

Supplemental Table 1. Antibodies and reagents.

Flow Cytometry		
$\alpha$ muCD19-BV421 <sup>TM</sup>	BD Biosciences	Cat. # 562701 (Clone 1D3)
$\alpha$ muCD19-APC	TONBO Biosciences	Cat. # 20-0193 (Clone 1D3)
$\alpha$ muB220-FITC	BioLegend	Cat. # 103206 (Clone RA3-6B2)
$\alpha$ muCD3-Pacific Blue <sup>TM</sup>	BioLegend	Cat. # 100214 (Clone 17A2)
$\alpha$ muCD3-APC-Cy7	BioLegend	Cat. # 100221 (Clone 17A2)
$\alpha$ muCD4-APC	BioLegend	Cat. # 100412 (Clone GK1.5)
$\alpha$ muCD4-PerCP-Cy5.5	eBioscience	Cat. # 45-0042-82 (Clone RM4-5)
$\alpha$ muCD8b-PE	eBioscience	Cat. # 12-0083-81 (Clone H35-17.2)
$\alpha$ muCD11b-APC	BioLegend	Cat. # 101212 (Clone M1/70)
$\alpha$ muCD11c-eFuer450	eBioscience	Cat. # 48-0114-82 (Clone N418)
$\alpha$ muCD11c-APC-Cy7	BioLegend	Cat. # 117323 (Clone N418)
$\alpha$ muIgM-PE	BioLegend	Cat. # 406508 (Clone RMM-1)
$\alpha$ muIgD-APC	BioLegend	Cat. # 405714 (Clone 11-26c.2a)
$\alpha$ muIgG1-APC	BioLegend	Cat. # 406609 (Clone RMG1-1)
$\alpha$ muIgG3-BV421 <sup>TM</sup>	BD Biosciences	Cat. # 565808 (Clone R40-82)
$\alpha$ muc-Kit-PE-Cy7	BioLegend	Cat. # 105813 (Clone 2B8)
$\alpha$ muCXCR5-APC	BioLegend	Cat. # 145506 (Clone L138D7)
$\alpha$ muCD23-PE	BioLegend	Cat. # 101607 (Clone B3B4)
$\alpha$ muCD45-BV650 <sup>TM</sup>	BioLegend	Cat. # 103151 (Clone 30-F11)
$\alpha$ muCD45-PerCP	BioLegend	Cat. # 103130 (Clone 30-F11)
$\alpha$ muCD45.1-BV510 <sup>TM</sup>	BioLegend	Cat. # 110471 (Clone A20)
$\alpha$ muCD45.2-PE-Cy7	BioLegend	Cat. # 109830 (Clone 104)
$\alpha$ muAA4.1-APC	BioLegend	Cat. # 136509 (Clone AA4.1)
$\alpha$ muFAS-BV510 <sup>TM</sup>	BD Biosciences	Cat. # 563646 (Clone Jo2)
$\alpha$ muGL-7-PE	BioLegend	Cat. # 144607 (Clone GL7)
$\alpha$ muGL-7-PerCP-Cy5.5	BioLegend	Cat. # 144609 (Clone GL7)
$\alpha$ muGr-1-Pacific Blue <sup>TM</sup>	BioLegend	Cat. # 108430 (Clone RB6-8C5)
$\alpha$ muSca-1-PerCP	BioLegend	Cat. # 108121 (Clone D7)
$\alpha$ muLineage-BV421 <sup>TM</sup>	BioLegend	Cat. # 133311
$\alpha$ muPD-1-FITC	eBioscience	Cat. # 11-9985-85 (Clone J43)
$\alpha$ Cleaved caspase 3-PE	BD Biosciences	Cat. # 561011 (Clone C92-605)
$\alpha$ BrdU-APC	Biosearch Technologies	Cat. # 339808 (Clone Bu20a)
Immunofluorescence staining		
$\alpha$ muB220-FITC	BioLegend	Cat. # 103206 (Clone RA3-6B2)
$\alpha$ muGL7-PerCP-Cy5.5	BioLegend	Cat. # 144609 (Clone GL7)
ELISA/ELISPOT		
$\alpha$ muIgM-UNLB	SouthernBiotech	Cat. # 1020-01
$\alpha$ muIgG-UNLB	SouthernBiotech	Cat. # 1030-01

$\alpha$ muIgA-UNLB	SouthernBiotech	Cat. # 1040-01
$\alpha$ muIgM-biotin	SouthernBiotech	Cat. # 1020-08
$\alpha$ muIgG1-biotin	SouthernBiotech	Cat. # 1070-08
$\alpha$ muIgG2a-biotin	SouthernBiotech	Cat. # 1080-08
$\alpha$ muIgG2b-biotin	SouthernBiotech	Cat. # 1090-08
$\alpha$ muIgG3-biotin	SouthernBiotech	Cat. # 1100-08
$\alpha$ muIgA-biotin	SouthernBiotech	Cat. # 1040-08
NP <sub>7</sub> -BSA	Biosearch Technologies	Cat. # N-5050L-10
NP <sub>34</sub> -BSA	Biosearch Technologies	Cat. # N-5050H-10
Other flow cytometry reagents		
Fixable Viability Dye eFlour™ 780	eBioscience	Cat. # 65-0865-14
Ghost Dye™ Red 710	TONBO Biosciences	Cat. # 13-0871-T500
7-Aminoactinomycin D (7-AAD)	Sigma Aldrich	Cat. # A9400
Immunoblotting		
$\alpha$ M1 linear ubiquitin	Millipore-Sigma	Cat. # MABS451 (Clone LUB9)
$\alpha$ K48-linkage Polyubiquitin	Cell Signaling Technology	Cat. # 12805
$\alpha$ Ubiquitin	Cell Signaling Technology	Cat. # 3933
$\alpha$ Caspase-3 (D3R6Y)	Cell Signaling Technology	Cat. # 14220
$\alpha$ Cleaved Caspase-3 (Asp175)	Cell Signaling Technology	Cat. # 9661T
$\alpha$ Cleaved Caspase-9 (Asp353)	Cell Signaling Technology	Cat. # 9509T
$\alpha$ BIM (C34C5)	Cell Signaling Technology	Cat. # 2933T
$\alpha$ BCL-2 (D17C4)	Cell Signaling Technology	Cat. # 3498T
$\alpha$ Caspase-8 (1C12)	Cell Signaling Technology	Cat. # 9746
$\alpha$ Caspase-9 (C9)	Cell Signaling Technology	Cat. # 9508
$\alpha$ PARP	Cell Signaling Technology	Cat. # 9542
$\alpha$ cFLIP (D5J1E)	Cell Signaling Technology	Cat. # 56343
$\alpha$ BCL-XL (54H6)	Cell Signaling Technology	Cat. # 2764T
$\alpha$ BAX (D3R2M)	Cell Signaling Technology	Cat. # 14796S
$\alpha$ BAD (D24A9)	Cell Signaling Technology	Cat. # 9239
$\alpha$ Phospho-BAD (Ser136)	Cell Signaling Technology	Cat. # 4366
$\alpha$ Cytochrome C (D18C7)	Cell Signaling Technology	Cat. # 11940
$\alpha$ Phospho-NF- $\kappa$ B p65 (Ser536)	Cell Signaling Technology	Cat. # 3033
$\alpha$ NF- $\kappa$ B p65 (D14E12)	Cell Signaling Technology	Cat. # 8242
$\alpha$ XIAP	Cell Signaling Technology	Cat. # 2042
$\alpha$ Phospho-STAT3 (Tyr705)	Cell Signaling Technology	Cat. # 9145
$\alpha$ Phospho-STAT5 (Tyr694)	Cell Signaling Technology	Cat. # 4322
$\alpha$ STAT3 (79D7)	Cell Signaling Technology	Cat. # 4904
$\alpha$ STAT5 (D2O6Y)	Cell Signaling Technology	Cat. # 94205
$\alpha$ - $\beta$ -actin (13E5)	Cell Signaling Technology	Cat. # 4970S

Supplemental Table 2. Oligonucleotide sequences.

qRT-PCR		
Gene	Forward primer	Reverse primer
<i>Aicda</i>	5'-AGAAAGTCACGCTGGAGACC-3'	5'-CTCCTCTTCACCACGTAGCA-3'
<i>Prdm1</i>	5'-TTCTCTTGAAAAACGTGTGGG-3'	5'-GGAGCCGGAGCTAGACTTG-3'
<i>Iγ1-Cγ1</i>	5'-TCGAGAAGCCTGAGGAATGTG-3'	5'-ATGGAGTTAGTTTGGGCAGCA-3'
<i>Iγ2a-Cγ2a</i>	5'-GCTGATGTACCTACCGAGAGA-3'	5'-GCTGGGCCAGGTGTTTCGAGGTT-3'
<i>Cflar</i>	5'-GCTCCAGAATGGGCGAAGTAA-3'	5'-ACGGATGTGCGGAGGTAAAAA-3'
<i>Bcl2</i>	5'-ATGCCTTTGTGGAACATATATGGC-3'	5'-GGTATGCACCCAGAGTGATGC-3'
<i>Bcl2l1</i>	5'-GACAAGGAGATGCAGGTATTGG-3'	5'-TCCCGTAGAGATCCACAAAAGT-3'
<i>Mcl1</i>	5'-AAAGGCGGCTGCATAAGTC-3'	5'-TGGCGGTATAGGTCGTCCTC-3'
<i>Bcl2l1l</i>	5'-CCCGGAGATACGGATTGCAC-3'	5'-GCCTCGCGGTAATCATTTGC-3'
<i>Bad</i>	5'-AAGTCCGATCCCGGAATCC-3'	5'-GCTCACTCGGCTCAAACCTCT-3'
<i>Bax</i>	5'-CCGGCGAATTGGAGATGAACT-3'	5'-CCAGCCCATGATGGTTCTGAT-3'
<i>Cd79b</i>	5'-TGTTGGAATCTGCAAATGGA-3'	5'-TAGGCTTTGGGTGATCCTTG-3'
<i>Gapdh</i>	5'-AGGTCGGTGTGAACGGATTTG-3'	5'-TGTAGACCATGTAGTTGAGGTCA-3'
Genotyping		
<i>Sharpin</i> <sup>+</sup>	5'-TTAGGCACCGAGCCTGGGG-3'	5'-TCGACCAGGTGGCCCGGACATATT-3'
<i>Sharpin</i> <sup>epdm</sup>	5'-TTAGGCACCGAGCCTGGGG-3'	5'-TCGACCAGGTGGCCCGGACATATT-3'
<i>Igh</i> <sup>+</sup>	5'-CCGTCTAGCTTGAGCTATTAGG-3'	5'-GAAGAGGACGATGAAGGTGG-3'
<i>Igh</i> <sup>μMT</sup>	5'-CCGTCTAGCTTGAGCTATTAGG-3'	5'-TTGTGCCAGTCATAGCCGAAT-3'
V <sub>186.2</sub> amplicon		
V <sub>186.2</sub> DJ <sub>H</sub> -C <sub>μ</sub>	5'-CATGCTCTTCTTGGCAGCAACAGC-3'	5'-CCTGTCCTCAGTGTTGGGAA-3'
V <sub>186.2</sub> DJ <sub>H</sub> -C <sub>γ1</sub>	5'-CATGCTCTTCTTGGCAGCAACAGC-3'	5'-GTGCACACCGCTGGACAGGGATCC-3'
V <sub>186.2</sub> DJ <sub>H</sub> -C <sub>μ</sub> with adaptor R2	5'-CATGCTCTTCTTGGCAGCAACAGC-3'	5'-[GTCTCGTGGGCTCGGAGATGTGTATAAG AGACAG]GAAATGGTGCTGGGCAGGAA-3'
V <sub>186.2</sub> DJ <sub>H</sub> -C <sub>γ1</sub> with adaptor R2	5'-CATGCTCTTCTTGGCAGCAACAGC-3'	5'-[GTCTCGTGGGCTC]AGTTTGGGCAGCA- 3'