

Supplementary materials

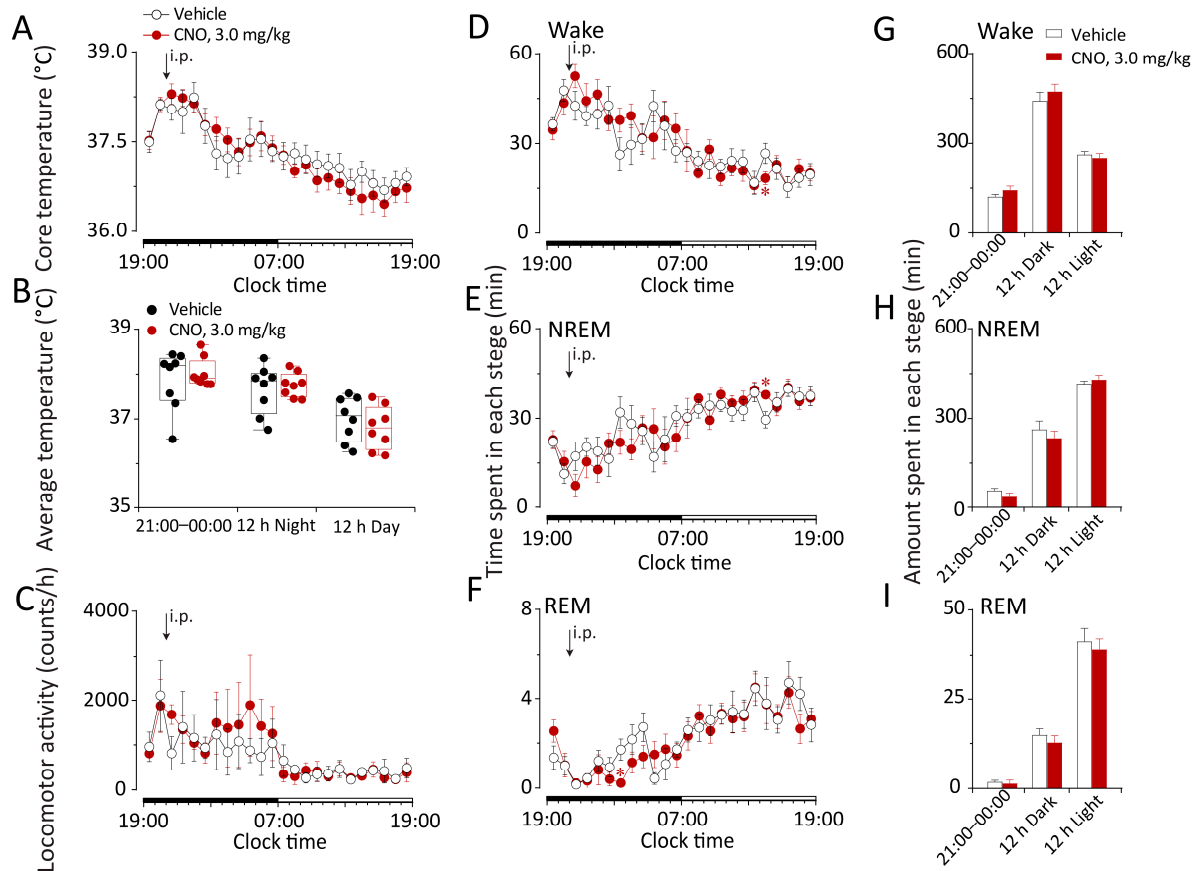


Figure S1. Chemogenetic activation of DMH GABAergic neurons did not affect the core temperature or sleep-wake cycle in vGAT-Cre mice.

(A) Time-course of the core body temperature of vGAT-Cre mice expressing hM3Dq in the DMH after the administration of vehicle or CNO (3 mg/kg) at 21:00. (B) Average values of the core body temperature during 4h after the administration of vehicle or CNO (3 mg/kg) at 21:00. (C) Time-course of the locomotion after the administration of vehicle or CNO (3 mg/kg) at 21:00. (D-F) Time courses of each stage of vGAT-Cre mice expressing hM3Dq in the DMH after the administration of vehicle or CNO (3 mg/kg) at 21:00. (G-I) Amounts of each stage during 3 h, 12 h Light or 12 h Dark after the administration of vehicle or CNO (3 mg/kg). Values were presented as means \pm S.E.M ($n = 7-8$). * $p < 0.05$ indicated significant differences from the vehicle group as assessed by repeated ANOVA (D and F).

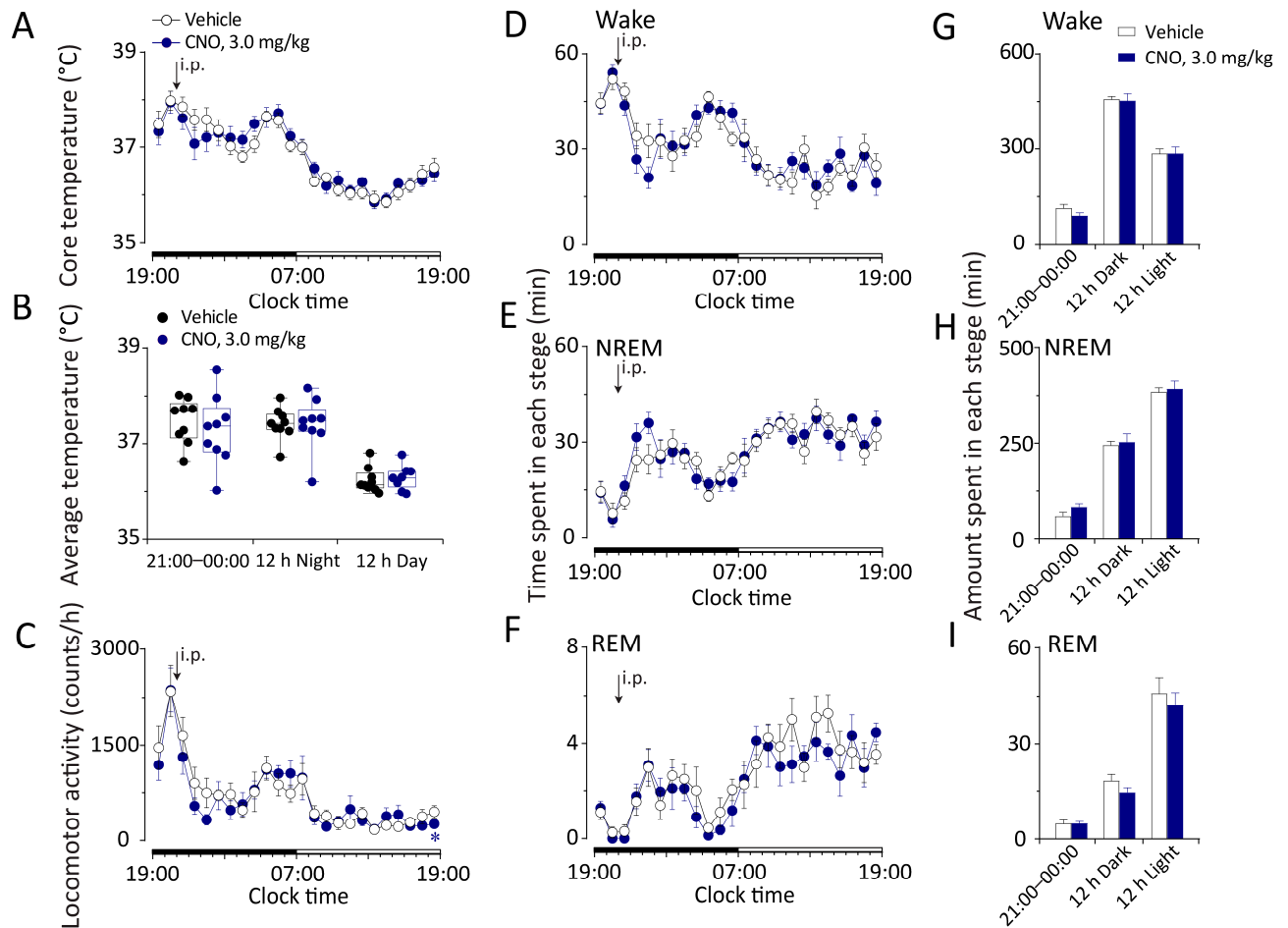


Figure S2. Chemogenetic inhibition of DMH GABAergic neurons did not affect sleep-wake cycle in vGAT-Cre mice.

(A) Time-course of the core body temperature of vGAT-Cre mice expressing hM4Di in the DMH after the administration of vehicle or CNO (3 mg/kg) at 21:00. (B) Average values of the core body temperature during 4h after the administration of vehicle or CNO (3 mg/kg) at 21:00. (C) Time courses of the locomotion after the administration of vehicle or CNO (3 mg/kg) at 21:00. (D-F) Time courses of each stage of vGAT-Cre mice expressing hM4Di in the DMH after the administration of vehicle or CNO (3 mg/kg) at 21:00. (G-I) Amounts of each stage during 3 h, 12 h daytime or 12 h nighttime after the administration of vehicle or CNO (3 mg/kg). Values were presented as means \pm S.E.M ($n = 7-8$).

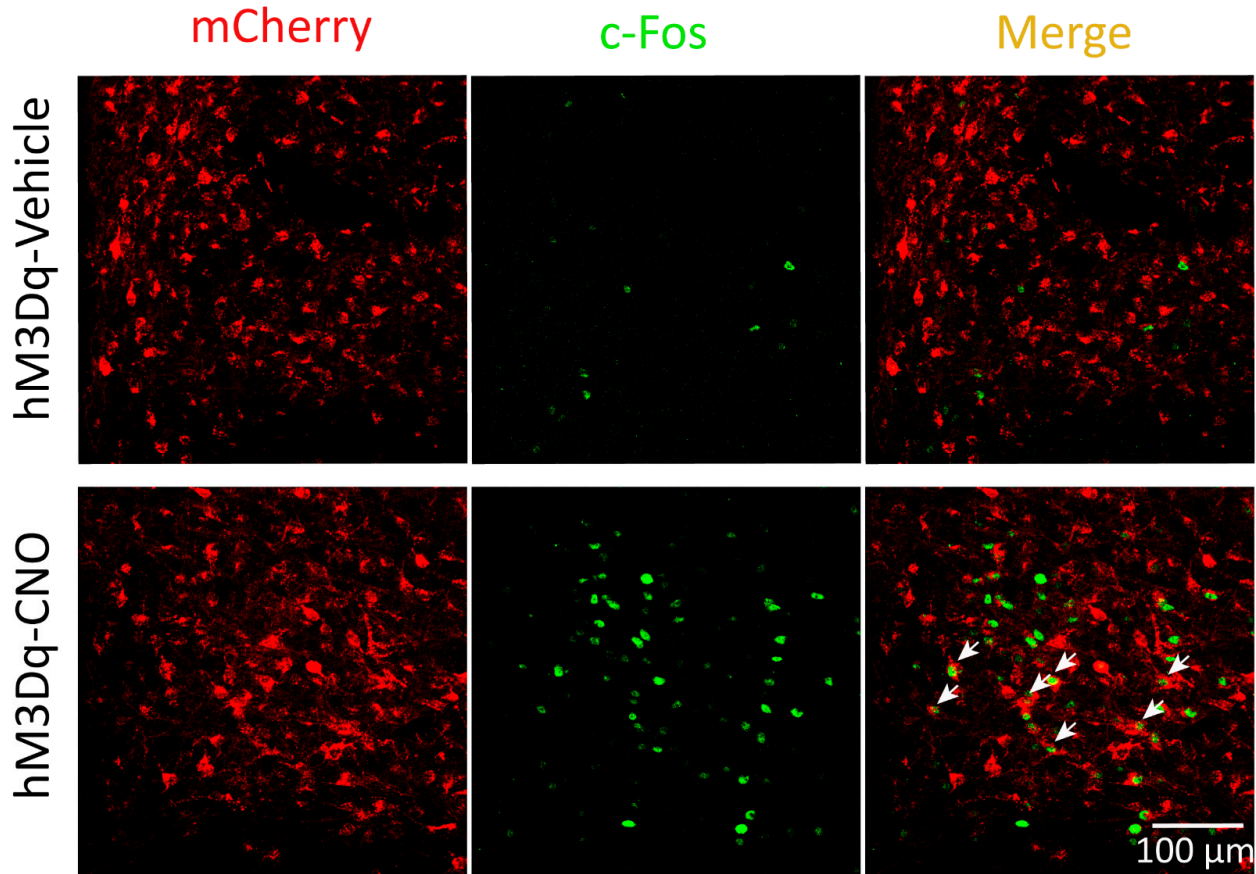


Figure S3. CNO induced c-Fos expression compared with vehicle group in hM3Dq-vGAT-Cre mice.

Left panel: The mCherry expression representing the hM3Dq expression (red) in the DMH. Middle panel: The c-Fos expression (green) in the DMH. Right panel: The merge image (yellow) of mCherry and c-Fos in the DMH. White arrows indicated the double-stained of mCherry and c-Fos. Scale bar: 100 μ m.