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online data

## SUPPLEMENTARY ONLINE DATA

# Reduction in BACE1 decreases body weight, protects against diet-induced obesity and enhances insulin sensitivity in mice

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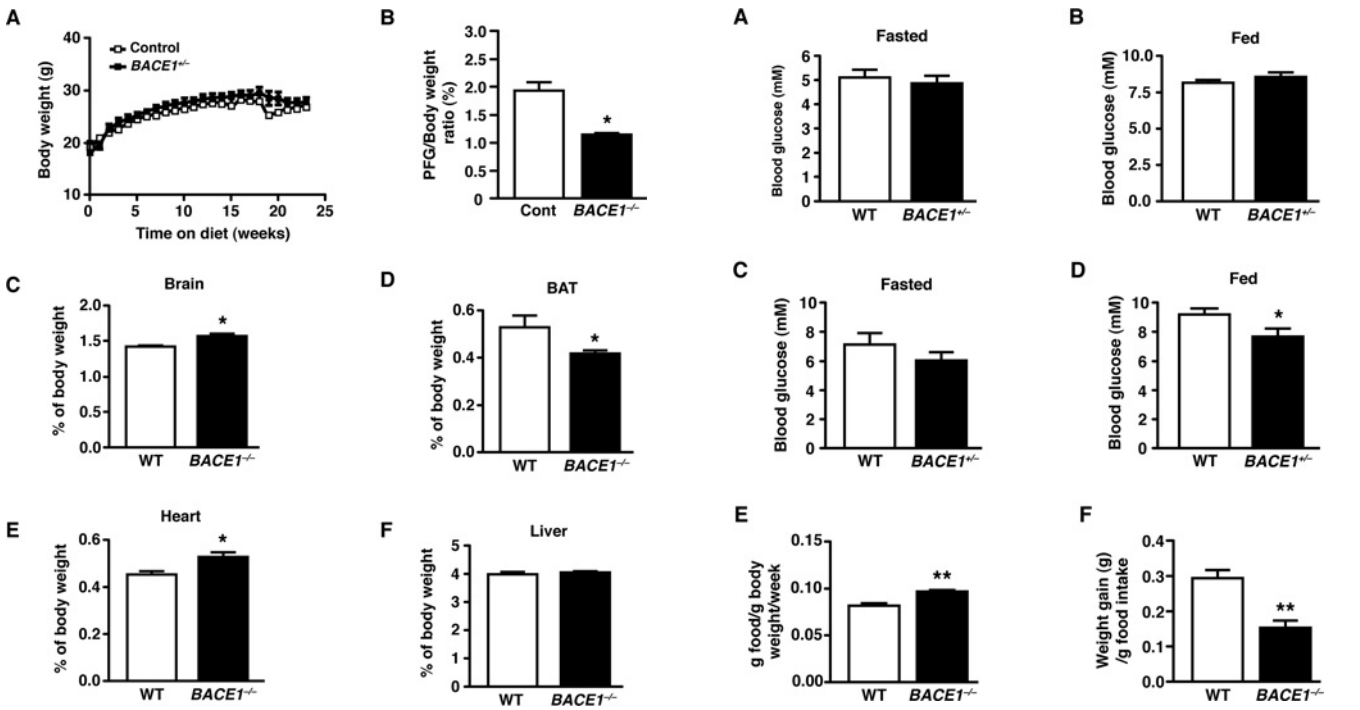


**Figure S1 Body mass of BACE1$^{+/-}$, and tissue mass of BACE1$^{-/-}$ mice compared with their WT littermates**

(**A**) Body mass curves of age-matched WT littermates with *BACE1*$^{+/-}$ mice fed on a regular chow diet and monitored over a period of 24 weeks from 9 weeks of age. Results are means ± S.E.M. from 7–8 animals of each genotype. The relative masses (expressed as the percentage of total body mass) of perigenital fat (**B**), brain (**C**), BAT (**D**), heart (**E**) and liver (**F**) for WT and *BACE1*$^{-/-}$ mice are shown. Results are means ± S.E.M. from 5–7 animals of each genotype. *$P < 0.05$.




**Figure S2 Comparison of the effects of diet on WT, BACE1$^{+/-}$ and BACE1$^{-/-}$ mice**

Fasted (**A**) and fed (**B**) blood glucose levels of 8-month-old male mice of the indicated genotypes fed on a regular chow diet ($n = 6$–10). Fasted (**C**) and fed (**D**) blood glucose levels of 10-month-old mice of the indicated genotypes fed on an HFD for 20 weeks. (**E**) Food intake per mouse per week normalized by body mass (relative food intake) for mice of the indicated genotypes fed on an HFD. (**F**) BACE$^{-/-}$ mice on a HFD have decreased feed efficiency compared with the WT controls. Results are means ± S.E.M. from 11–14 animals of each genotype. **$P < 0.01$;*$P < 0.05$.

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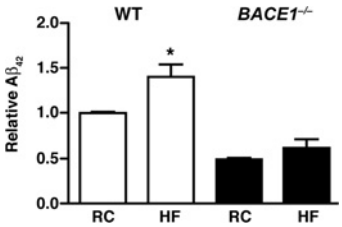


**Figure S3 A 20-week HFD was shown to increase levels of A$\beta_{x\text{-}42}$ in the cerebral cortices of WT mice, but not *BACE1*$^{-/-}$ mice**

Results from an ELISA showing the level of A$\beta_{x\text{-}42}$ (normalized to mean WT, normal chow diet amount) in the cerebral cortices of WT and BACE$^{-/-}$ mice fed on a regular chow (RC) diet or an HFD. WT, $n = 5$; BACE$^{-/-}$, $n = 6$. Results are means $\pm$ S.E.M. *$P < 0.05$.

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