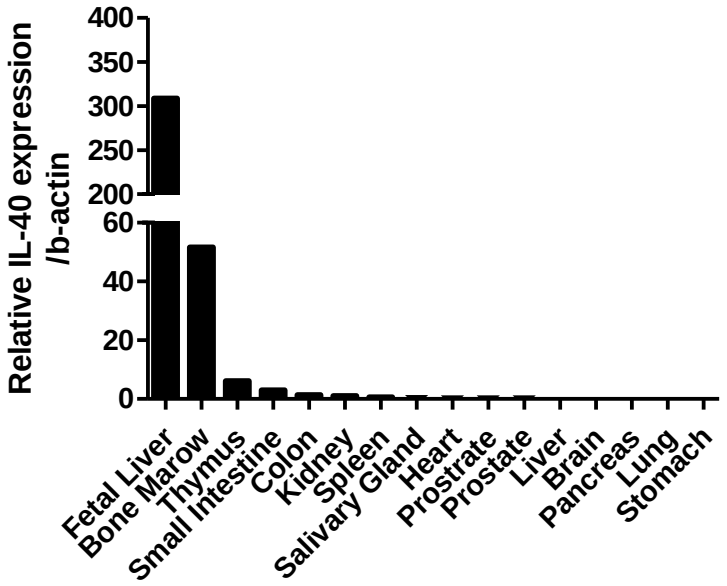
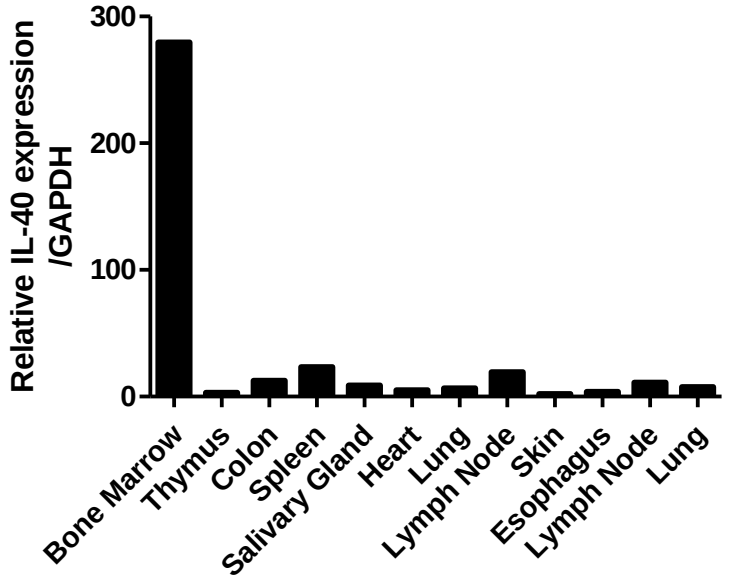
a

```
Human  23   EEITPVVSIAYKVLEVFPKGRWVLITCCAPQPPPPITYSLCGTKNIKVAKKVVKTHEPAS  82
            EE T  ++IAYKVLEV+P+ R VLITC AP+   PITYSL  ++ I VAKKVV    PAS
Mouse  19   EEQTEGITIAYKVLEVYPQSRRVLITCDAPEASQPITYSLLASRGILVAKKVVHDSVPAS  78
Human  83   FNLNVTLKSSPDLLTYFCWASSTSGAHVDSARLQMHWELWSKPVSELRANFTLQDRGAGP  142
            FN+N+T+KSSPDLLTY C A+S SG +  S+RLQM+ ELW+KPVS+L+A+F L+   +GP
Mouse  79   FNINITIKSSPDLLTYSCQATSNSGTYGPSSRLQMYQELWAKPVSQLQADFVLRHGDSGP  138
Human  143  RVEMICQASSGSPPITNSLIGKDGQVHLQQRPCHRQPANFSFLPSQTSDWFWCQAANNAN  202
             VE+ C ASSGSPPIT  L+G  G+V  QQRP H +PANFS   SQT+ WF C+A N+
Mouse  139  TVELSCLASSGSPPITYRLVGNGGRVLAQQRPLHGKPANFSLPLSQTTGWFQCEAENDVG  198
Human  203  VQHSALTVVP  212
            V  SA   +P
Mouse  199  VDSSARIPLP  208
```

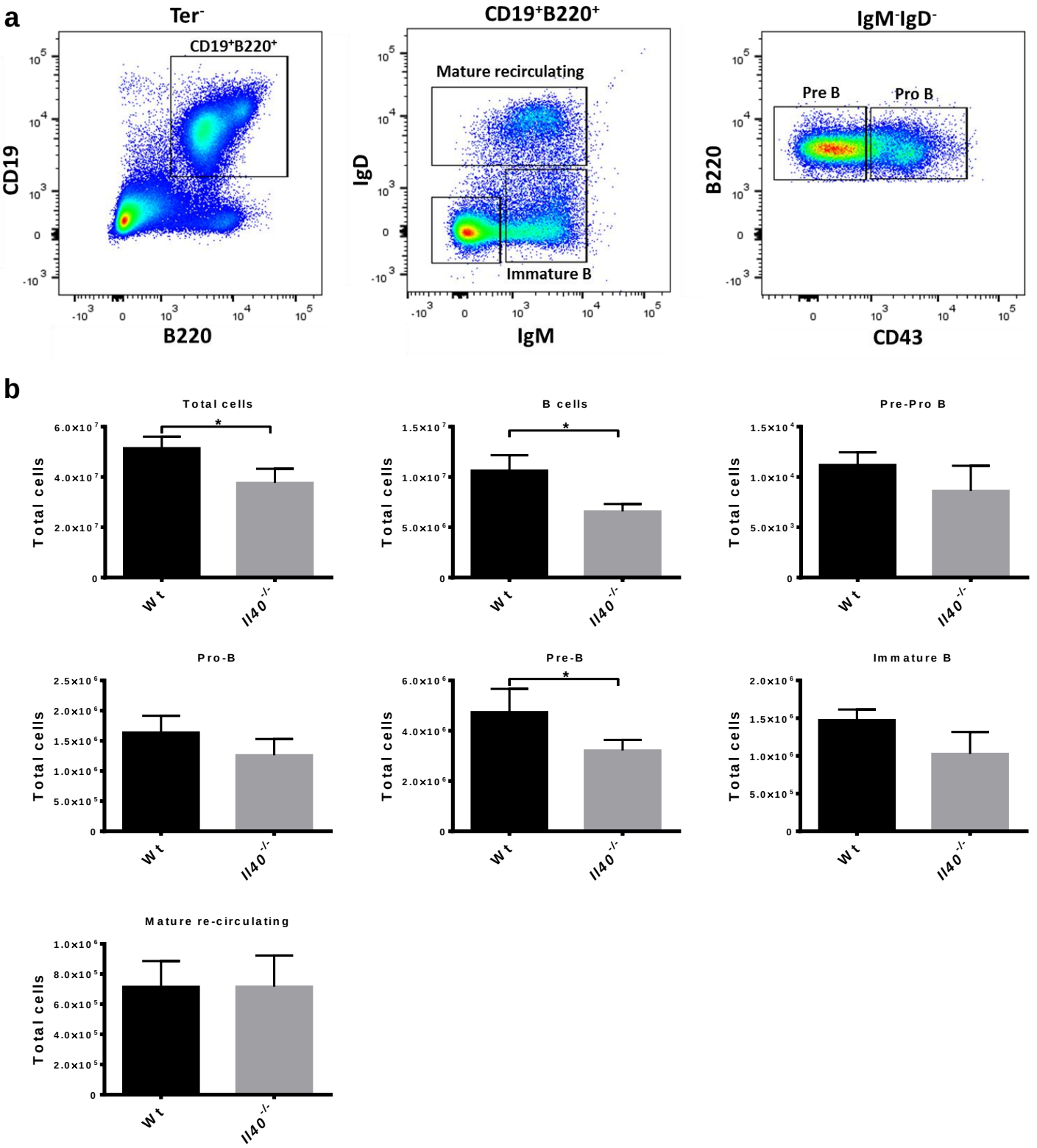
b



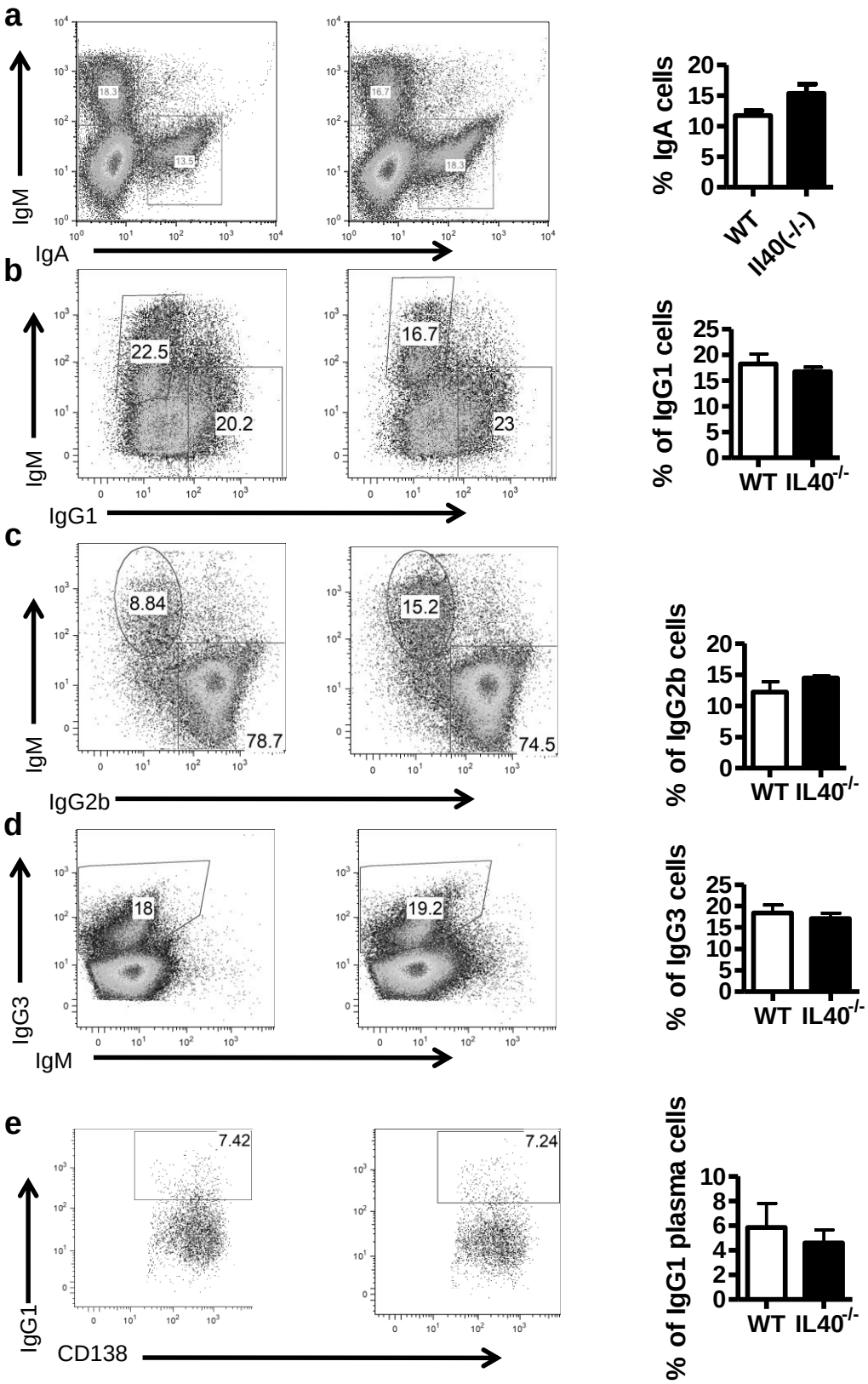
c



Supplementary Figure S1. IL-40 expression in mouse and human. IL-40 expression is conserved in human and mice (72% homology at the amino acid level). (**a**) Human and mouse primary protein structure alignment. (**b**) qPCR expression pattern of human tissues. (**c**) qPCR expression pattern of mouse tissues.



Supplementary Figure S2. B cell populations are reduced in the *Il40*$^{-/-}$mouse (**a**) Gating strategy for analyses of B cell populations in the bone marrow. (**b**) Total number of cells and B cell populations in the bone marrow of WT and *Il40*$^{-/-}$ mice. B cells (CD19^{+},B220^{+}), Pre-Pro B cells (B220^{+}, IL7R^{+}, Flk2^{+}, Ly6D^{+}), Pro-B (CD19^{+}, B220^{+}, IgM^{-}, IgD^{-}, CD43^{+}), Pre-B (CD19^{+}, B220^{+}, IgM^{-}, IgD^{-}, CD43^{-}), Immature B cells (CD19^{+}, B220^{+}, IgM^{+}, IgD^{-}), and mature recirculating B cells (CD19^{+}, B220^{+}, IgM^{+}, IgD^{+}). Bars represent mean +/- SEM, n=4 per group, *P=<0.05. Representative of two independent experiments.



Supplementary Figure S3. B cells from IL-40 wt and IL-40 -/- mice were measured by in vitro stimulation and flow cytometry assays for their relative ability to undergo CSR to the indicated isotypes and plasmablast/plasma cell differentiation. B cells were stimulated for 4 days with LPS and the following cytokines inducing isotype-specific CSR: IL-4, IL-5, TGFb and anti-IgD/dextran for IgA (**a**)**,** IL-4 for CSR to IgG1 (**b**)**;** TGFb anti-IgD/dextran for CSR to IgG2b (**c**); LPS alone to induce IgG3 (**d**). B cells stimulated with LPS and IL-4 for 4 days were measured by flow cytometry for the percentage of IgG1 + CD 138+ class-switched plasmablasts/plasma cells (E). Panels on the right of each set of plots indicate results from triplicate experiments.

Table S1. List of primers used for qRT-PCR

Human			
Gene	**Forward Sequence**	**Reverse Sequence**	**UPL[a]**
C17orf99	5'-ACGGTTCATTCTACATGGCTG-3'	5'-CCGAGGCATGGGCTCCCTG-3'	64
CD19	5'-TCCACCTGGAGATCACTGCT-3'	5'-GACCTTCCAGCCACCAGTC-3'	66
GAPDH	5'-AGCCACATCGCTCAGACAC-3'	5'-GCCCAATACGACCAAATCC-3'	60
Mouse			
Gene	**Forward Sequence**	**Reverse Sequence**	**UPL[a]**
6030468B19Rik	5'-GCCTGCAGCTGAGACACTG-3'	5'-GCACCTATGGACCCAGCA-3'	50
CD19	5'-AAGGTCATTGCAAGGTCAGC-3'	5'-CTGGGACTATAAATCCACCA-3'	21
GAPDH	5'-TTTGATGTTAGTGGGGTCTCG-3'	5'-AGTTTGTCATCAACGGGAAG-3'	9

[a]Universal Probe Library, Roche, Swizerland