(A)

Acclimation   LPS   NORT   Brain Histology

-3 -2 -1 0 2 4 5 6   14   Days

DMF DMF DMF

(B)

Nrf2$^{+/+}$

- Saline
- LPS + VEH
- LPS + DMF
- Saline + DMF

(C)

Nrf2$^{+/+}$

- Saline
- LPS + VEH
- LPS + DMF
- Saline + DMF

(D)

Nrf2$^{-/-}$

- Saline
- LPS+VEH
- LPS+DMF

(E)

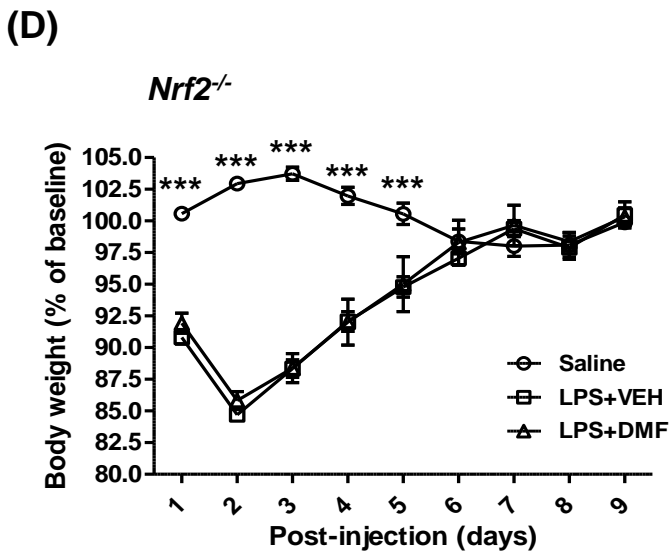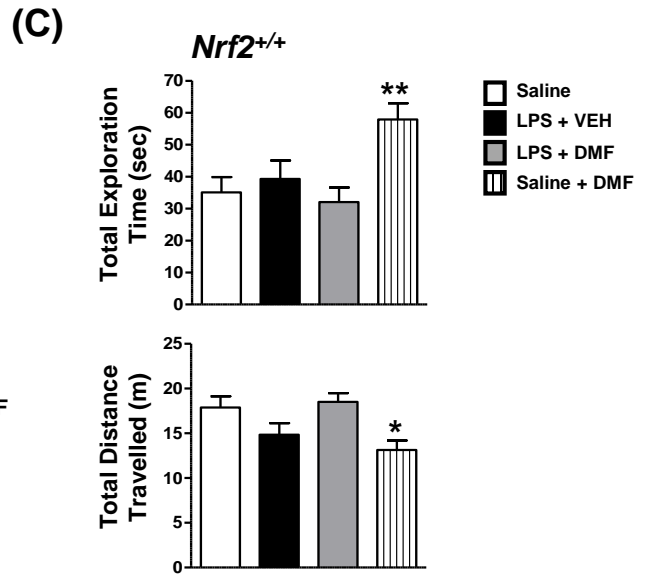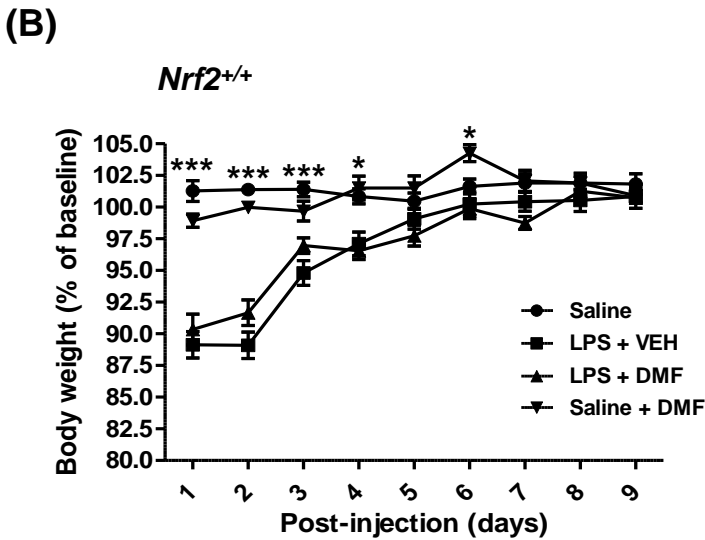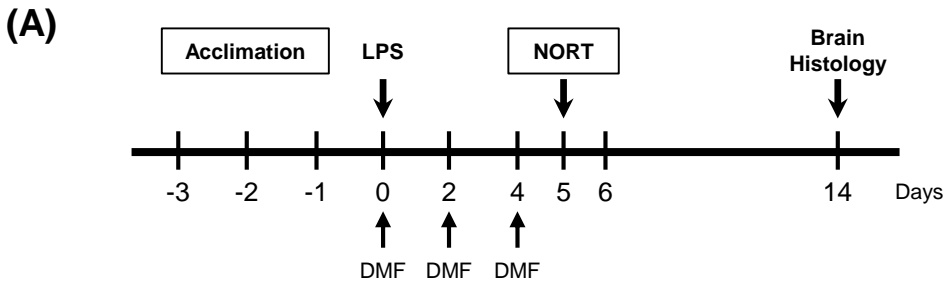
Nrf2$^{-/-}$

- Saline
- LPS + VEH
- LPS + DMF

Figure S3.

Cognitive assessment following systemic immune challenge and DMF treatment.

(A) Experimental timeline of cognitive assessment in mice that received LPS injection. Mice were acclimated to the apparatus for three days before LPS (1 mg/Kg, ip) injection. DMF (30 mg/Kg, ip) was administrated at day 0, 2, and 4 post-LPS as indicated. The novel object recognition task (NORT) was performed at day 5 post-LPS as indicated. The brains were harvested 14 days after LPS challenge for histology examinations. (B) The body weight of $Nrf2^{+/+}$ mice (C57BL/6) that received saline, LPS + VEH, LPS + DMF, or saline + DMF treatment was measured every day after LPS injection. The body weight before injection from each mouse was used as the baseline. Data presented are changes of body weight from the baseline. N = 10-16 mice/group. *p<0.05, ***p<0.001 by two-way repeated measures ANOVA with Bonferroni's post hoc multiple comparison test (LPS+ VEH v.s. saline; LPS + DMF v.s. saline). There was no statistical significance between saline and saline + DMF treatment groups. (C) The total exploration time and distance travelled of each mouse during the recognition phase of NORT were acquired. Data presented are values from four treatment groups, saline, LPS + VEH, or LPS + DMF, saline + DMF. N = 10-16 mice/group. *p<0.05, **p<0.01 by one-way ANOVA with Bonferroni's post hoc multiple comparison test. (D) The body weight of $Nrf2^{-/-}$ mice that received saline, LPS + VEH, or LPS + DMF injection was measured daily after LPS injection. The body weight before injection from each mouse was used as the baseline. Data presented are changes of body weight from the baseline. N = 8-12 mice/group. ***p<0.001 by two-way repeated measures ANOVA with Bonferroni's post hoc multiple comparison test (LPS+ VEH v.s. saline; LPS + DMF v.s. saline). (E) The total exploration time and distance travelled of each $Nrf2^{-/-}$ mouse during the recognition phase of NORT were acquired. Data presented are values from three treatment groups.