Deficiency of FcεR1 increases body weight gain but improves glucose tolerance in diet-induced obese mice

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Figure 1

Panel A: Scatter plot showing the relationship between Log [IgE] Concentration (ng/mL) and BMI. The correlation coefficient is Rho = -0.33, and the p-value is P = 0.018.

Panel B: Scatter plot illustrating the correlation between Log [IgE] Concentration (ng/mL) and Body weight (kg). The correlation coefficient is Rho = -0.34, and the p-value is P = 0.016.

Panel C: Graph depicting the association between Log [IgE] Concentration (ng/mL) and Body fat mass (kg). The correlation coefficient is Rho = -0.34, and the p-value is P = 0.023.
Figure 2

A. Body weight (g) vs. Age (week) for WT (n=15) and Foerla-/- (n=15).

B. Food intake (g/day) vs. Lean mass (g) for WT (n=8) and Foerla-/- (n=6).

C. Glucose (mg/dL) vs. Time (minute) for WT (n=15) and Foerla-/- (n=15).

D. Plasma insulin (ng/mL) vs. Time (minute) for WT (n=7) and Foerla-/- (n=7).

E. Insulin secretion (% islet insulin content) vs. IgE (µg/mL) for different glucose concentrations.

F. FcR1a mRNA (fold change) vs. IgE (µg/mL).

G. Plasma IgE (ng/mL) vs. Plasma insulin (ng/mL) for WT (n=15) and Foerla-/- (n=15).

H. IgE (ng/WAT) for WT (n=15) and Foerla-/- (n=15).

I. Plasma SAA (serum amyloid A) vs. Plasma IL6 vs. Plasma MCP-1 for WT (n=15) and Foerla-/- (n=15).
Figure 4

A. Chow vs. HFD

B. FceR1a

C. FceR1a, Mac-2 vs. FceR1a, CD3

D. WT vs. FceR1a−/−

E. C/EBPα

F. PPARγ

G. p-JNK

H. Bcl2

I. Glut4

Legend:

- WT
- FceR1a−/−

Statistical significance:

- P<0.001
- P<0.005
- P=0.031
- P=0.002
- P=0.001
**Figure 6**

**A**

Graph showing the TUNEL (%) over adipogenesis (day) with different IgE concentrations.

**B**

Images of adipocytes stained with IgE on days 6 and 8.

**C**

Images comparing preadipocyte and adipocyte cells stained with IgE on days 6 and 8.

**D**

Bar graph showing cell viability (OD495 nm, CCK-8) with IgE concentrations.

**E**

Graph showing cytotoxicity (OD495 nm, LDH) with IgE concentrations.

**F**

Graph showing 2DG6P (µM) uptake with IgE concentrations.

**G**

Western blot analysis showing Glut4, p-AKT, AKT, and β-Actin levels with IgE and control samples.

**H**

Western blot analysis showing FcεR1a, Glut4, p-AKT, AKT, and β-Actin levels with control and siRNA samples.
Figure 7