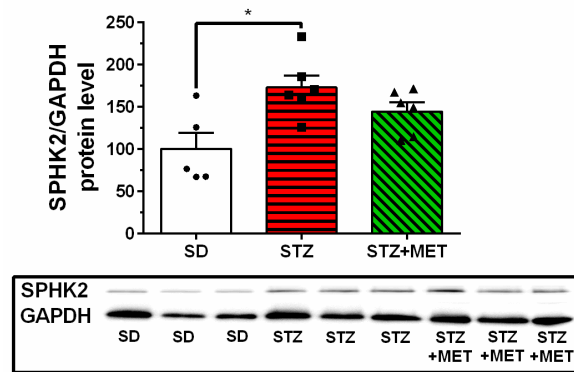
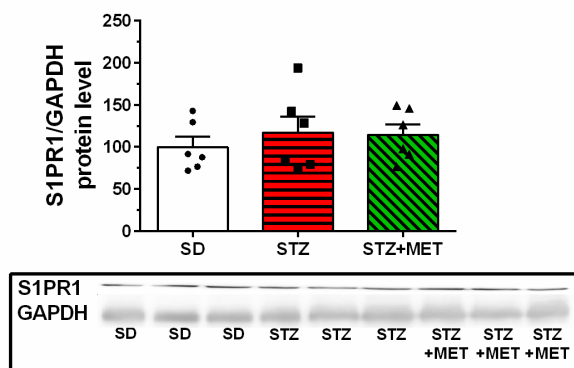
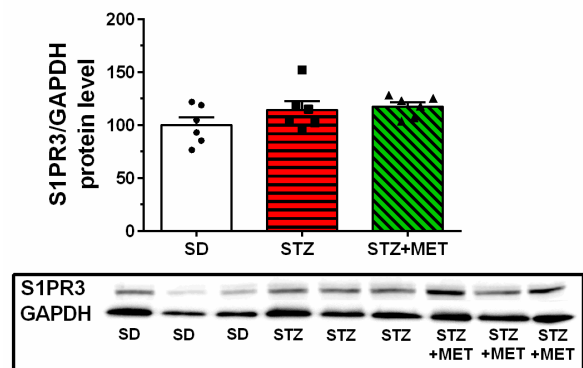




(a)



(b)



(c)

Supplementary figure S1. Changes in the protein levels of sphingosine kinase 2 (a) and receptors of sphingosine-1-phosphate (S1PR1 (b) and S1PR3 (c)) measured western blot in the brain hippocampus of control animals on standard diet (SD), animals received high-fat diet and streptozotocin (STZ) and mice simultaneously treated with metformin (STZ+MET). * $p < 0.05$; as compared to the appropriate controls (5-6 animals for each group); ANOVA with Tukey post-hoc test.