

Supplementary Material

1 Supplementary Figures



Supplementary Figure 1. *Pdha1* knockout occured in the hippocampus rather than in the cortex and hypothalamus. (A) Genotyping of $Pdha1^{-/-}$ mice by PCR analysis. The target bands appeared at 456 bp only in the hippocampus (n = 3). (B) The information of PCR primers.



Supplementary Figure 2. There was no change in the expression of PDHA1 protein in cortex and hypothalamus of *Pdha1*^{-/-} mice. (A) Representative immunoblots of PDHA1 protein and quantification of PDHA1 protein levels in the cortex of *Pdha1*^{-/-} mice and control mice (n = 4). (B) Representative immunoblots of PDHA1 protein and quantification of PDHA1 protein levels in the hypothalamus of *Pdha1*^{-/-} mice and control mice (n = 4). All data are expressed as means \pm SEM.



В

Targeted Allele



PCR Primers :

Pdha1 F: TCCTGTGACGGTTTTGGGTCCTA R: CTCTTCGTCCTAGAAATGGCAGCA Product sizes: Pdha1^{flox/flox}: 394 bp WT: 281 bp

Cre Pomc-F: TGGCTCAATGTCCTTCCTGG Pomc-R: GAGATATCTTTAACCCTGATC Product sizes: 661 bp

internal control 507F: CTATCAGGGATACTCCTCTTTGCC 507R: GATACAGGAATGACAAGCTCATGGT Product sizes: 507 bp

Supplementary Figure 3. The genotyping results of all *Pdha1*^{-/-} mice. (A) Genotyping of *Pdha1*^{-/-} mice by PCR analysis (n = 15). (B) The information of PCR primers.