

**B-1a cells acquire their unique characteristics by bypassing the pre-BCR selection stage.**

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**Supplementary Tables 1-2**

		No $\gamma$ -H2AX association		$\gamma$ -H2AX association		Sample size (cells)
		number	%	number	%	
Exp1	BM pro-B	123	96.9	4	3.1	127
	BM pre-B	86	72.9	32	27.1	118
	FL pro-B	125	84.5	23	15.5	148
Exp2	BM pro-B	231	97.1	7	2.9	238
	BM pre-B	139	67.1	68	32.9	207
	FL pro-B	60	82.2	13	17.8	73
<b>TOTAL:</b>	<b>BM pro-B</b>	<b>354</b>	<b>97.0</b>	<b>11</b>	<b>3.0</b>	<b>365</b>
	<b>BM pre-B</b>	<b>225</b>	<b>69.2</b>	<b>100</b>	<b>30.8</b>	<b>325</b>
	<b>FL pro-B</b>	<b>185</b>	<b>83.7</b>	<b>36</b>	<b>16.3</b>	<b>221</b>
Statistical analysis (Fisher's exact test):				p-value		Level
BM pro-B vs BM pre-B				2.12e-15		***
BM pro-B vs FL pro-B				5.89e-6		***
BM pre-B vs FL pre-B				1.19e-3		**

**Supplementary Table 1** Data table summarizing two independent experiments immuno-FISH experiments for  $\gamma$ -H2AX association with the *Igk* locus in bone marrow pro-B cells, bone marrow pre-B cells and Fetal liver pro-B cells. Significance level was determined using Fisher's exact test on the combined data from the two experiments.

Rearrangement sequencing primers	
Name	Primer Sequence 5' to 3'
IgH V-FR3-1	AAGTTCAAGGGCAAGGCC
IgH V-FR3-2	CTCCAAGAGCCAAGTTTTCTT
IgH V-FR3-3	CAATCTCCAAGGATACCTCCA
IgH V-FR3-4	CGITTCACCATCTCCAGAGA
IgH V-12	ACTTTCTACAACCCATCTCT
IgH V-11	ACGCACCATCCATAAAGGAT
IgH V-6	AGGTTCAACCATCTCAAGAGA
IgH V-9	TTCAAGGGACGGTTTGCCTT
IgH reverse [J1/4]	CTTACCTGAGGAGACGGTGAC
IgH reverse [J2]	AGGACTCACCTGAGGAGAC
IgH reverse [J3]	AGGACTCACCTGCAGAGAC
Igk forward Vk -sense IgL	GGCTGCAGSTTCAGTGGCAGTGGRTCWGGRAC
Igk forward Vk9-128	TCAAGGTTCAAGTGGCAGTGGGTCTTAGTC
Igk forward Vk14-126	GGGGTCCCATCAAGATTCAGTGGCAGTGGATC
Igk reverse [J1/2]	TACTTACGTTTKATTTCCAGCTTGGT
Igk reverse [J3/4]	TACTTAGGTTTTATTTCCAGTCTGGT
Igk reverse [J5]	TACTTACGTTTCAGCTCCAGCTTGGT

**Supplementary Table 2** List of primers used to PCR amplify *Igh* and *Igk* DNA rearrangements for B cell repertoire sequencing.