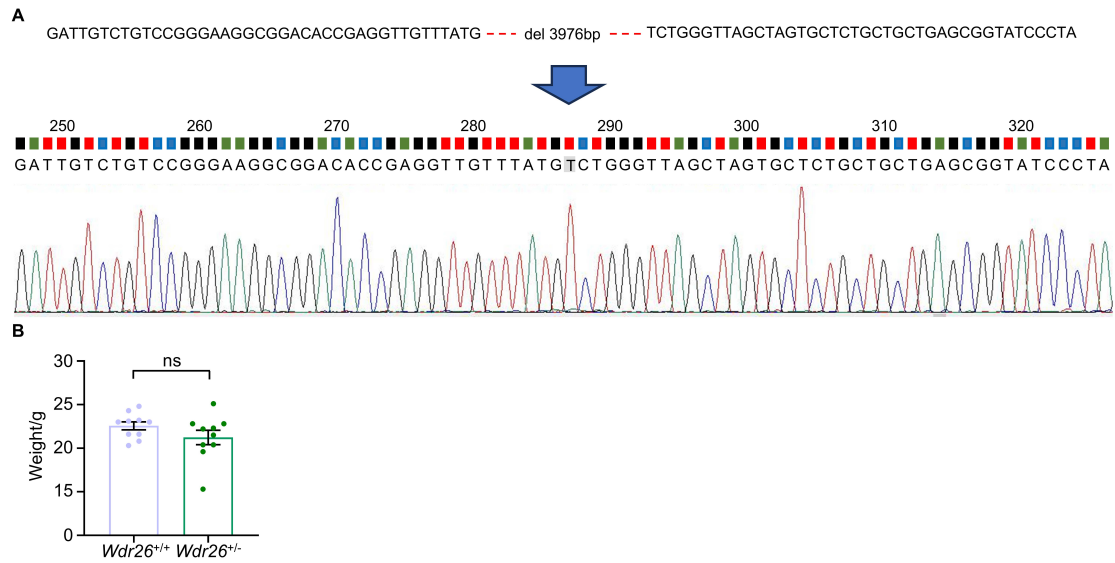


1 Supplemental material



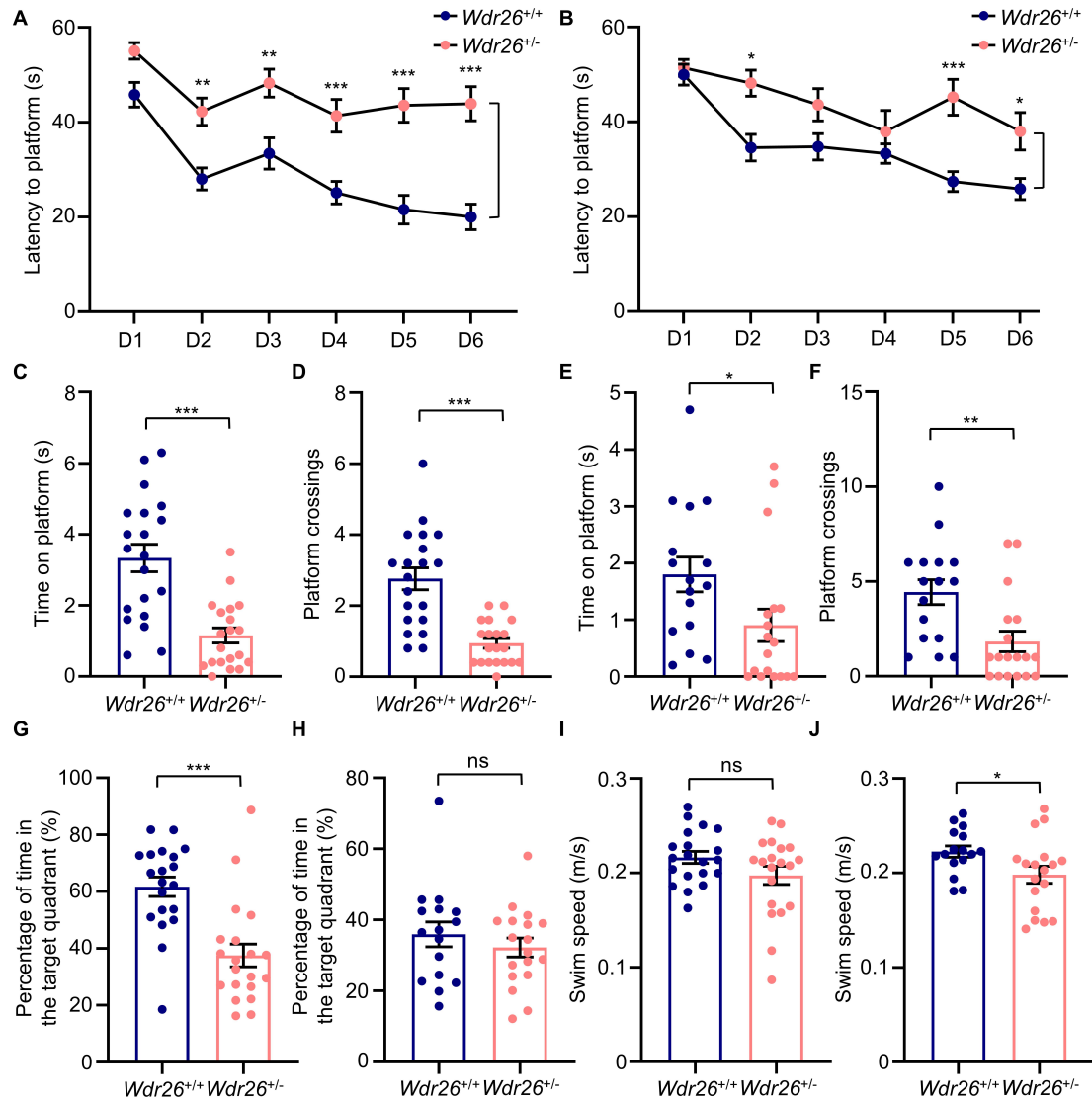
2

3 **Supplementary Figure 1. Supplementary information on *Wdr26*^{+/-} mice.** (A) Schematic

4 diagram of the *Wdr26* gene knockout strategy in transgenic mice. (B) Body weight of 2-month-

5 old *Wdr26*^{+/+} and *Wdr26*^{+/-} mice. Statistical analysis was performed using unpaired two-tailed

6 Student's t-test (ns, not significant).



7

8 **Supplementary Figure 2. Two-month-old *Wdr26*^{+/+} and *Wdr26*^{+/-} mice are tested in the**

9 **MWM. (A and B) The escape latency in the training of MWM. Male (n = 20) (A), female (n =**

10 **16-18) (B). (C) The time spent on the platform of male *Wdr26*^{+/+} and *Wdr26*^{+/-} mice in the test**

11 **of MWM (n = 20). (D) The platform crossings of male *Wdr26*^{+/+} and *Wdr26*^{+/-} mice in the test**

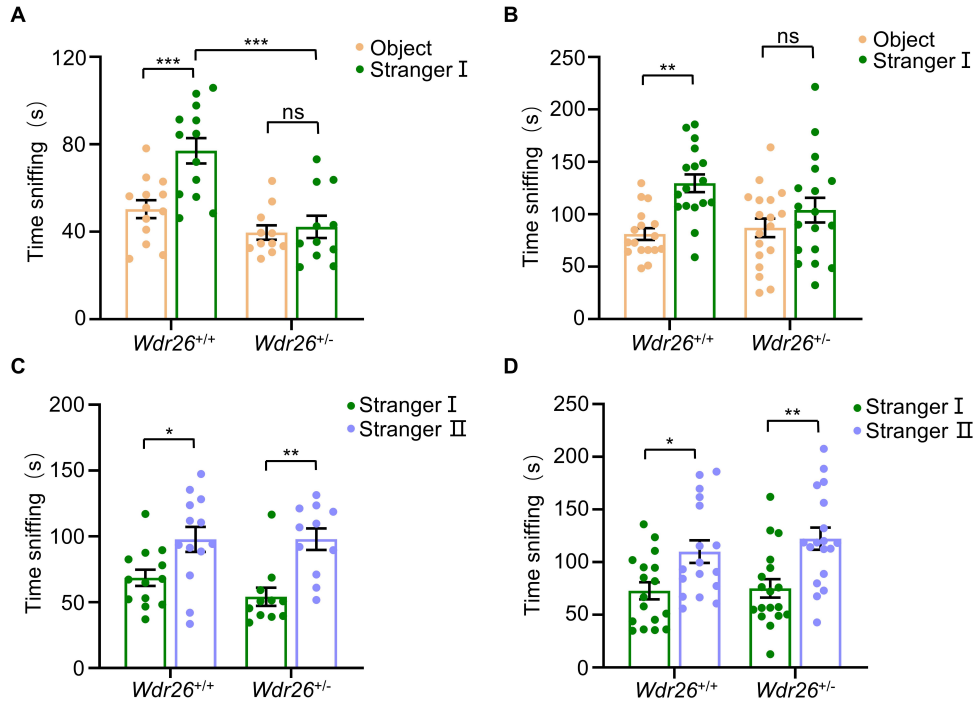
12 **of MWM (n = 20). (E) The time spent on the platform of female *Wdr26*^{+/+} and *Wdr26*^{+/-} mice**

13 **in the test of MWM (n = 16-18). (F) The platform crossings of female *Wdr26*^{+/+} and *Wdr26*^{+/-}**

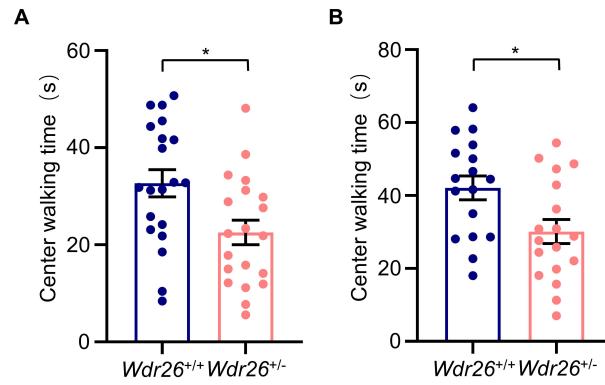
14 **mice in the test of MWM, (n = 16-18). (G and H) The percentage of time in the target quadrant**

15 **in the test of MWM. Male (n = 20) (G), female (n = 16-18) (H). (I and J) The swim speed in**

the test of MWM. Male (n = 20) (I) female, (n = 16-18) (J). Statistical analysis was performed using two-way analysis of ANOVA with Bonferroni's post hoc test for multiple comparisons (A and B) and unpaired two-tailed Student's t-test (C-J) (*p < 0.05, **p < 0.01, and ***p < 0.001 and ns, not significant).



Supplementary Figure 3. Two-month-old *Wdr26*^{+/+} and *Wdr26*^{+/-} mice are tested in the three-chamber socialization test. (A and B) Quantification of investigative behaviors of *Wdr26*^{+/+} and *Wdr26*^{+/-} mice during phases I of the three-chamber socialization test was performed. Male (n = 11-13) (A), female (n = 17-18) (B). (C and D) Quantification of investigative behaviors of *Wdr26*^{+/+} and *Wdr26*^{+/-} mice during phases II of the three-chamber socialization test was performed. Male (n = 11-13) (C), female (n = 17-18) (D). Statistical analysis was performed using two-way ANOVA with Tukey's post hoc test for multiple comparisons. (*p < 0.05, **p < 0.01, and *p < 0.001, ns, not significant).**

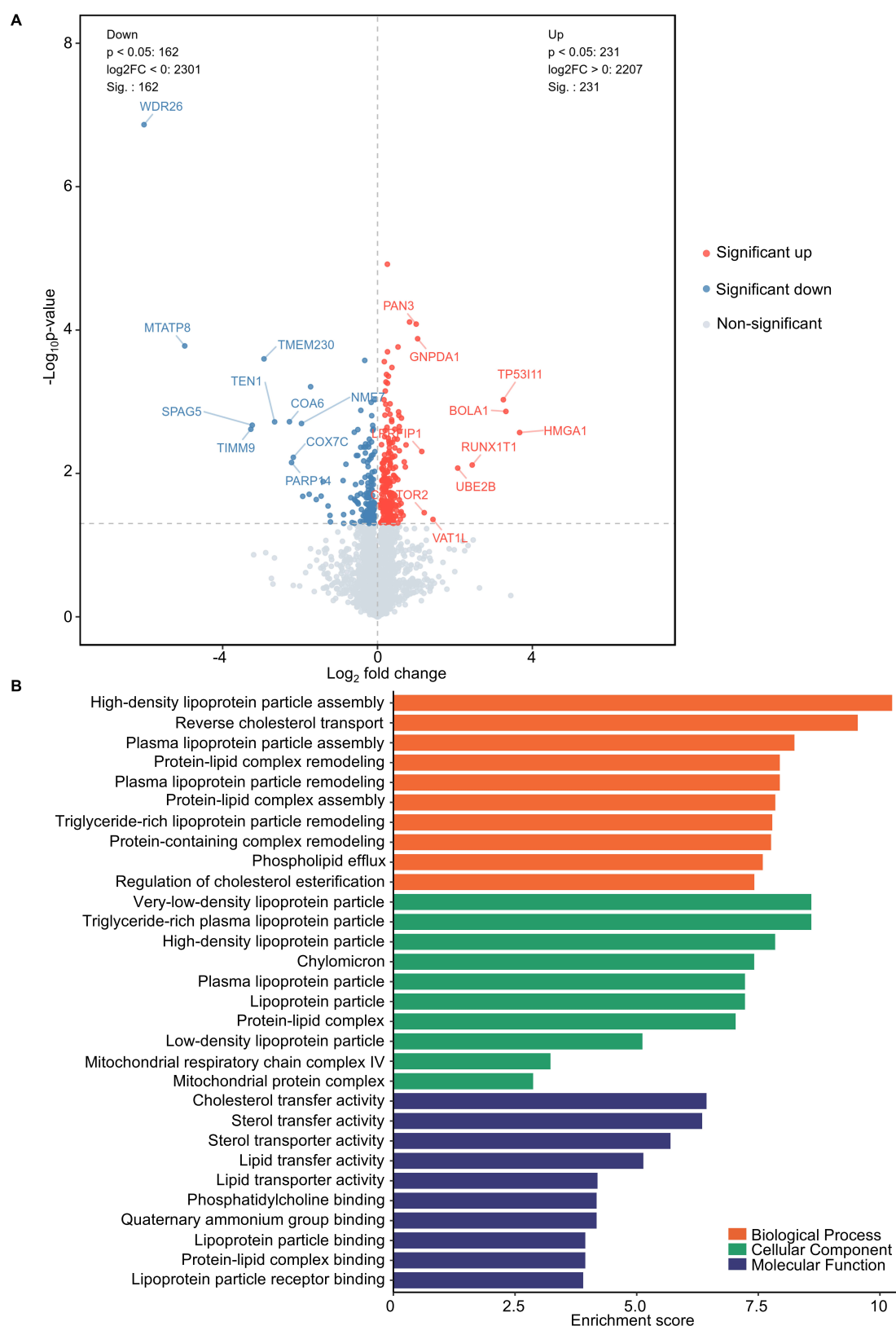


29

30 **Supplementary Figure 4. Two-month-old *Wdr26^{+/+}* and *Wdr26^{+/-}* mice are tested in the**

31 **open field test. (A and B) center walking time. Male, (n = 20) (A), female, (n = 17-18) (B).**

32 Statistical analysis was performed using unpaired two-tailed Student's t-test (*p < 0.05).



Supplementary Figure 5. Loss of *Wdr26* causes abnormalities in pathways related to lipid

metabolism. (A) DEPs were shown in the volcano plots (n = 3). **(B)** The GO analysis of the

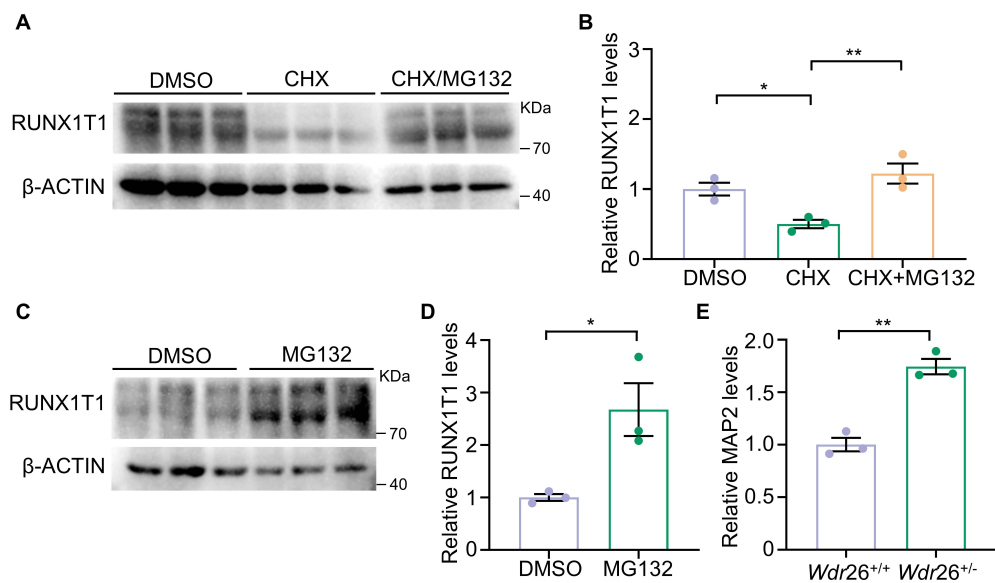
36 down-regulated proteins was shown.



37

38 **Supplementary Figure 6. Differentially expressed proteins induced by loss of *Wdr26* are**

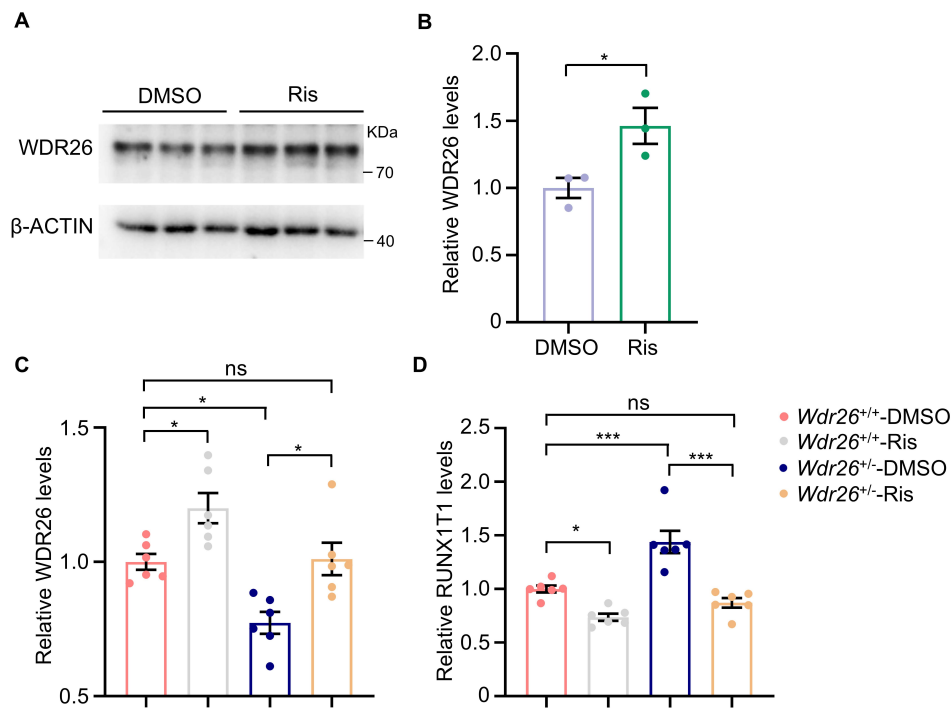
39 **linked to neurological disorders. (A) The GSEA analysis of the DEPs was shown.**



40

41 **Supplementary Figure 7. The stability of RUNX1T1 is affected by the proteasome. (A)**

N2a cells were treated with CHX and MG132 for 12 h and RUNX1T1 protein levels were tested by Western blotting. (B) Quantitative analysis of RUNX1T1 (A) protein levels was performed (n = 3). (C) N2a cells were treated with MG132 for 12 h and RUNX1T1 protein levels were tested by Western blotting. (D) Quantitative analysis of RUNX1T1 (C) protein levels was performed (n = 3). (E) Quantitative analysis of MAP2 (Figure 7N) protein levels was performed (n = 3). Statistical analysis was performed using one-way ANOVA with Tukey's post hoc test for multiple comparisons (B) and unpaired two-tailed Student's t-test (D and E) (* $p < 0.05$ and ** $p < 0.01$).



Supplementary Figure 8. The protein levels of WDR26 are increased by the risperidone.

(A) HT22 cells were treated with 10 μ M risperidone for 36 h and the protein levels of WDR26 were tested by Western blotting. (B) Quantitative analysis of WDR26 (A) protein levels was performed (n = 3). (C) Quantitative analysis of WDR26 (Figure 9A) protein levels was

55 performed (n = 6). Ris (risperidone). **(D)** Quantitative analysis of RUNX1T1 (Figure 9**B**)
56 protein levels was performed (n = 6). Ris (risperidone). Statistical analysis was performed using
57 unpaired two-tailed Student's t-test **(B)** and one-way ANOVA with Tukey's post hoc test for
58 multiple comparisons **(C and D)** (* $p < 0.05$, *** $p < 0.001$ and ns, not significant).