Symbol	Fold Change	p-value
HLA-A	*1.675*	0.0117
	1.397	0.0421
HLA-B	*1.564*	0.0357
HLA-C	*1.772*	0.0357
	1.701	0.0209
	1.678	0.0274
HLA-DMB	*1.332*	0.0357
HLA-E	*1.687*	0.0274
	1.452	0.0357
	1.251	0.0446
HLA-F	2.266	ns
	1.756	0.0157
	1.566	0.00632
	1.317	0.0362
TAP1	2.697	0.0157
ZAP-70	3.011	0.0273
	2.489	n.s.
TRADD	2.27	0.0209
	2.439	0.0209
TRAF5	*0.654*	0.0357
PTPN11	*0.749*	0.0274
NLK	0.198	ns
	0.349	0.0274
	0.43	0.046
CASP2	*0.617*	0.0274
SMAD5	0.157	n.s
	0.228	0.0263
	0.33	0.0178
CALM1	0.359	0.00376
	0.581	0.0145
CAMK1	0.0588	0.0447
CAMK2D	0.442	0.046
	0.516	0.0117
CASK	*0.539*	0.011
CREB1	*0.609*	0.0348
BCL11A	0.451	0.0102
	0.465	0.0307
	0.582	0.00552
EBF	0.466	0.00807
	0.557	0.0322
PBX2	0.418	0.0266
	0.485	0.0116
SMARCA4	4.093	0.0225
	2.114	0.0419
	1.89	0.00706
	1.874	0.0392
ELL2	4.383	0.045
	3.435	ns
NFATC1	*1.858*	0.00865
RUNX3	3.352	0.0357
	2.668	0.0274
SOX4	*1.935*	0.0209
ZNF145	6.838	0.000778
	4.642	ns
	2.695	ns

Gene Symbol	Fold Change	p-value
ZYX	3.75	0.00113
	2.752	0.00632
TLE1	6.369	0.00328
	3.362	0.00865
	3.148	0.0117
TLE3	5.995	0.00328
	5.73	0.00232
POLA2	*1.904*	0.000778
POLD2	2.204	0.00865
POLE4	2.001	0.0157
	1.914	0.0209
POLE	2.355	0.00328
POLG	2.406	0.046
POLI	*1.676*	0.0357
POLR1C	4.143	0.046
	2.668	0.046
POLR2A	4.703	0.0274
POLR3E	3.114	ns
	1.931	ns
	1.823	ns
	1.208	ns
POLH	*0.501*	0.0274
POLK	0.483	0.0157
IL23A	*0.59*	0.0179
TGFBR2	2.164	0.0274
TGFB1	3.847	0.0323
CD24	*1.96*	0.0274
CD44	5.78	ns
	2.633	0.046
	2.503	ns
ITGA4	0.421	0.015
ICAM1	19.28	n.s
	2.625	n.s
ICAM2	2.057	0.00219
	1.729	n.s
ICAM3	2.453	0.0179
TNFRSF19L	3.744	0.0274
IGBP1	*1.373*	0.046
PRKAB1	2.603	0.0274
PTK2B	*1.788*	0.0117
RASA4	2.04	0.00232
TAF6	*1.864*	0.0117
IFNAR1	0.288	n.s
IFNAR2	0.337	0.017
JAK1	*1.612*	0.0389
	1.583	0.0322
JAK3	*0.744*	0.0182
STAT1	3.968	0.00865
	2.329	n.s
IFITM1	4.938	n.s
	3.603	n.s
IFIT1	54.21	n.s
IFIT2	3.69	n.s
IFIT4	9.714	n.s

Supplemental Table 50: Healthy donors enrolled for real-time PCR experiments

	Genotype	Age	Gender
HD10	C/C	36	male
HD07	C/C	48	female
HD06	C/C	60	female
HD1424	C/C	unknown	unknown
HD2425	C/C	unknown	unknown
HD1422	C/C	unknown	unknown
HD1427	C/C	unknown	unknown
HD1432	C/C	unknown	unknown
HD1433	C/C	unknown	unknown
HD1434	C/C	unknown	unknown
HD012809	C/C	unknown	unknown
HD1411	C/C	unknown	unknown
HD21	C/C	47	female
HD22	C/C	47	female
HD23	C/C	49	female
HD24	C/C	54	female
HD25	C/C	29	female
HD26	C/C	53	female
HD528	C/C	22	male
HDC1	C/C	24	male
HDC3	C/C	63	female
HDC4	C/C	28	female
HDC5	C/C	56	female
HDC6	C/C	32	female
HDC7	C/C	26	female
HDC8	C/C	28	male
HDC9	C/C	44	female
HD274	C/C	unknown	unknown
HD275	C/C	unknown	unknown
HD276	C/C	unknown	unknown
HDUK1	C/C	32	female
HD13	C/T	34	male
HD1421	C/T	unknown	unknown
HD1412	C/T	unknown	unknown
HD527	C/T	58	male
HD530	C/T	59	male
HD534	C/T	29	male
HD535	T/T	52	female
HDP2	C/T	46	male
HDUK2	C/T	54	female
HDP4	T/T	51	female
HDP5	C/T	27	female
HDP6	C/T	54	female
HDP7	C/T	22	female
HDP8	C/T	30	female
HDP9	C/T	55	female
HDP10	C/T	31	male

Supplemental Table 51: T1D and T2D patients' characteristics

	T1D01	T1D02	T1D03	T1D04	T1D05	T1D903	T1D929	T1D430	T2D01	T2D02
Genotype	C/C	C/C	C/C	C/C	C/C	C/T	C/T	T/T	C/C	C/C
Age	4.4	5.5	30	6.7	14	22	40	48	17.5	14
Gender	M	M	M	F	F	M	F	M	F	F
Age at presentation	4	5	15	6.6	9	17	12	29	14.7	13.25
Clinical symptoms	T1D mellitus, diabetes keto-acidosis	polyuria, polydipsia, hyperglycemia	T1D mellitus, diabetes keto-acidosis	glycosuria (286 mg/dL), hyperglycemia (232 mg/dL)	polyuria, polydipsia, hyperglycemia	polyuria, polydipsia	polyuria, polydipsia	polyuria, polydipsia	insulin resistance, overweight, irregular menstruation	overweight, metabolic syndrome, T2D mellitus
Blood glucose	unknown	322 mg/dL, 395 mg/dL	unknown	232 mg/dL	unknown	unknown	280 mg/dL	unknown	fasting:188 mg/dL ; 2hours: 278 mg/dL	unknown
Hemoglobin A1C	10.60%	8.60%	unknown	6.70%	unknown	unknown	unknown	unknown	8.10%	unknown
GAD65	>1 IU/mL	Positive	unknown	12.75 IU/mL	unknown	negative	Positive	Positive	-	-
ICA	unknown	Positive	unknown	40 GDJ units	unknown	Positive	unknown	unknown	-	-
Thyroid peroxydase antibodies	-	3.5 IU/mL	unknown	-	+	unknown	unknown	unknown	-	-
Thyroglobulin antibodies	-	-	unknown	-	+	unknown	unknown	unknown	-	-
Other antibodies	mild + 21 hydroxylase antibodies, anti-gliadin	unknown	unknown	unknown	- for celiac related antibodies and 21 hydroxylase antibodies, C peptide<0.5 ng/mL	unknown	unknown	unknown	unknown	unknown
Treatment	MSI of glargin, lispro insulin, then insulin pump	MSI of glargin, lispro insulin, then lispro insulin with insulin pump	MSI of glargin, lispro insulin, then insulin pump	MSI of glargin, lispro insulin, then lispro insulin with insulin pump	MSI of NPH and Regular insulin, then lispro insulin with insulin pump	unknown	unknown	unknown	metformim	insulin, then metformim
Comorbidities	-	Autoimmune hypothyroidism, MS	-	-	auto-immune hypothyroidism	hypothyroidism, Addison's disease	-	hypothyroidism	-	-

GAD65: Glutamate acid decarboxylase, ICA: Islet-cell antibodies, MSI: multiple subcutaneous injections, MS: multiple sclerosis, NPH: Neutral Protamine Hagedorn insulin

Supplemental Table 52: RA patients' characteristics

	RA01	RA02	RA03	RA04	RA05	RA06	RA11	RA24	RA30	RA33
Genotype	C/C	C/C	C/C	C/C	C/C	C/C	C/C	C/C	C/T	T/T
Age	60	62	62	36	30	64	46	31	57	46
Gender	F	M	F	F	F	F	F	F	F	F
age RA onset	47	60	59	35	28	62	44	31	46	31
Joints involved	Virtually all	Knees, elbows, wrists, PIPs	IP, MCP, wrists, elbows, neck, TMJ	Hands, knees	L wrist, ankle	Shoulder, R hand, diffuse arthralgias	Wrists, hands, feet, ankles	Shoulders, wrists, fingers, knees	Feet, hands	Shoulders, wrists, elbows, ankles, hands
Prior DMARDs/steroids	Intermittent steroids, plaquenil, methotrexate	None	Steroids, methotrexate	None	None	None	None	None	Sulfasalazine	Remicade, Imunran (prednisone, etanercept, hydroxychloroquine, infliximab, leflunomide, methotrexate, sulfasalazine)
Months off DMARDs/steroids	5	n/a	4	n/a	n/a	n/a	n/a	n/a	0	N/A
RF	<20	848	1110	55	48	474	113	172	141	89
anti-CCP	32	88	240	63	<20	>250	>250	>60	>60	150
X-ray erosions	+	+	-	-	+	-	+	-	-	-
Comorbidities	Hypertension	Anal fistula, cardiomegaly	TB exposure	None	Childhood seizures	Asthma	Peptic ulcer, depression	None	Breast cancer stage 1, asthma	Guillain-Barre, Addison's disease, ankylosing spondylitis, anticardiolipin antibodies
Family history (autoimmune)	None	Brother with arthritis (kind?)	None	Cousin with SLE	Father and mother with thyroid disease	Parents with arthritis (kind?)	None	Mother with inflammatory arthritis	None	unknown

Patients were considered rheumatoid factor (RF) or anti-CCP positive when their antibody titer was >20. DMARDs: Disease-modifying anti-inflammatory drugs, CCP: cyclic citrullinated peptides, PIPs: proximal interphalangeal joints, IPs: interphalangeal joints, MCP: metacarpophalangeal joint, TMJ: temporomandibular joint, TB: tuberculosis bacillus.

Supplemental Table 53 : list of primers used for real-time PCR

gene	sense primers	antisense primers
Actin	GAA ATC GTG CGT GAC ATT AAG GAG	TGG AGT TGA AGG TAG TTT CGT GGA
CD40	ATG GTT CGT CTG CCT CTG CAG	ATT CGC TTT CAC CGC AAG GAA G
SLAMF6	AAG CTG TCC AGT TAC ACT CTG AG	TCT GCA TCC TCC ACA GAG CAA G
CD19	GAC CAT GTC ATT CCA CCT GGA G	GAA CAC AGG CAG AAG ATC AGA TAA G
IRF5	GAC CAA GCT TTT CAG CCT GGA G	GCA CCA CCT GTA CAG TAA TGA G
BCL2	ATT GAT GGG ATC GTT GCC TTA TG	TTA ATA TCA GTC TAC TTC CTC TGT G
BLK	CCT GAA GGT CAG CGC CCA AG	T CTT CCT GTG ACG AGT GAC CTG
TRAF1	CTG TGC AGG CTG TCT CTC TGA G	GTG ACC TCA TGC TCT TGC ACA G
TRAF2	CCT GCT GCG GAG CAG ACG TG	GCT CAG TAG CAT GGC CAG GTG
MYD88	ACG ACG TGC TGC TGG AGC TG	GCA TCG AAA CGC TCA GGC ATA TG
ICOSL	TGA ACA TTG GCT GCT GCA TAG AG	ACA GCC AGG ATG CTC CAC CTG
NFKB1	CGG CTT CAG AAT GGC AGA AGA TG	GGT TGC TCT AAT ATT TGA AGG TAT G
RELB	GCC ATT GCC TTT CAC GTA CCT G	GCC GTT TGC TCT CGA TGC CAT G
DICER1	TGG AAA GAA GAT ACA CAG CAG TTG	CAA TAA GCA GGT TGG TCT CAT GTG