**Raw Data Supplementary Materials**

**Figure 1A Raw Data.** Relative mRNA level of *Pdk1* in the *Pdk1* cKO subpallium at E16.5. Quantified data was listed in Raw Data Excel sheet1. 3 pair brains from 3 different litters were analyzed. *P*=0.0004.

**Figure 1C-E Raw Data.** Immunostaining for GFP showed that the total number of cortical interneurons in the *Pdk1* cKO cortex was decreased at P6. 4 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet2. *P*=0.0013. Scale bar, 100 μm.
Figure 1F-H Raw Data. In situ hybridization of SST showed a reduction in SST+ interneurons in the Pdk1 cKO cortex at P6. 3 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet3. P=0.0230. Scale bar, 100 μm.
Figure 11-K Raw Data. In situ hybridization of PV showed a reduction in PV+ interneurons in the Pdk1 cKO cortex at P15. 4 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet4. $P=0.0013$. Scale bar, 100 μm.
**Figure 1L-N Raw Data.** Immunostaining for PROX1 revealed that the number of CGE-derived cortical interneurons in the *Pdk1* cKO cortex was decreased at P6. 3 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet5. $P=0.0013$. Scale bar, 100 μm.
**Figure 2A-B Raw Data.** Immunofluorescence for GFP in coronal sections showed comparable distribution patterns and numbers of cortical interneurons at E12.5 between Pdk1 cKO and control mice. 3 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet. $P = 0.9912$. Scale bar, 100 µm.
**Figure 2C-D Raw Data.** Immunofluorescence for GFP in coronal sections showed comparable distribution patterns and numbers of cortical interneurons at E13.5 between Pdk1 cKO and control mice. 4 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet. $P = 0.9089$. Scale bar, 100 μm.
Figure 2C”-D” and 2U Raw Data. Raw Data. There were no significant differences in the dorsal/ventral ratio of numbers of interneurons between Pdk1 cKO and control mice at E13.5. 4 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet. \( P = 0.1945 \).
**Figure 2I’ Raw Data.** The number of GFP⁺ cortical interneurons decreased at E18.5 in the *Pdk1* cKO cortex. 3 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet6. \( P = 0.00034 \). Scale bar, 100 μm.
Figure 21”-J” and 2U Raw Data. There were no significant differences in the dorsal/ventral ratio of numbers of interneurons between Pdk1 cKO and control mice at E18.5. 3 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet. $P = 0.5371$. 

![Image of Raw Data](image-url)
Figure 2K-L’ Raw Data. In situ hybridization showed that the number of SST\(^+\) interneurons decreased at E14.5 in the *Pdk1* cKO subpallium. 3 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet8. \(P = 0.00045\). Scale bar, 100 \(\mu\)m.
Figure 2M-N Raw Data. The number of SST⁺ interneurons in the Pdk1 cKO was decreased at E16.5. 3 pair brains from 3 different litters were used for analysis.
Figure 2O-P’ Raw Data. The number of SST⁺ interneurons in the Pdk1 cKO cortex was decreased at E18.5. 3 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet8. $P = 0.00015$. Scale bar, 100 μm.
Figure 2Q-R’ Raw Data. Immunofluorescence for PROX1 showed that the number of PROX1+ cortical interneurons was decreased in the Pdk1 cKO cortex at E18.5. 3 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet9. $P = 0.0018$. Scale bar, 100 μm.
**Figure 4A-B Raw Data.** Immunofluorescence for PH3 showed that the number of PH3-labeled M phase cells was unaffected in the MGE of *Pdk1* cKO mice compared with control mice at E12.5. 3 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet10. $P = 0.7922$. Scale bar, 100 μm.
Figure 4C-D Raw Data. Immunofluorescence for PH3 showed that the number of PH3-labeled M phase cells was unaffected in the MGE of Pdk1 cKO mice compared with control mice at E14.5. 3 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet10. $P > 0.99999$. Scale bar, 100 μm.
**Figure 4E-F Raw Data.** Immunofluorescence for PH3 showed that the number of PH3-labeled M phase cells was unaffected in the MGE of Pdk1 cKO mice compared with control mice at E16.5. 3 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet10. $P = 0.5767$. Scale bar, 100 μm.
Figure 4G-H Raw Data. Immunofluorescence for BrdU showed that the number of S phase cells within the Pdk1 cKO MGE was similar to that in the control MGE at E12.5. 3 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet1. $P = 0.9502$. Scale bar, 100 μm.
**Figure 4I-J Raw Data.** Immunofluorescence for BrdU showed that the number of S phase cells within the *Pdk1* cKO MGE was similar to that in the control MGE at E14.5. 3 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet11. \( P = 0.9265 \). Scale bar, 100 μm.
Figure 4K-L' Raw Data. Immunofluorescence for BrdU showed that the number of S phase cells within the Pdk1 cKO MGE was similar to that in the control MGE at E16.5. 5 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet1. $P = 0.7189$. Scale bar, 100 μm.
Figure 4M-N Raw Data. Immunofluorescence for Ki67 revealed comparable numbers of Ki67+ cells between Pdk1 cKO and control mice at E12.5. 3 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet12. \( P = 0.9954 \). Scale bar, 100 μm.
Figure 4O-P Raw Data. Immunofluorescence for Ki67 revealed comparable numbers of Ki67* cells between Pdk1 cKO and control mice at E14.5. 4 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet1. $P = 0.8033$. Scale bar, 100 μm.
Figure 4Q-R' Raw Data. Immunofluorescence for Ki67 revealed comparable numbers of Ki67+ cells between Pdk1 cKO and control mice at E16.5. 6 pair brains from 4 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet12. $P = 0.9003$. Scale bar, 100 μm.
Figure 5A-B’ Raw Data. Immunofluorescence showing that the number of Caspase-3\(^+\) cells was no differences in the subpallium of Pdk1 cKO and control mice at E12.5. 3 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet13. \( P = 0.9231 \). Scale bar, 100 μm.
**Figure 5C-D’ Raw Data.** The number of Caspase-3* cells was significantly increased in the subpallium of *Pdk1* cKO compared with control mice at E14.5. 3 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet13. $P = 0.0048$. Scale bar, 100 μm.
Figure 5E-F’ Raw Data. Increased number of Caspase-3+ cells in the subpallium of Pdk1 cKO mice compared to control mice at E16.5. 3 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet13. $P = 0.0114$. Scale bar, 100 μm.
Figure 5G-H’ Raw Data. Immunofluorescence for Caspase-3 showed that the number of Caspase-3+ cells was increased in the cortex of Pdk1 cKO mice compared with control mice at P6. 3 pair brains from 3 different litters were used for statistical analysis. Quantified data was listed in Raw Data Excel sheet13. $P = 0.000037$. Scale bar, 100 μm.
**Figure 6A-B Raw Data.** There were no differences on the relative expression levels of total AKT in the subpallium between Pdk1 cKO and control mice at E16.5. 4 pair brains form 3 different litters were analyzed. Quantified data for protein expression levels were listed in Raw Data Excel sheet 14. *P* = 0.1186.

**Figure 6C-D Raw Data.** The relative expression levels of p-AKT\(^{\text{Thr}308}\) was significantly reduced in the subpallium at E16.5. 4 pair brains form 3 different litters were analyzed. Quantified data for protein expression levels were listed in Raw Data Excel sheet 15. *P* = 0.0027.

**Figure 6E-F Raw Data.** The relative expression levels of p-AKT\(^{\text{Ser}473}\) was obviously increased in the subpallium of Pdk1 cKO mice compare to control mice at E16.5. 4 pair brains form 3 different litters were analyzed. Quantified data for protein expression levels were listed in Raw Data Excel sheet 16. *P* = 0.0153.

**Figure 6G-H Raw Data.** There were no significant differences in the relative expression levels of total GSK3\(\beta\) in the subpallium between Pdk1 cKO and control mice at E16.5. 4 pair brains form 3 different litters were analyzed. Quantified data for protein expression levels were listed in Raw Data Excel sheet 17. *P* = 0.5900.

**Figure 6I-J Raw Data.** The p-GSK3\(\beta^{\text{Ser}9}\) level was significantly decreased in the subpallium of Pdk1 cKOs compared to control mice at E16.5. 4 pair brains form 3 different litters were analyzed. Quantified data for protein expression levels were listed in Raw Data Excel sheet 18. *P* = 0.0273.

**Figure 6K-L Raw Data.** There were no significant differences in the relative expression levels of PTEN in the subpallium between Pdk1 cKO and control mice at E16.5. 4 pair brains form 3 different litters were analyzed. Quantified data for protein expression levels were listed in Raw Data Excel sheet 19. *P* = 0.8366.