

**Table S2.** Quantification of Env-specific GC B cells used for BCR sequence analyses, Related to Figures 4 and 5.

Sorted cells used in BCR analyses		
	LN	GC B (% Env-specific B cells)
<b>Bolus</b>	224-13 R	50.1
	224-13 L	81.2
	RRk16 R	88.7
	RRk16 L	92.9
	RCn16 R	71.7
	RCn16 L	78.7
<b>2w pumps</b>	RQq16 R	64.4
	RQq16 L	83.6
	RVh16 R	89.1
	RVh16 L	88.5
	RWr16 R	71.6
	RWr16 L	78.3
<b>4w pumps</b>	RYm16 R	80.7
	RYm16 L	80.3
	RFr16 R	81.1
	RFr16 L	86.4
	ROw16 R	68.1
	ROw16 L	50.8
	RTh16 R	71.6
	RTh16 L	68.2
	RWh16 R	89.8
	RWh16 L	85.7

**Table S3.** Sequences of BDA monoclonal antibodies, Related to Figure 5.

Antibody name	Heavy chain	Light chain
BDA1	QVQLQESGPGLVKPSETSLTCAVSGASISIYWWGWRQ PPGKGLEWIGEIIGSSGNTNSNPSFKSRVTISKDASKNQF SLNLNSVTAADTAVYYCVRVGAAISLPFDYWQQGVLT VSS	SYELTQPPSVSPGQTARITCSGDALPKKYAYWFQQKPGQ SPVLIYEDNKRPSGIPERFSGSSSGTVATLTISGAQVEDEGDY YCYSRHSSGNHGLFGGGTRLTVL
BDA2	QVQLQESGPGLLKPSETSLTCAVSGGSFSSYWWSWIR QPPGKGLEWIGEINGNSGNTHYNPSLKSRTISKDASKN QFSKLNSVTAADTAVYYCARWGPTGVTQGEPEFDY GQQGVLT VSS	SYELTQPPSVSPGQTARITYSGDALPKRYAYWFQQKPG QSPVLIYEDSKRPSGIPERFSGSSSGTVATLTISGAQVEDE ADYYCYSTDSSGNHFFGAGTRLTVL
BDA3	QVQLQESGPGLVKPSETSLTCAVSGHSVSSGYGWGI RQPPGKGLEWIGQIYGYSGSTS YNPSLKSRTV STDSK NQFSLRLSSLTAADTAVYYCARWHGSDI WGP GTT PITI SS	SYELTQPPSVSPGQTARITCSGDALPKKYAYWFQQKPG QSPVLIYEDNKRPSGIPERFSGSSSGTVATLTINGA QVEDE GDY YCYSRHSSGNHGLFGGGTRLTVL
BDA4	QVQLQESGPGLVKPSETSLTCAVSGASIRIYWWGWR QPPGKGLEWIGEIIGSSGNTNSNPSFKSRVTISKDASKN QFSLNLSVTAADTAVYYCVRVGAAISFPFDYW GQQGV VLT VSS	SSELTQPPSVSPGQTARITCSGDALPKKYAYWFQQKPG QSPVLIYEDNKRPSGIPERFSGSSSGTVATLTISGAQVEDE GDFY YCYSRHSSGNHGLFGGGTRLTVL
BDA5	QVQLQESGPGLLKPSETSLTCAVSGGSFSSYWWSWIR QPPGKGLEWIGEINGNSGNTHYNPSLKSRTISKDASKN HFSKLSSVTAADTAVYYCARWGPTGVTQGEPEFDY GQQGV L V T VSS	SYELTQPPSVSPGQTARITYSGDALPKKYAYWFQQKPG QSPVLIYEDNKRPSGIPERFSGSSSGTVATLTISGAQVEDE ADYYCYSTDSSGNHFFGAGTRLTVL
BDA6	QVQLQESGPGLLKPSETSLTCAVSGGSFSSYWWSWIR QPPGKGLEWIGEINGNSGNTHYNPSLKSRTISKDASKN QFSKLNSVTAADTAVYYCARWGPTGVTQGEPEFDY GQQGV L V T VSS	SYELTQPPSVSPGQTARITCSGDALPKYVYWFQQKPG QSPVLIYEDSKRPSGIPERFSGSSSGTVATLTISGAQVEDE ADYYCYSTISSGNDRIFGAGTRLTVL
BDA7	QVQLQESGPGLVKPSETSLTCAVSGASISIYWWSWIRQ PPGKGLEWIGEIIIGNSGNTNSNPSFKSRVTISKDASKNQF SLKLSSVTAADTAVYYCVRVGAAISLPY D Y W G Q Q G V L V T VSS	SYELTQPPSVSPGQTARITCSGDALPKKYAYWFQQKPGQ SPVLIYEDNKRPSGIPERFSGSSSGTVATLTISGAQVEDEGDY YCYSRHSSGNHGLFGGGTRLTVL
BDA8	QVQLQESGPGLLKPSETSLTCAVSGGSFSSYWWSWIR QPPGKGLEWIGEINGNSGNTHYNPSLKSRTISKDASKN QFSKLSSVTAADTAVYYCARWGPTGVTQGEPEFDY GQQGV L V T VSS	SYELTQPPSVSPGQTARITYSGDALPKKYAYWFQQKPGQS PVLIIYEDNKRPSGIPERFSGSSSGTVATLTISGAQVEDEADYY CYSTDSSGNHFFGAGTRLTVL
BDA9	QVQLQESGPGLLKPSETSLTCAVSGGSFSNYWWSWIR QPPGKGLEWIGEINGNSGNTHYNPSLKSRTISKDASKN QFSKLNSVTAADTAVYYCARWGPTGVTQGEPEFDFW GQQGV L V T VSS	SYELTQPPSVSPGQTARITYSGDALPKRYAYWFQQKPGQ SPVLIYEDSKRPSGIPERFSGSSSGTVATLTISGAQVEDEADYY YCYSTDSSGNHFFGAGTRLTVL
BDA10	QVQLQESGPGLVKPSETSLTCAVSGVSISIYWWSWIRQ PPGKGLEWIGEIIIGNSGNTN SSPSFKSRVTISKDASKNQF SLKLSSVTAADTAVYYCVRVGAAISLPFDYW GQQGV L V T VSS	SYELTQPPSVSPGQTARITCSGDALPEKYAYWFQQKPGQ SPVLIYDDNIRPSGIPERFSGSSSGTVATLTISGAQVEDEGDY YCYSRHSSGNHGLFGGGTRLTVL
BDA11	QVQLQESGPGLVKPSETSLTCAVSGGSFSSYWWSWIR QPPGKGLEWIGEINGNSGNTN Y N PSLKSRTISKDASKN QFSKLSSVTAADTAVYYCARVRVGAAISLPFDYW GQ G V L V T VSS	SYELTQPPSVSPGQTARITCSGDALPKKYAYWFQQKPGQ SPVLIYEDNKRPSGIPERFSGSSSGTVATLTISGAQVEDEGDY YCYSRHISGNHGLFGGGTRLTVL
BDA12	BDA1 HC	SYELTQPPSVSPGQTARITCSGDALPKKYAYWFQQKPGQ SPVLIYEDNKRPSGIPERFSGSSSGTVATLTISGAQVEDEGDY YCFSRHSSGNHGLFGGGTRLTVL
BDA13	BDA1 HC	SYELTQPPSVSPGQTARITCSGDALPKKYAYWFQQKPGQ SPVLIYDDSQRP SGIPERFSGSSSGTVATLTISGAQVEDEGDY YCFSRHSSGNHGLFGGGTRLTVL