**Necrostatin-1 Mitigates Cognitive Dysfunction in Prediabetic Rats With no Alteration in Insulin Sensitivity**

**Supplementary figure legends**

**Supplementary Figure 1.** The effects of metformin and nec-1 on necroptosis protein function in cortex and hippocampus. \*p<0.05 vs. NDV, †p<0.05 vs. HFV. p-RIP1: phosphorylation of receptor-interacting serine/threonine-protein kinase 1, NDV: normal diet fed rats treated with vehicle, HFV: high-fat diet fed rats treated with vehicle, HFM: high-fat diet fed rats treated with metformin, HFN: high-fat diet fed rats treated with nec-1, Nec-1: necrostatin 1.

**Supplementary Figure 2.** The effects of metformin and nec-1 on insulin signaling in the

liver. (A) p-IRS1ser307 and IRS1. (B) p-Aktser473 and Akt. \*p<0.05 vs. NDV, †p<0.05 vs. HFV. p-IRS1ser307: phosphorylation of insulin receptor substrate 1 at the serine 307 residue, IRS1: insulin receptor substrate 1, p-Aktser473: phosphorylation of protein kinase B at the serine 473 residue, Akt: protein kinase B, NDV: normal diet fed rats treated with vehicle, HFV: high-fat diet fed rats treated with vehicle, HFM: high-fat diet fed rats treated with metformin, HFN: high-fat diet fed rats treated with nec-1, Nec-1: necrostatin 1.