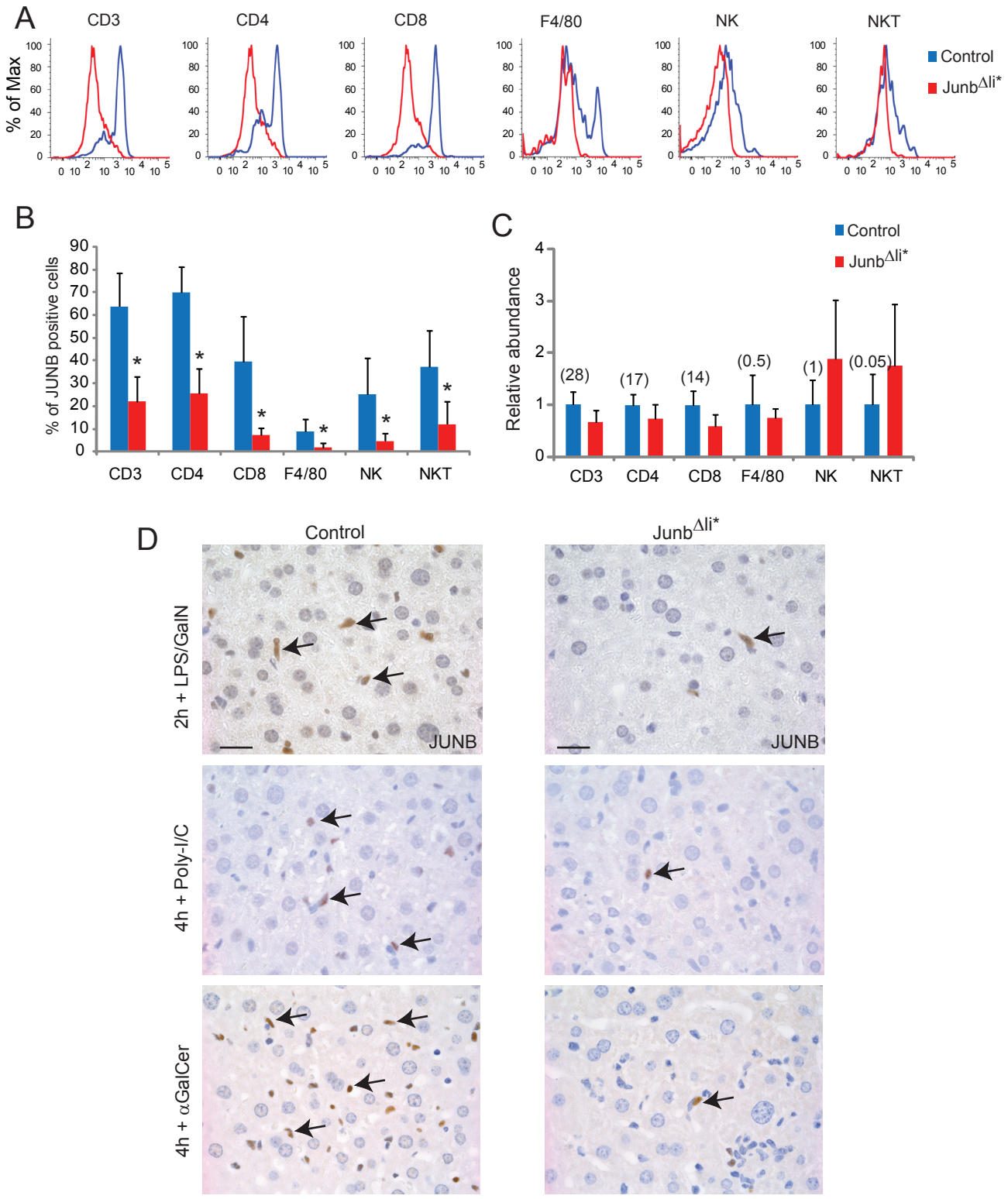


Figure S1: Liver immune cells express JunB during hepatitis in 4 independent models.
A-C: Immune cells isolated from the liver of control and JunB$^{\Delta li*}$ mice after treatment with ConA were analyzed by flow cytometry. Cells were stained for JunB and cell surface markers to discriminate the different cell populations. Populations were gated as follow: T-cells: CD3+, NK1.1-. NK cells: CD3-, NK1.1+. NKT cells: CD3+, NK1.1+. CD4 positive T-cells CD4+, CD8-. CD8 positive T-cells: CD4-, CD8+. Macrophages and monocytes: F4/80+.
A: Insensitive of JunB staining in each shown cell populations. A representative experiment is shown.
B: Quantification of JunB-positive cells in the different populations.
C: Relative abundance of the different immune populations in the liver of control and JunB$^{\Delta li*}$ mice after ConA treatment. Controls are set to 1 and the numbers in brackets indicate the percentage of each population relative to total immune cells in controls. n=7, 6; *p< 0.05.
D: Liver sections from controls and JunB$^{\Delta li*}$ mice treated with LPS/GalN, Poly-I/C or αGalCre for the indicated times were stained for JunB (brown). Black arrowheads indicate JunB-positive cells. n>3, one representative experiment is shown. Scale bar = 20μm.

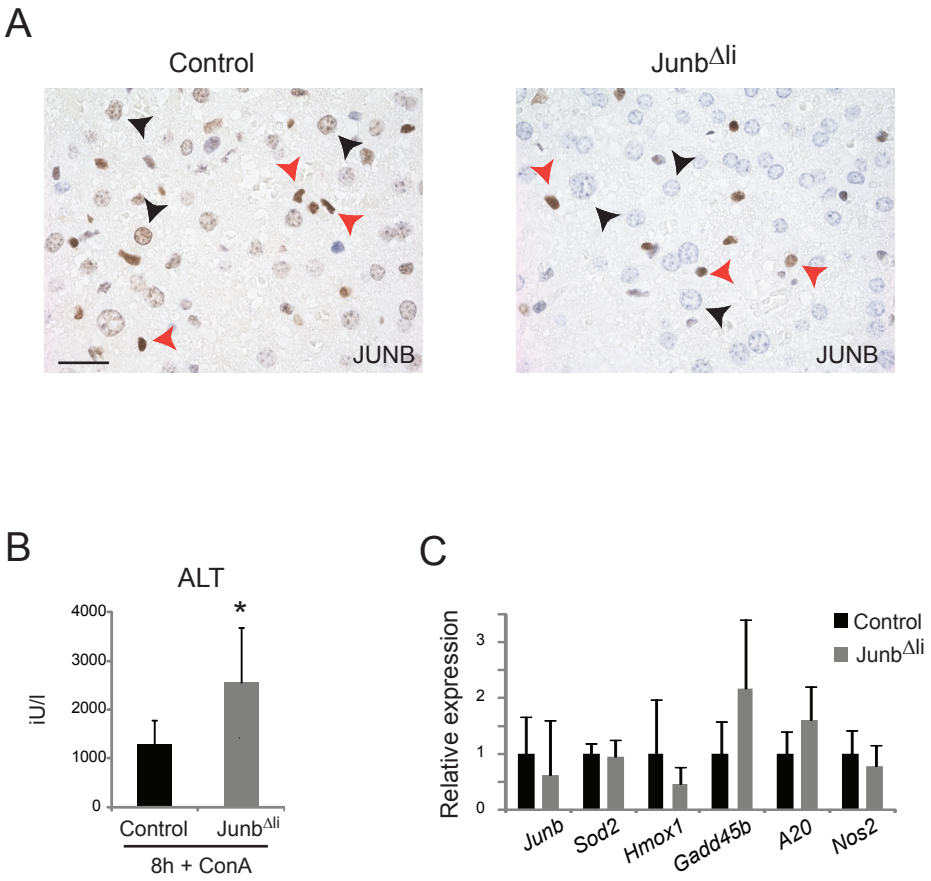


Figure S2: Specific deletion of junb in hepatocytes leads to increased liver damage after ConA. **A:** Liver sections from control (JunB$^{+/flox}$; Alfp:Cre$^{T/+}$) and JunB$^{\Delta li}$ mice (JunB$^{flox/flox}$; AlfpCre$^{T/+}$) treated with ConA for 2 hours were stained for JunB (brown). Black arrowheads indicate hepatocytes and red arrowheads marks immune cells. n>5, one representative experiment is shown. Scale bar = 20µm. ALT levels (**B:** n=10) and qRT-PCR for stress-related genes (**C:** n>5) in controls (JunB$^{+/flox}$; AlfpCre$^{+/T}$) and JunB$^{\Delta li}$ (JunB$^{flox/flox}$; AlfpCre$^{+/T}$) mice 8 hours after ConA injection. *p < 0.05.

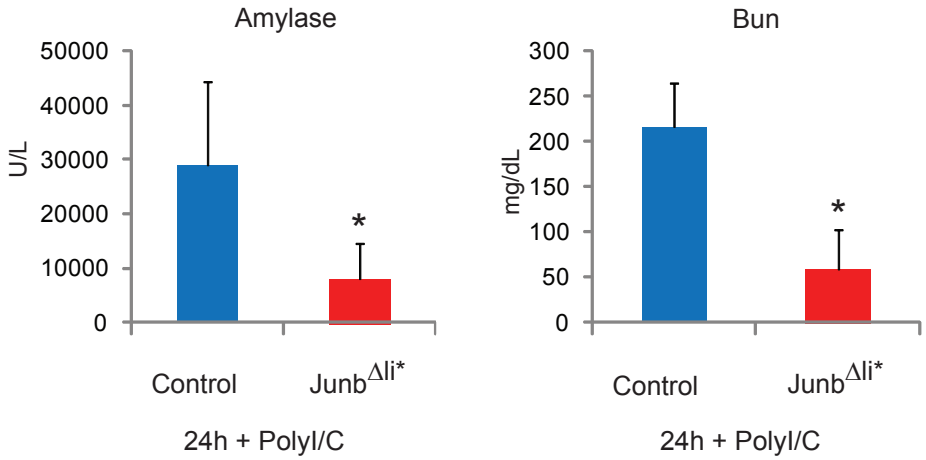


Figure S3: JunB$^{\Delta li*}$ mice display signs of decreased systemic inflammation. Amylase and blood urea nitrogen (Bun) in the serum of control and JunB$^{\Delta li*}$ mice 24 hours after Poly I/C injection. n>5; *p<0.05.

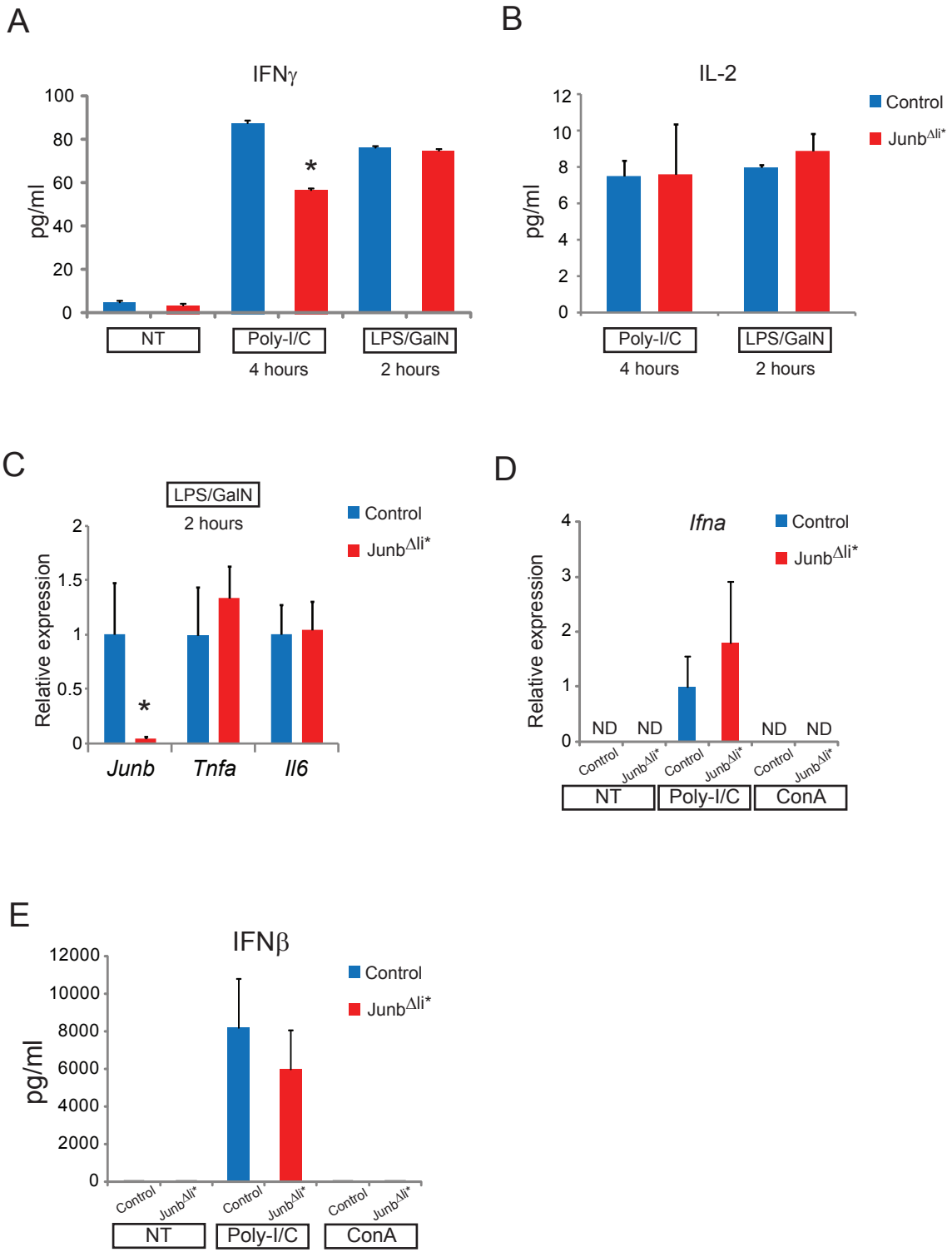


Figure S4: Cytokine profiling in JunB$^{\Delta li*}$ mice subjected to different hepatitis paradigms.
A: Serum Ifnγ in control and JunB$^{\Delta li*}$ mice after Poly-I/C or LPS/GalN. n=4, p<0.05.
B: qRT-PCR analysis of *junb* and *il-2* in the liver of control and JunB$^{\Delta li*}$ mice after Poly-I/C. n=4; *p<0.05
C: qRT-PCR analysis of *junb* and cytokines expression in the liver of control and JunB$^{\Delta li*}$ mice after LPS/GalN. n=4; *p<0.05.
D: qRT-PCR analysis of *ifna* expression in the liver of control and JunB$^{\Delta li*}$ mice after Poly-I/C or ConA. n=4.
E: Serum Ifnβ in control and JunB$^{\Delta li*}$ mice after Poly-I/C or ConA. n=4.

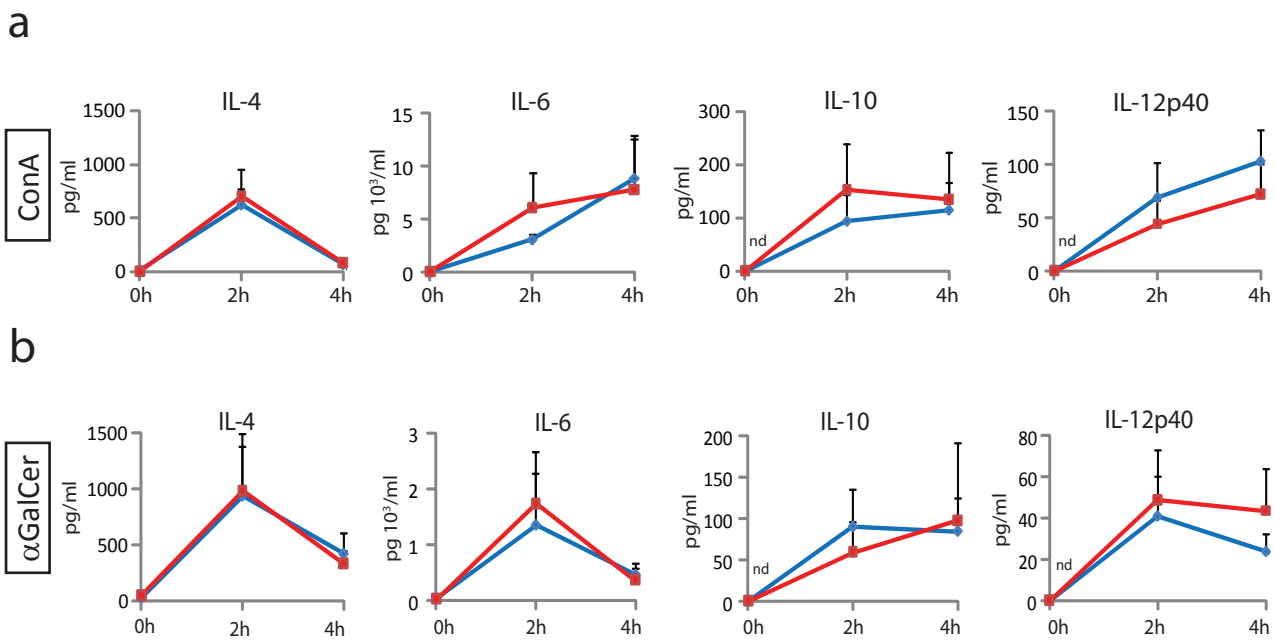
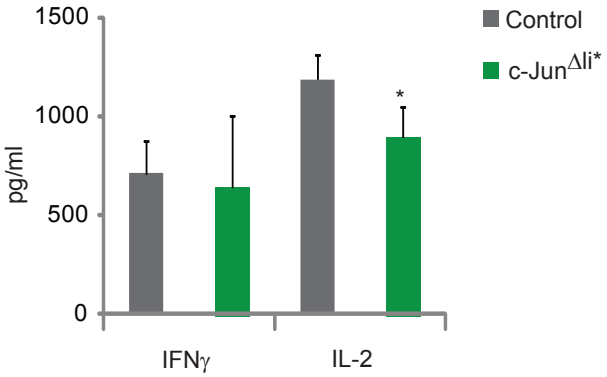
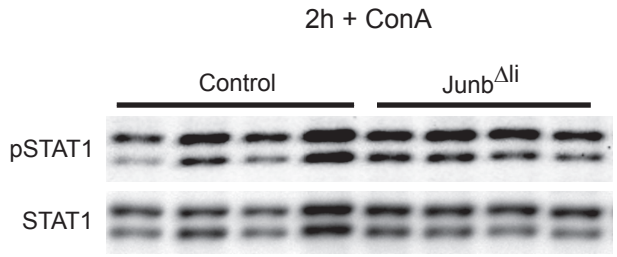


Figure S5: Comparison of cytokine profiles in ConA- and αGalCer-treated JunB$^{\Delta li*}$ mice.
a: Serum cytokines were measured in control and JunB$^{\Delta li*}$ mice at 0 (n=3), 2 (n=5) or 4 (n=5) hours after ConA treatment. *p<0.05.
b: Serum cytokines were measured in control and JunB$^{\Delta li*}$ mice at 0 (n=3), 2 (n=6) or 4 (n=6) hours after αGal-Cer treatment. *p<0.05.

A



B



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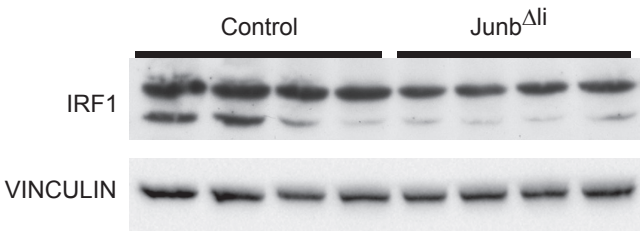

Figure S6: IL-2 but not Ifnγ is decreased in ConA-treated c-Jun-deficient mice and pStat1 and Irf1 are unaffected by specific junb deletion in hepatocytes.
A: Serum Ifnγ and IL-2 in control mice and c-Jun$^{\Delta li*}$ mice (c-Jun$^{flox/flox}$; MxCre$^{+/T}$) 2 hours after ConA. n=6. *p<0.05.
Western blot for pStat1, Stat1 **(B)** and Irf1 **(C)** in liver extracts of control (JunB$^{+/flox}$; AlfpCre$^{+/T}$) and JunB$^{\Delta li}$ (JunB$^{flox/flox}$; AlfpCre$^{+/T}$) mice 2 hours after ConA injection. Vinculin is included to control for equal loading. n=4.

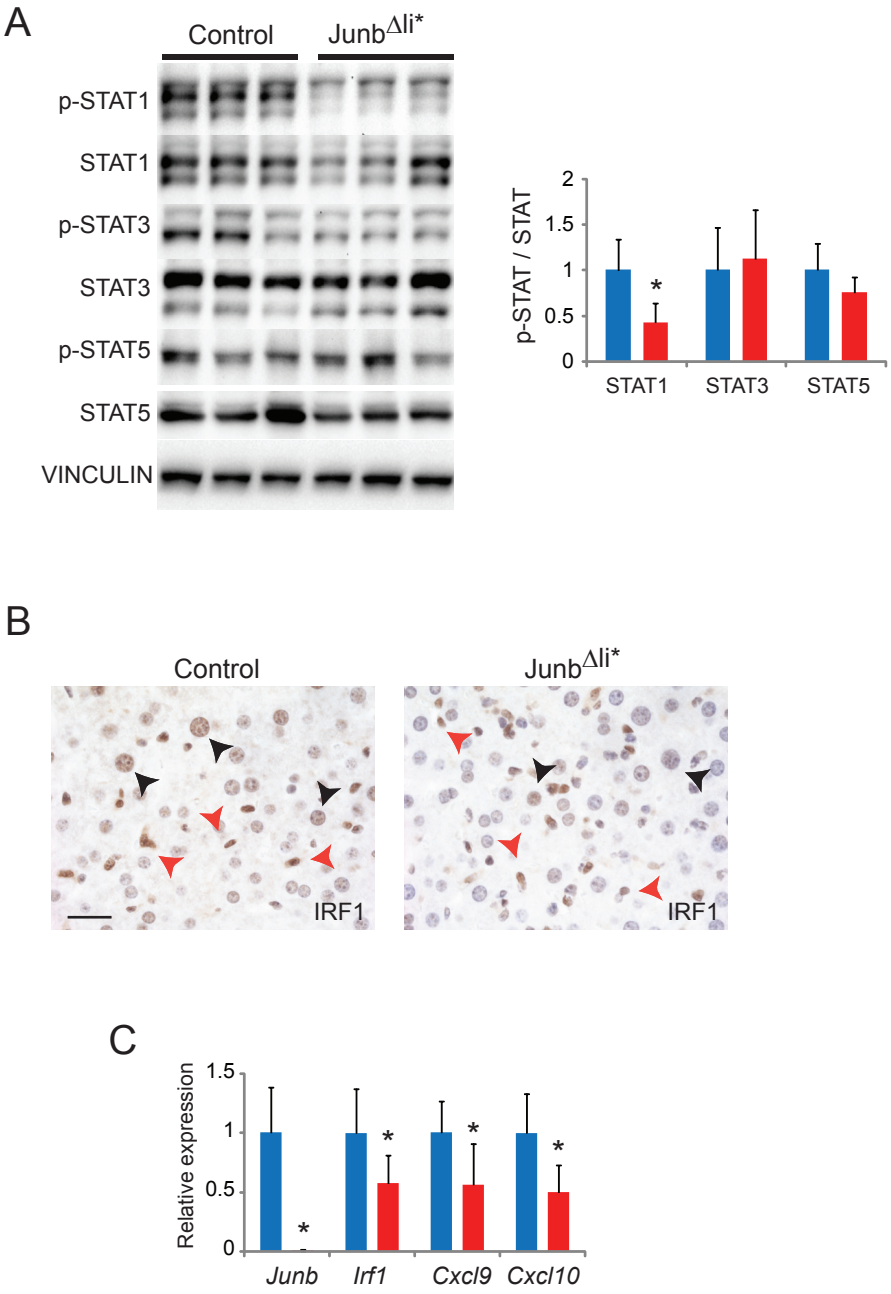

Figure S7: Decreased Stat1 pathway activation in JunB$^{\Delta li*}$ mice upon αGal-Cer.
Control and JunB$^{\Delta li*}$ mice were treated with αGal-Cer and liver samples analyzed for Stat pathways.
A: Western blot for phosphorylated and total Stat1, 3, 5. Quantification is shown. n=5; *p < 0.05.
B: IHC for Irf1 (brown) αGalCer-treated controls and JunB$^{\Delta li*}$ mice for 4 hours. Black arrowheads indicate hepatocyte and red indicate immune cells. n=3. One representative experiment is shown. Scale bar = 20μm.
C: qRT-PCR for junb and stat-regulated genes 4 hours after treatment. n=5; *p < 0.05.

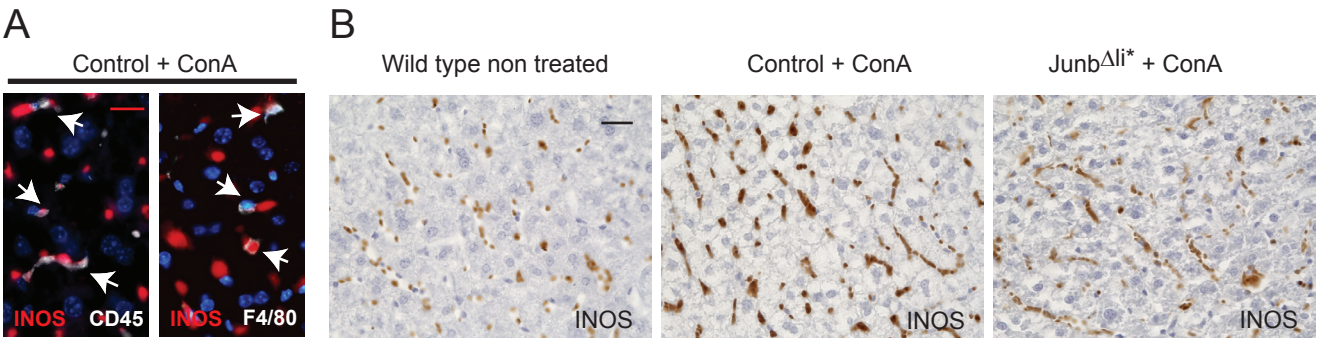

Figure S8: iNos is strongly expressed in immune cells after ConA.
Control and JunB$^{\Delta li*}$ mice were treated with ConA for 2 hours.
A: IHF for iNos (red) and CD45 or F4/80 (white) in ConA-treated controls. Double positive cells are indicated with white arrows. n=3. Scale bar = 20μm.
B: IHC for iNos (brown) in untreated controls and ConA-treated controls and JunB$^{\Delta li*}$ mice. n=3. One representative experiment is shown. Scale bar = 25μm.

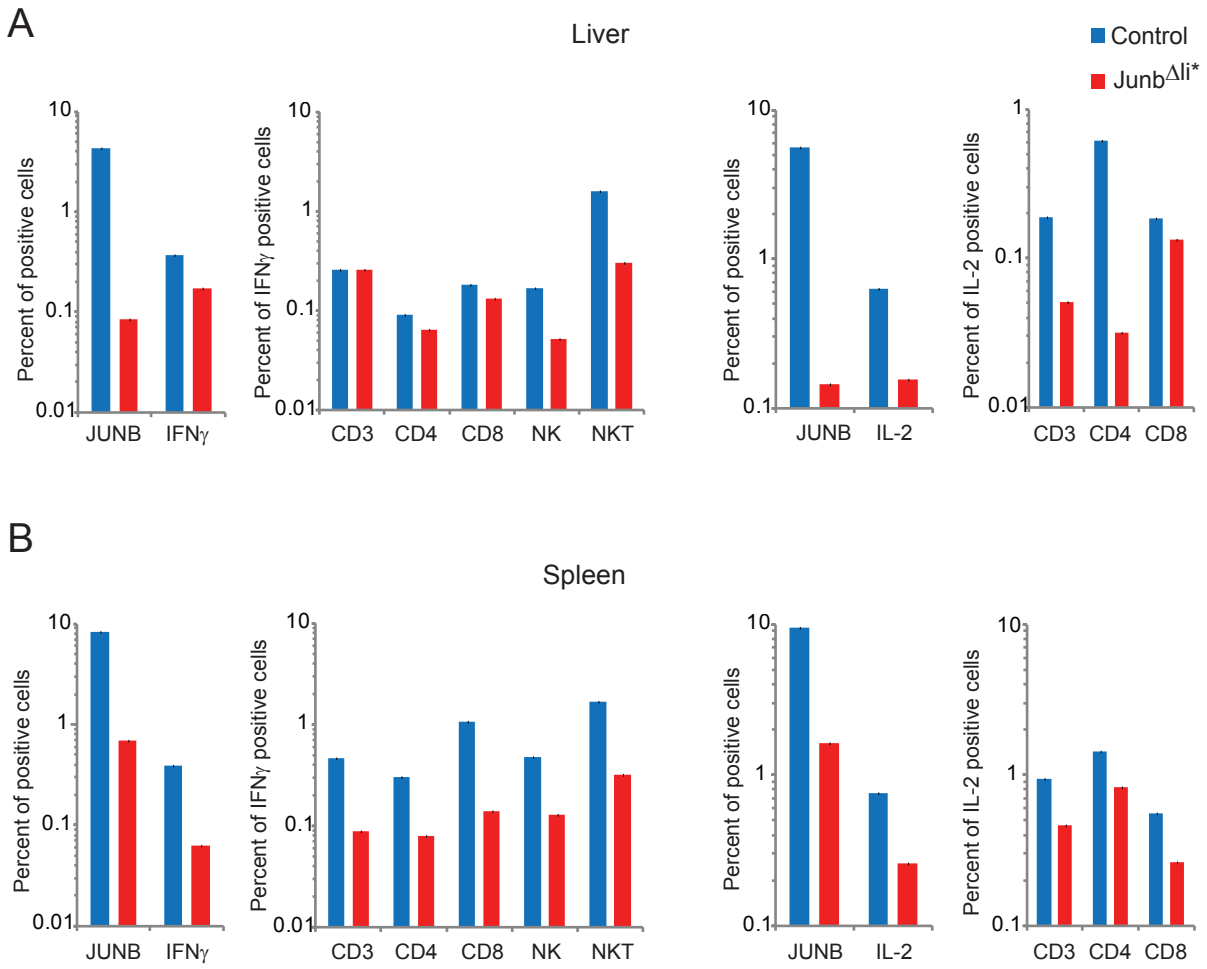

Figure S9: Intracellular staining for Ifnγ and IL-2 after *in vivo* stimulation.
Immune cells isolated from the liver (**A**) and spleen (**B**) of control and JunB$^{\Delta li*}$ mice after treatment with ConA were analyzed by flow cytometry. Cells were stained for Ifnγ or IL-2 and cell surface markers to discriminate the different cell populations. n≥2, one representative experiment is shown.

Table 1: Primer sequences

Human qPCR Primers	**Forward**	**Reverse**
JUNB	AGGCTCGGTTTCAGGAGTTT	GAACAGCCCTTCTACCACGA
IFNG	GTATTGCTTTGCGTTGGACA	GAGTGTGGAGACCATCAAGGA
IL-2	GCACTTCCTCCAGAGGTTTG	ACAAGAATCCCAAACTCACCA
Mouse qPCR Primers	**Forward**	**Reverse**
junb	CGCCCGGATGTGCACGAAAATG	GCGCCCCAGGACCCTTGAGACC
ifng	GAGCTCATTGAATGCTTGGC	GCGTCATTGAATCACACCTG
il-2	TCAAGCTCTACAGCGGAAGC	AATTCTGTGGCCTGCTTGG
sod2	CTGGGGCTGGCTTGGCTTCA	AGCGTGCTCCCACACGTCAA
gadd45b	GGGAGCCGGCGGAGACATTG	TGGCCACCTCCACCAAGCCT
a20	TGCAATGAAGTGCAGGAGTC	TGGGCTCTGCTGTAGTCCTT
hmox1	CACGCATATACCCGCTACCT	CCAGAGTGTTCATTCGAGCA
irf1	AGGCATCCTTGTTGATGTCC	AATTCCAACCAAATCCCAGG
socs1	ACAAGCTGCTACAACCAGGG	ACTTCTGGCTGGAGACCTCA
socs3	AACTTGCTGTGGGTGACCAT	AAGGCCGGAGATTTCGCT
bcl2l1	GCTGCATTGTTCCCGTAGAG	GTTGGATGGCCACCTATCTG
cxcl9	TAGGCAGGTTTGATCTCCGT	CGATCCACTACAAATCCCTCA
cxcl10	CTCATCCTGCTGGGTCTGAG	CCTATGGCCCTCATTCTCAC
nos2	GTCGATGTCACATGCAGCTT	GAAGAAAACCCCTTGTGCTG

il-6	GAAAATCTGCTCTGGTCTTCTGG	TTTTCTGACCACAGTGAGGAATG
tnfa	CACAGCCTTCCTCACAGAGC	GGAGGCAACAAGGTAGAGAGG
ifna	CCTGATGGTCTTGGTGGTGATAA	CAGTTCCTTCATCCCGACCAG
Human ChIP Primers	**Forward**	**Reverse**
IFNG	TGGGATTCTTTGAAGGCACT	TGCCCCTTTGTAAAGGTTTG
IL-2	TCCAAAGAGTCATCAGAAGAGG	GGCAGGAGTTGAGGTTACTGTG
Mouse ChIP Primers	**Forward**	**Reverse**
ifng	GCTGTGCTCTGTGGATGAGA	GCTATGGTTTTGTGGCATGTT
il-2	TAACCCGACCAAGAGGGATT	GGCAGAAAGCATTACCTTTG
s16	CAAGGCTGCGGAAAAGCA	CCGTCCGGAACTCGGAAG