Supplemental Table 1: FLAIRR-seq Donor Information

Sample	Short ID	Gender	Age	Ethnicity	Smoker	Weight	Height	Viability	Blood Type
2001430007	0007	Male	37.0 yr	Caucasian	No (Non-smoker)	139 kg	193 cm	99.00 %	O negative
200382201C	201c	Male	32.0 yr	Caucasian	No (Non-smoker)	87 kg	185 cm	94.00 %	B positive
200871203C	203c	Male	56.0 yr	Caucasian	No (Non-smoker)	115 kg	165 cm	95.00 %	A positive
200381602C	602c	Female	24.0 yr	African American	No (Non-smoker)	91 kg	168 cm	99.00 %	O positive
200180705C	705c	Male	36.0 yr	Caucasian	No (Non-smoker)	109 kg	180 cm	99.00 %	A positive
2005421008	1008	Female	23.0 yr	Caucasian	No (Non-smoker)	65 kg	171 cm	98.00 %	A positive
2003411013	1013	Male	27.0 yr	Hispanic	No (Non-smoker)	70 kg	173 cm	99.00 %	B positive
2003402008	2008	Female	21.0 yr	Mixed Ethnicity	No (Non-smoker)	57 kg	153 cm	99.00 %	A negative
2001414002	4002	Male	27.0 yr	Caucasian	Yes (Smoker)	104 kg	183 cm	92.00 %	A negative
2005405001	5001	Female	56.0 yr	Asian	No (Non-smoker)	65 kg	160 cm	100.00 %	B positive
PICR7356	PICR7356	Male	41.0 yr	Non-Hispanic or Latino	N/A	N/A	N/A	N/A	N/A
(UofL) School of Medicine Healthy Donor	N/A	Male	57.0 yr	Caucasian	N/A	N/A	N/A	N/A	N/A

Supplemental Table 2. Primers and Barcodes used for FLAIRR-seq Molecular Method

Primer Name	Barcode 5->3	Target 5->3	Final Sequence 5->3
IgG_CH3_bc1001	CACATATCAGAGTGCG	CATGCATCACGGAGCATGAG	CACATATCAGAGTGCGCATGCATCACGGAGCATGAG
IgG_CH3_bc1002	ACACACAGACTGTGAG	CATGCATCACGGAGCATGAG	ACACACAGACTGTGAGCATGCATCACGGAGCATGAG
IgG_CH3_bc1003	ACACATCTCGTGAGAG	CATGCATCACGGAGCATGAG	ACACATCTCGTGAGAGCATGCATCACGGAGCATGAG
IgG_CH3_bc1004	CACGCACACACGCGCG	CATGCATCACGGAGCATGAG	CACGCACACACGCGCGCATGCATCACGGAGCATGAG
IgG_CH3_bc1005	CACTCGACTCTCGCGT	CATGCATCACGGAGCATGAG	CACTCGACTCTCGCGTCATGCATCACGGAGCATGAG
IgG_CH3_bc1006	CATATATATCAGCTGT	CATGCATCACGGAGCATGAG	CATATATATCAGCTGTCATGCATCACGGAGCATGAG
IgG_CH3_bc1008	ACAGTCGAGCGCTGCG	CATGCATCACGGAGCATGAG	ACAGTCGAGCGCTGCGCATGCATCACGGAGCATGAG
IgG_CH3_bc1012	ACACTAGATCGCGTGT	CATGCATCACGGAGCATGAG	ACACTAGATCGCGTGTCATGCATCACGGAGCATGAG
IgM_CH4_bc1001	CACATATCAGAGTGCG	GTCTCCCCCGTGTTCCATTC	CACATATCAGAGTGCGGTCTCCCCCGTGTTCCATTC
IgM_CH4_bc1002	ACACACAGACTGTGAG	GTCTCCCCCGTGTTCCATTC	ACACACAGACTGTGAGGTCTCCCCCGTGTTCCATTC
IgM_CH4_bc1003	ACACATCTCGTGAGAG	GTCTCCCCCGTGTTCCATTC	ACACATCTCGTGAGAGGTCTCCCCCGTGTTCCATTC
IgM_CH4_bc1004	CACGCACACACGCGCG	GTCTCCCCCGTGTTCCATTC	CACGCACACACGCGCGGTCTCCCCCGTGTTCCATTC
IgM_CH4_bc1005	CACTCGACTCTCGCGT	GTCTCCCCCGTGTTCCATTC	CACTCGACTCTCGCGTGTCTCCCCCGTGTTCCATTC
IgM_CH4_bc1006	CATATATATCAGCTGT	GTCTCCCCCGTGTTCCATTC	CATATATATCAGCTGTGTCTCCCCCGTGTTCCATTC
IgM_CH4_bc1008	ACAGTCGAGCGCTGCG	GTCTCCCCCGTGTTCCATTC	ACAGTCGAGCGCTGCGGTCTCCCCCGTGTTCCATTC
IgM_CH4_bc1012	ACACTAGATCGCGTGT	GTCTCCCCCGTGTTCCATTC	ACACTAGATCGCGTGTGTCTCCCCCGTGTTCCATTC
TSO_UMI	5'- AAGCAGUGGTAUCAACGCAGAGUNNNNUNNNNUNNNNUCTTrGrGrG -3'		

Supplemental Table 3: sr-AIRR-seq and FLAIRR-seq pRESTO and Change-O Pipeline Read Counts

sr-AIRR-seq

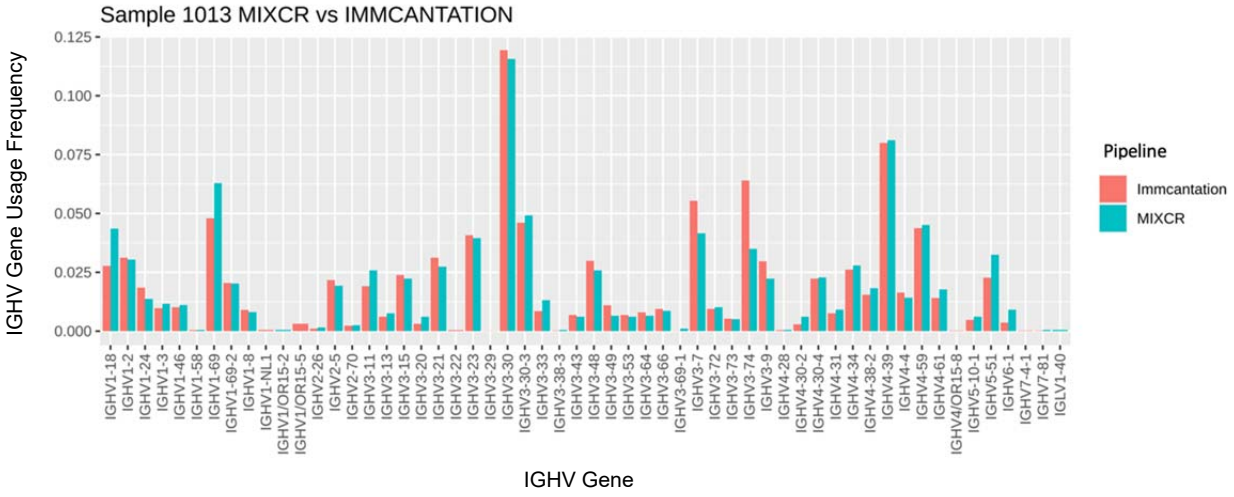
Sample	Start R1	Start R2	Quality Filter R1	Quality Filter R2	Length Filter R1	Length Filter R2	Mask Primer Pair R1 IGM	Mask Primer Pair R1 IGG	Mask Primer Pair R2	Consensus R1 IGM	Consensus R1 IGG
0007	841627	841627	840447	824203	809108	754640	424261	320692	744953	42691	19294
201c	1509063	1509063	1508821	1486250	1443879	1359277	818708	527372	1346080	98872	33489
203c	1006965	1006965	1005528	987965	966698	900107	593540	298804	892344	80256	31183
602c	1275902	1275902	1274218	1253423	1229554	1149372	512249	627449	1139698	40180	54527
705c	1113660	1113660	1113251	1094451	1065379	994472	441845	542531	984376	62271	21622
1008	1310350	1310350	1308354	1279670	1257122	1147973	563435	575400	1138835	85370	93698
1013	1158222	1158222	1157870	1137860	1115429	1045281	510527	524412	1034939	40840	32531
2008	835928	835928	835584	818130	804971	742595	343383	392596	735979	40470	27887
4002	632272	632272	632128	620509	603814	546881	326911	172689	499600	55138	12033
5001	695884	695884	695568	685207	657394	605206	323743	237184	560927	37088	18169

Sample	Consensus Pair R1 IGM	Consensus Pair R1 IGG	Consensus Pair R2	Assemble IGM	Assemble IGG	Collapse IGM	Collapse IGG	Split IGM	Split IGG	IG Blast IGM	IG Blast IGG
0007	42691	19294	54036	30831	15217	12777	6281	9363	3205	9154	3164
201c	98872	33489	105587	66722	25015	26850	10031	18353	4639	17888	4568
203c	80256	31183	88067	54483	23085	24623	9881	18712	5864	18189	5795
602c	40180	54527	79316	29949	38078	12306	16553	8584	7851	8378	7736
705c	62271	21622	68358	42597	15358	19484	4621	14700	1491	14273	1362
1008	85370	93698	126939	55556	56848	20264	26612	13022	12449	12710	1221
1013	40840	32531	65769	30765	25250	12769	10135	9201	5192	9012	502
2008	40470	27887	58854	30069	21681	11608	8762	8734	3965	8551	3900
4002	55138	12033	59929	42915	8949	18411	3549	11845	1145	11607	1112
5001	37088	18169	51206	27927	13930	10018	4991	6464	1937	6314	1882

FLAIRR-seq

Sample	Quality Filter	Mask Primer	Mask Primer IGG	Consensus IGG	Collapse IGG	Split IGG	IGG Blast
0007	181109	169240	169240	17881	12794	6641	4880
201c	221301	210050	210050	36053	26043	13057	10819
203c	475703	467231	467231	14923	10261	4546	3778
602c	344906	332644	332644	33903	23979	10750	9225
705c	279601	272045	272045	18627	12913	5038	2328
1008	238820	232762	232762	57020	41061	20314	18235
1013	396322	388655	388655	27871	20603	10891	7487
2008	418906	407961	407961	16441	11081	5706	4258
4002	398838	374062	374062	19692	15091	6830	5377
5001	313843	306159	306159	42845	25359	14970	12146

Sample	Quality Filter	Mask Primer	Mask Primer IGM	Consensus IGM	Collapse IGM	Split IGM	IGM Blast
0007	331380	307398	307398	46384	40581	18178	14926
201c	148355	140380	140380	98069	86061	17095	12803
203c	509536	506280	506280	37527	31679	12476	10636
602c	273103	268267	268267	48897	43704	19601	16406
705c	435391	427305	427305	79251	74897	21045	17417
1008	181063	171100	171100	47531	40075	18353	15284
1013	262617	258749	258749	52508	46827	21303	17812
2008	502354	498342	498342	47596	39149	16393	14132
4002	489287	476829	476829	91732	87654	26195	22379
5001	171688	163545	163545	18944	16004	8102	6164



Supplemental Figure 1. IGHV gene usage of sample "1013" when analyzed with Immcantation and MiXCR pipelines.