**SUPPLEMENTARY FIGURES**

Supplementary Figure 1. Genotype identification of LNK knockout mice. (A) Homozygote (red arrow), heterozygote (white arrow), WT (yellow arrow) and marker band were shown. Total DNA was isolated from mice tail between 8-14 days of age, and PCR was performed using oneStep Mouse GenoTyping Kit (PD101-01, Vazyme Biotech, Nanjing, China). Primer sequences: (left of the marker) Mouse Sh2b3-F: 5’-CCAATGTGGCGATAGAGAAAAGGTAAAG-3’, (right of the marker) Mouse Sh2b3-Wt/He-F: 5’-TGTCATTTCATCTTTCTCTGTGGTCC-3’, Mouse Sh2b3-R: 5’-CAAACCTCAGGTCAGCCTACATAGC-3’. Product Size: delete: 610 bp, WT: 459 bp. Annealing Temp: 60°C. (B) LNK expression in WT and LNK⁻/⁻ mice was examined by Western blot analysis using an antibody to LNK. Protein extracts were prepared from the ears. For a ~10 mg piece of ear tissue, add ~200 μL of ice cold strong RIPA lysis buffer rapidly to the EP tube, homogenize with an electric homogenizer. Centrifuge for 15 min at 12,000 rpm at 4°C in a microcentrifuge after incubation on ice for 30 min. Gently remove the tubes from the centrifuge and place on ice, aspirate the supernatant and place in a fresh tube kept on ice; discard the pellet. The protein concentration is 1.2 mg/mL. Load 30 μg of protein into the wells of the SDS-PAGE gel and run the gel. (C) The immumohistochemical staining for LNK protein in adipose tissues of LNK⁻/⁻ mice with NCD or HFD feeding for 16 weeks was shown. (D) Peripheral blood routine examination of LNK⁻/⁻ (open symbols, n = 6) and WT (filled symbols, n = 6) male mice between 6-8 weeks of age were measured. Data were shown as mean ± S.D. Statistical analysis was performed by Student’s t-test. *p<0.05, **p<0.01, ***p<0.001.
Supplementary Figure 2. LNK relieved impaired glucose tolerance in HFD feeding mice for 4 weeks, but not at 2 and 8 weeks.

GTTs (A, C and E) and ITTs (B, D and F) in WT (filled symbols, n = 4-6) or LNK⁻/ mice (open symbols, n = 6-8) with HFD feeding for 2, 4 and 8 weeks were measured. Data were shown as mean ± S.D. Statistical analysis was performed by Student’s t-test. *p<0.05, **p<0.01.