Supplemental Information

SUPPLEMENTARY FIGURE LEGENDS

Supplemental Figure 1. ***Characterization of Tgr5$^{bm+/+}$ and Tgr5$^{bm-/-}$ mice.***

(A) Quantitative real time analysis of *Tgr5* on genomic DNA extracted from peripheral blood. **(B)** Daily food and **(C)** water intake measured in HFD-fed *Tgr5*$^{bm+/+}$ (white bar) and *Tgr5*$^{bm-/-}$ (black bar) mice. n=12/group. Results represent the mean±SEM. P values were calculated by using two tailed Student's t test and one-way ANOVA test followed by Bonferroni's post hoc analysis when appropriate.

Supplemental Figure 2. ***Comparable inflammation in gastrocnemius derived from Tgr5$^{bm-/-}$ and Tgr5$^{bm+/+}$*** **mice.**

(A) mRNA levels of macrophage markers in gastrocnemius of HFD-fed *Tgr5*$^{bm+/+}$ (white bar) and *Tgr5*$^{bm-/-}$ (black bar) mice. n=12/group. **(B-C)** mRNA levels of **(B)** pro-inflammatory M1 and **(C)** anti-inflammatory M2 markers in gastrocnemius of HFD-fed *Tgr5*$^{bm+/+}$ and *Tgr5*$^{bm-/-}$ mice. n=12/group. Results represent the mean±SEM. P values were calculated by using two tailed Student's t test. *statistically significant, $p<0.05$.

Supplemental Figure 3. ***Glucose homeostasis and macrophage infiltration in eWAT of LysM-Cre Tgr5$^{fl/fl}$ mice.***

(A) mRNA levels of Tgr5 in primary bone marrow-derived macrophages (BMDMs) isolated from *Tgr5*$^{fl/fl}$ or LysM-Cre *Tgr5*$^{fl/fl}$ mice. n=4/group. **(B)** Blood glucose levels during insulin tolerance test (ITT) (insulin; 0.50 U/kg) in chow diet-fed Tgr5$^{fl/fl}$ and LysM-Cre Tgr5$^{fl/fl}$ mice. n=12/group. **(C)** Plasma levels of insulin during an oral glucose tolerance test (OGTT) in chow diet-fed Tgr5$^{fl/fl}$ and LysM-Cre Tgr5$^{fl/fl}$ mice. n=12/group**. (D)** Blood glucose levels during OGTT in chow diet-fed Tgr5$^{fl/fl}$ and LysM-Cre Tgr5$^{fl/fl}$ mice. n=12/group. **(E)** mRNA levels of macrophage markers in eWAT of chow diet-fed Tgr5$^{fl/fl}$ and LysM-Cre Tgr5$^{fl/fl}$ mice. n=12/group. Results represent the mean±SEM. P values were calculated by using two tailed Student's t test and two-way ANOVA test followed by Bonferroni's post hoc analysis when appropriate. ***p<0.001.

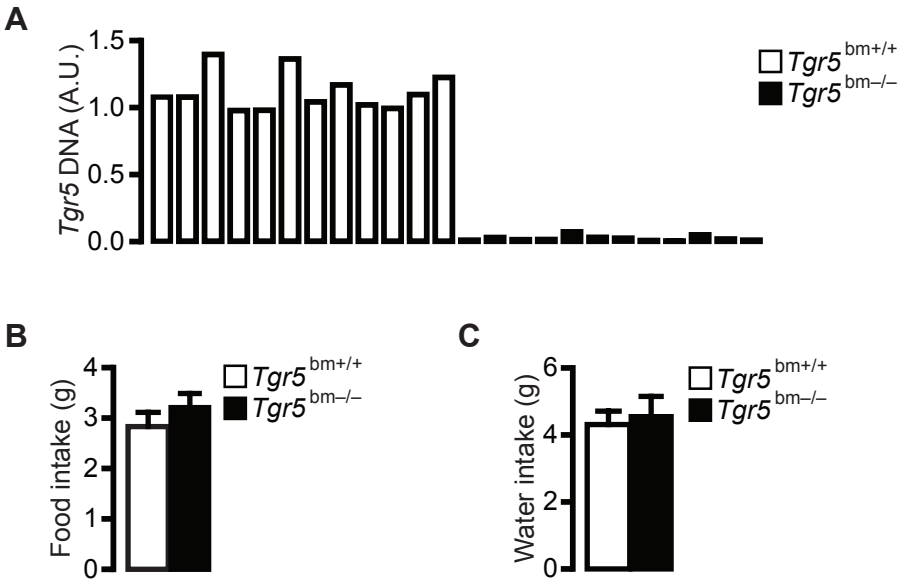
Supplemental Figure 4. ***Chemokine and chemokine receptor expression in Tgr5$^{+/+}$ and Tgr5$^{-/-}$ BMDMs.***

(A-E) mRNA levels of chemokines and their cognate receptors in primary bone marrow-derived macrophages (BMDMs) isolated from *Tgr5*$^{+/+}$ or *Tgr5*$^{-/-}$ mice and stimulated with LPS (10 ng/mL) for 24 hr, in presence or absence of the TGR5 agonist INT-777 (30μM). n=6/group. Results represent the mean±SEM. P values were calculated by using one-way ANOVA test followed by Bonferroni's post hoc analysis. *p<0.05 **p<0.01, ***p<0.001 versus genotype and #p<0.001 versus control.

Supplemental Figure 5. ***Expression of nuclear receptors and their target genes in Tgr5$^{+/+}$ and Tgr5$^{-/-}$ BMDMs.***

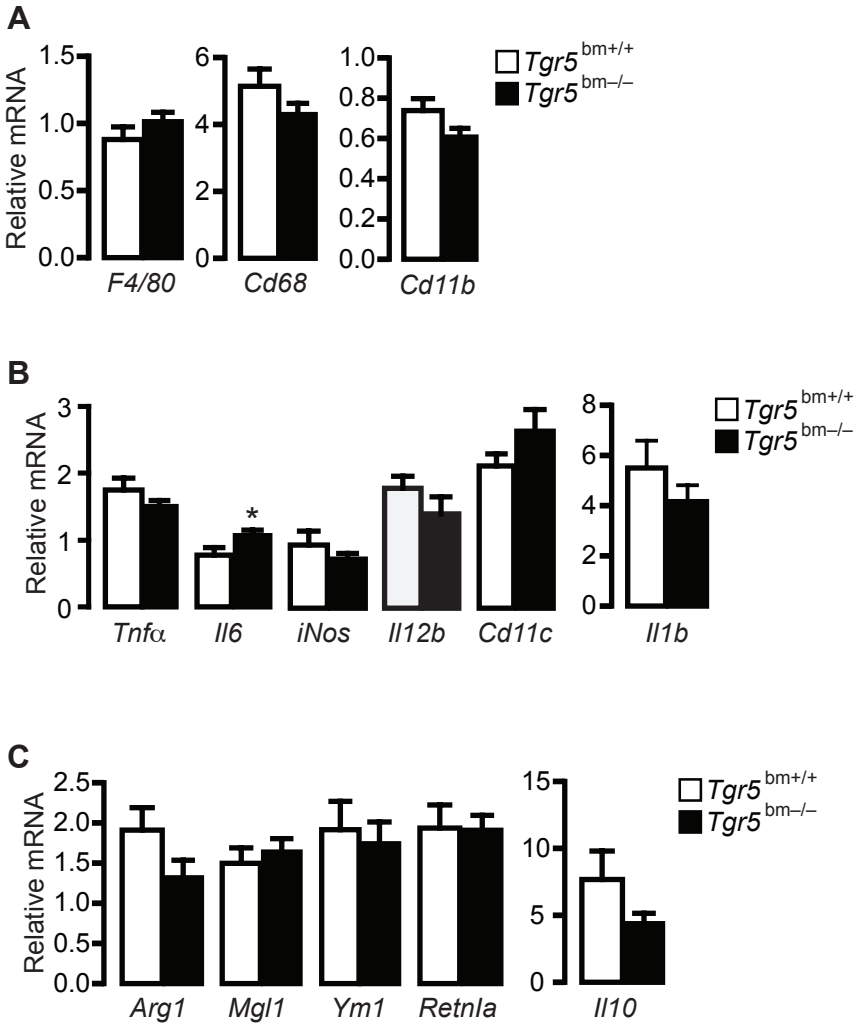
(A-C) mRNA levels of **(A)** PPARγ1 and its target genes **(B)** CD36 and **(C)** Lpl in primary bone marrow-derived macrophages (BMDMs) isolated from *Tgr5*$^{+/+}$ or *Tgr5*$^{-/-}$ mice and stimulated with LPS (10 ng/mL) for 24 hr, in presence or absence of the TGR5 agonist INT-777 (30μM). n=6/group. **(D-I)** mRNA levels of **(D)** LXRα, **(E)** LXRβ and their target genes **(F)** ApoE, **(G)** Abca1, **(H)** Abcg1 and **(I)** Srebp1c in primary bone marrow-derived macrophages (BMDMs) isolated from *Tgr5*$^{+/+}$ or *Tgr5*$^{-/-}$ mice and stimulated with LPS (10 ng/mL) for 24 hr, in presence or absence of the TGR5 agonist INT-777 (30μM). n=6/group. Results represent the mean±SEM. P values were calculated by using one-way ANOVA test followed by Bonferroni's post hoc analysis. *p<0.05 **p<0.01, ***p<0.001 versus genotype and #p<0.001 versus control.

Supplemental Table 1. ***Haematological parameters measured in Tgr5$^{bm+/+}$ and Tgr5$^{bm-/-}$ mice after 18 week of HFD (n=6/group).***



Supplemental Figure 1.
Characterization of *Tgr5*$^{bm+/+}$ and *Tgr5*$^{bm–/–}$ mice. **(A)** Quantitative real time analysis of *Tgr5* on genomic DNA extracted from peripheral blood of *Tgr5*$^{bm+/+}$ and *Tgr5*$^{bm–/–}$ mice. n=12/group. **(B)** Daily food and **(C)** water intake measured in HFD-fed *Tgr5*$^{bm+/+}$ (white bar) and *Tgr5*$^{bm–/–}$ (black bar) mice. n=12/group. Results represent the mean±SEM. P values were calculated by using two tailed Student's t test and one-way ANOVA test followed by Bonferroni's post hoc analysis when appropriate.

Supplemental Figure 2



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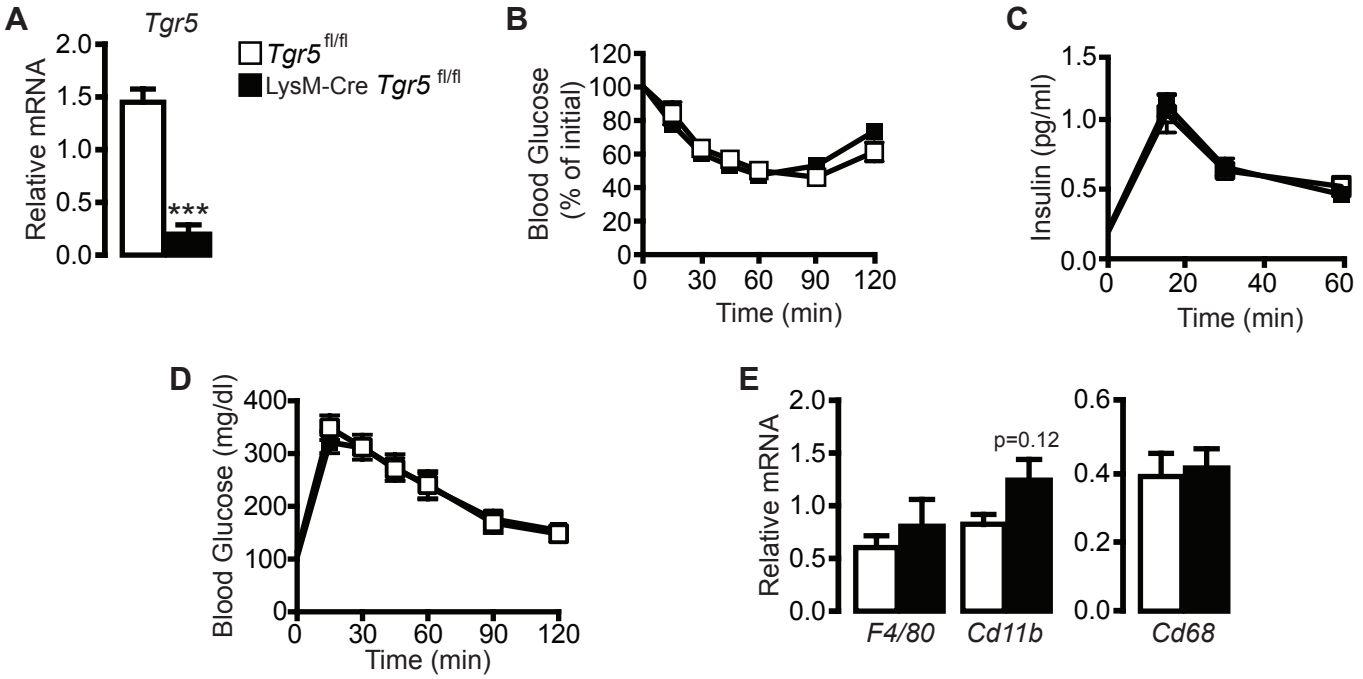
Supplemental Figure 3



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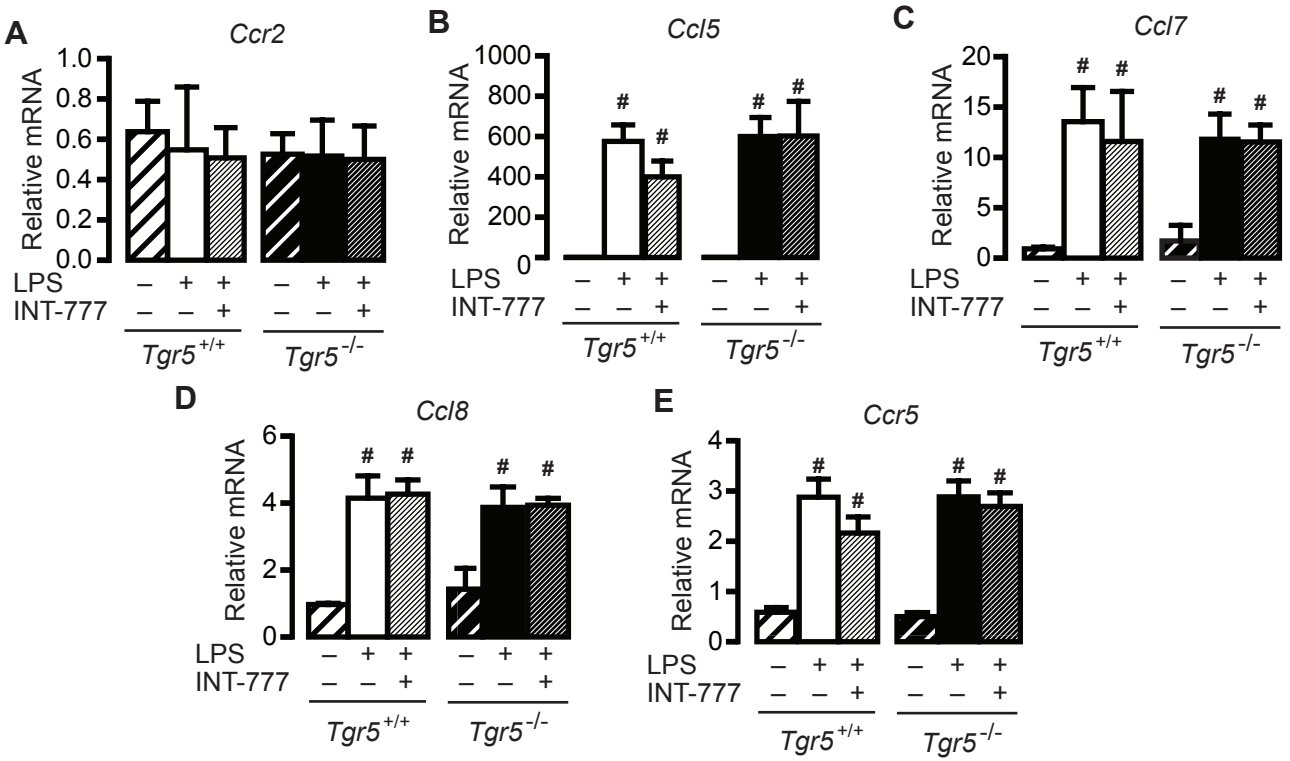
Supplemental Figure 4



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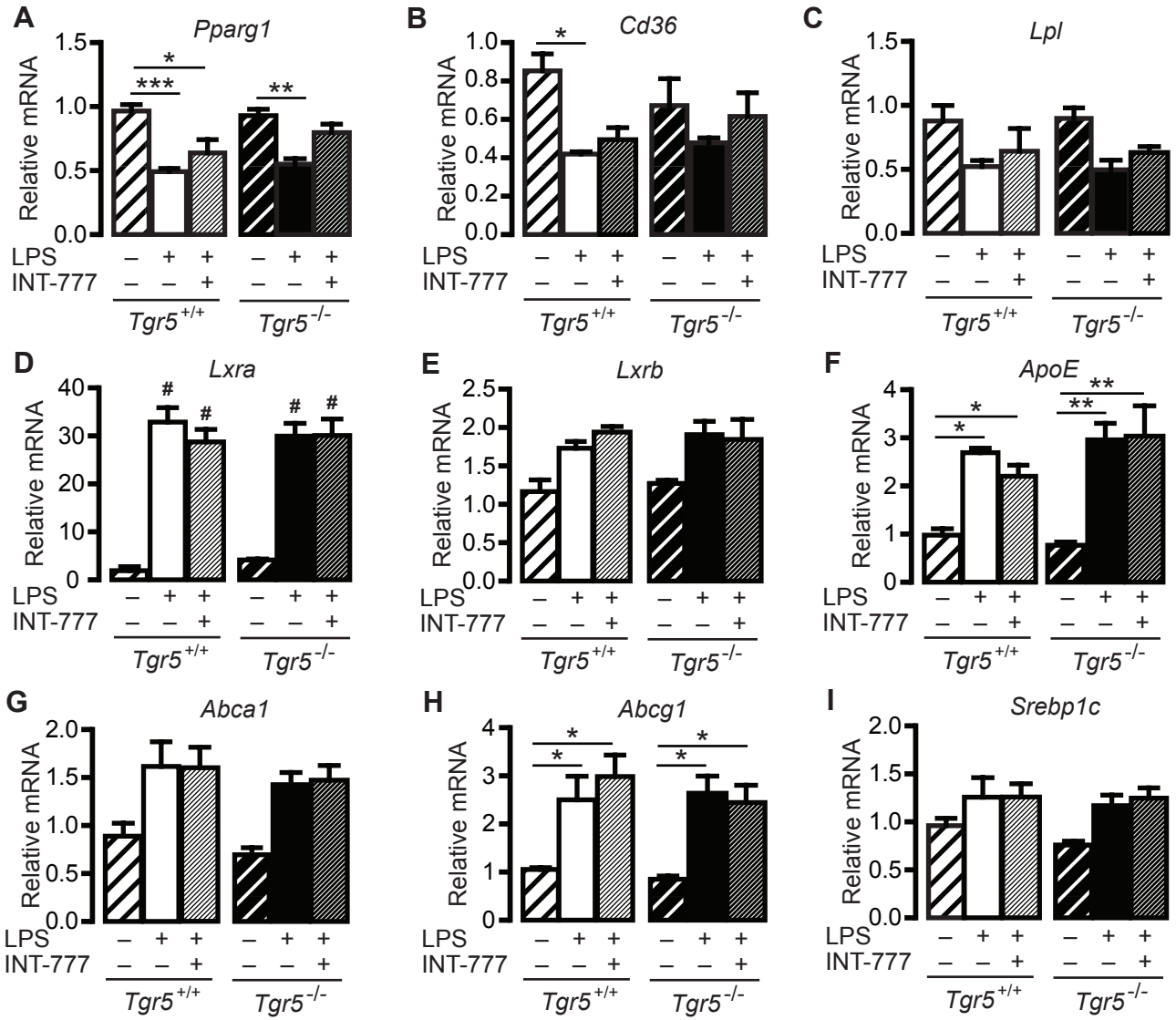

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