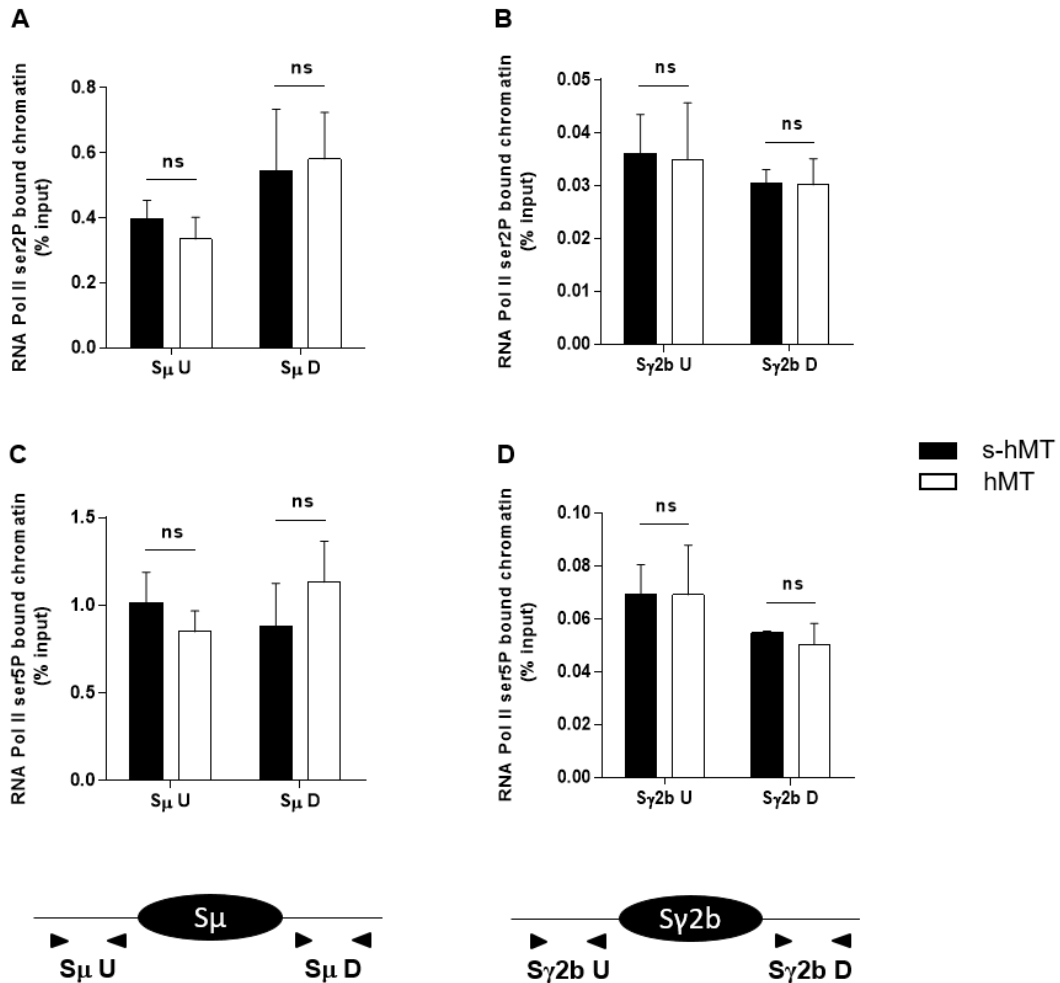


### Supplementary figure 1. Defect of IgG1 class switching in mice lacking $I\gamma 1$ dss

(A) Quantification of Ig isotypes (IgM, IgG2b, and IgG1) in sera of homozygous *s-hMT* and *hMT* mice by ELISA. (B-D) Splenic B cells were isolated from homozygous *s-hMT* and *hMT* mice and stimulated with LPS. After 4 days stimulation, amounts of Ig isotypes (IgM, IgG2b, and IgG1) were determined in culture supernatants by ELISA (B). After 3 days stimulation, post-switch  $I\mu\text{-C}\gamma 1$  (C) and AID (D) mRNA expression relative to GAPDH mRNA expression was monitored by quantitative RT-PCR. Expression of  $I\mu\text{-C}\gamma 1$  or AID in B cells from *s-hMT* mice was normalized to 1. Data are means  $\pm$  SEM,  $n=3$  to 4 for each genotype. Unpaired two-tailed Student's *t* test was used to determine significance. ND: not detected, ns: non significant, \*\*\*\*  $P < 0.0001$ .



**Supplementary figure 2. Similar RNA pol II binding in S $\mu$  and S $\gamma$ 2b regions of *s-hMT* and *hMT* mice**

Splenic B cells were isolated from homozygous *s-hMT* and *hMT* mice and stimulated with LPS. After 2 days, the cells were analysed for Ser2P RNA pol II (A, B) and Ser5P RNA pol II (C, D) levels in S $\mu$  (A, C) and S $\gamma$ 2b (B, D) regions by ChIP coupled to quantitative PCR. Background signals from mock samples with irrelevant antibody were subtracted. Values were normalized to total input DNA. Primers (triangles) used for quantitative PCR are described on the illustrative schema (bottom). Data are means  $\pm$  SEM of at least two independent experiments, n=4 for each genotype. Unpaired two tailed Student's t test was used to determine significance. ns: non significant.

### Supplementary figure 3: Sequences of $\gamma 1$ constitutive and alternative spliced transcripts

The sequences of  $I\gamma 1$  exon (bold) and CH1 $\gamma 1$  exon are indicated. Donor (red) and acceptor (green) splice sites are also represented.

#### Constitutive $\gamma 1$ transcript:

**GTCAATCATATGATGGAAAGAGGGTAGCATTACCTCTCTGGGACAAAGGCT  
GTGACTCTGGGAAAGACAAGAGAAGGGCAGGACCAAACAGGAACAGAGAC  
GGCTGCTTTCACAGCTTCCACATGTGAGTGGGGTCAGCAGGGAAAGGAGCT  
GCAAGAAGAGGCCATACAAACAGCACGCATCTGTGGCCCTTCCAGATCTTTG  
AGTCATCCTATCACGGGAGATTGGGAAGGAGTTGACAGACCAGCCCAGGCA  
GAGGAAGCCTCTGTGTAAAGAGTAAAGGTGCTTGCCTACAGCCTGGTGTCA  
ACTAGGCAGGCCCTGGGGGGCCGGGAAGGGGCCTCCTAGACAAGCACAGGC  
ATGTAGAGCTGCACACCCACAGACAAACCTGAGCCCCGAGGATATCATGG  
AATATATCGAGAAGCCTGAGGAATGTGTTTGGCATGGACTACAGGTTGAGAG  
AACCAAGGAAGCTGAGCCCTGCGCAAACGACACCCCCATCTGTCTATCCAC  
TGGCCCCTGGATCTGCTGCCCAAACCTCCATGGTGACCCTGGGATGCCTGGT  
CAAGGGCTATTTCCCTGAGCCAGTGACAGTGACCTGGAACCTCTGGATCCCTGTCC  
AGCGGTGTGCACACCTTCCAGCTGTCCTGCAGTCTGACCTCTACACTCTGAGCA  
GCTCAGTGACTGTCCCCTCCAGCACCTGGCCCAGCCAGACCGTCACCTGCAACGT  
TGCCCACCCGGCCAGCAGCACCAAGGTGGACAAGAAAATTG**

#### Alternative $\gamma 1$ transcript 1:

**GTCAATCATATGATGGAAAGAGGGTAGCATTACCTCTCTGGGACAAAGGCT  
GTGACTCTGGGAAAGACAAGAGAAGGGCAGGACCAAACAGGAACAGAGAC  
GGCTGCTTTCACAGCTTCCACATACAAACCTGAGCCCCGAGGATATCATGGA  
ATATATCGAGAAGCCTGAGGAATGTGTTTGGCATGGACTACAGGTTGAGAGA  
ACCAAGGAAGCTGAGCCCTGCGCAAACGACACCCCCATCTGTCTATCCACT  
GGCCCCTGGATCTGCTGCCCAAACCTCCATGGTGACCCTGGGATGCCTGGTC  
AAGGGCTATTTCCCTGAGCCAGTGACAGTGACCTGGAACCTCTGGATCCCTGTCCA  
GCGGTGTGCACACCTTCCAGCTGTCCTGCAGTCTGACCTCTACACTCTGAGCAG  
CTCAGTGACTGTCCCCTCCAGCACCTGGCCCAGCCAGACCGTCACCTGCAACGTT  
GCCACCCGGCCAGCAGCACCAAGGTGGACAAGAAAATTG**

#### Alternative $\gamma 1$ transcript 2:

**GTCAATCATATGATGGAAAGAGGGTAGCATTACCTCTCTGGGACAAAGGCT  
GTGACTCTGGGAAAGACAAGAGAAGGGCAGGACCAAACAGGAACAGAGAC  
GGCTGCTTTCACAGCTTCCACATCCAAACGACACCCCCATCTGTCTATCCACT  
GGCCCCTGGATCTGCTGCCCAAACCTCCATGGTGACCCTGGGATGCCTGGTC  
AAGGGCTATTTCCCTGAGCCAGTGACAGTGACCTGGAACCTCTGGATCCCTGTCCA  
GCGGTGTGCACACCTTCCAGCTGTCCTGCAGTCTGACCTCTACACTCTGAGCAG**

CTCAGTGACTGTCCCCTCCAGCACCTGGCCCAGCCAGACCGTCACCTGCAACGTT  
GCCACCCCGGCCAGCAGCACCAAGGTGGACAAGAAAATTG

**Alternative  $\gamma$ 1 transcript 3:**

**GTCAATCATATGATGGAAAGAGGGTAGCATTACCTCTCTGGGACAAAGGCT  
GTGACTCTGGGAAAGACAAGAGAAGGGCAGGACCAAACAGGAACAGAGAC  
GGCTGCTTTCACAGCTTCCACATGAGTGGGGTCAGCAGGGAAAGGAGCT  
GCAAGAAGAGGCCATACAAACAGCACGCATCTGTGGCCCTTCCAGATCTTTG  
AGTCATCCTATCACGGGAGATTGGGAAGGAGTTGACAGACCAGCCCAGGCA  
GAGGAAGCCTCTGTGTTAAAGAGTAAAGCCAAAACGACACCCCATCTGTCTA  
TCCACTGGCCCCTGGATCTGCTGCCCAAATACTCCATGGTGACCCTGGGATGC  
CTGGTCAAGGGCTATTTCCCTGAGCCAGTGACAGTGACCTGGAACCTGGATCCC  
TGTCCAGCGGTGTGCACACCTTCCCAGCTGTCCTGCAGTCTGACCTCTACACTCTG  
AGCAGCTCAGTGACTGTCCCCTCCAGCACCTGGCCCAGCCAGACCGTCACCTGCA  
ACGTTGCCACCCGGCCAGCAGCACCAAGGTGGACAAGAAAATTG**

**Supplementary table 1: Primers used for ChIP, RT-PCR and quantitative RT-PCR experiments**

Name	Sequence	ChIP	RT-PCR	qRT-PCR
hMT promoter-for	5' CCCGGTCTCTCGAGCTATAAAC 3'	x		
hMT promoter-rev	5' GGTTCGCTGGGACTTGGGA 3'	x		
hMT promoter-Probe	5' CTGCTTGCATGTGGAATTGTGAGCG 3'	x		
S $\gamma$ 1-U-for	5' AGGACACAAGACCTGCAAAAAGAG 3'	x		x
S $\gamma$ 1-U-rev	5' CCCAGGAGCTGCTGAACCT 3'	x		x
S $\gamma$ 1-U-Probe	5' TGAGGCTGGTAAGAGTAACAAGGTAACCTGGG 3'	x		x
S $\gamma$ 1-D-for	5' CAGGCAAATAAACCACTGAGGG 3'	x		
S $\gamma$ 1-D-rev	5' AGGATGTCCACCCTCACCCAGGC 3'	x		
S $\mu$ -U-for	5' TCTAAAATGCGCTAAACTGAGG 3'	x		
S $\mu$ -U-rev	5' AGCGTAGCATAGCTGAGCTC 3'	x		
S $\mu$ -D-for	5' CTGAATGAGTTTCACCAGGCC 3'	x		
S $\mu$ -D-rev	5' GGCCTGTCCTGCTTGGCTTC 3'	x		
S $\gamma$ 2b-U-for	5' AGCTCCAAAAGCTCAGCAGAC 3'	x		
S $\gamma$ 2b-U-rev	5' AGCCCCAGCTTACAAAAGAGCT 3'	x		
S $\gamma$ 2b-D-for	5' GGTGGGAATATGAGGGAGAAGTCCTAG 3'	x		
S $\gamma$ 2b-D-rev	5' TTCCACCTGCCTCAGCTCTCCACAGC 3'	x		
I $\mu$ -for	5'-TTGACATTCTGGTCAAAACGGC		x	
C $\mu$ -rev	5'-TCTGAACCTTCAAGGATGCTCTTG		x	
I $\gamma$ 1-for	5'-CCAAAACAGGAACAGAGACGG		x	
C $\gamma$ 1-rev	5'-TAGACAGATGGGGGTGTCGT		x	
Actin-for	5' CGATGCCCTGAGGCTTT 3'		x	
Actin-rev	5'-TAAAACGCAGCTCAGTAACAGTCCG		x	
I $\mu$ -for-Q	5'-ACCTGGGAATGTATGGTTGTGGCTT			x
I $\gamma$ 1-for-Q	5'-GAACCAAGGAAGCTGAGCCC			x
I $\epsilon$ -for-Q	5'-AGATTCACAACGCCTGGGAG			x
C $\gamma$ 1-rev-Q	5'-ATGGAGTTAGTTGGGCAGCA			x
C $\epsilon$ -rev-Q	5'-AATACCAGGTCACAGTCACAGG			x
S $\gamma$ 1U-rev-Q	5'-AATGCTGGGATTGATCCTGGG			x
S $\epsilon$ U-rev-Q	5'-GCAAACCCTTTTGCTCAGGG			x
Gapdh-probe	Mm99999915_g1 (Life Technologies)			x
AID-probe	Mm01184115_m1 (Life Technologies)			x