

Supplemental Information

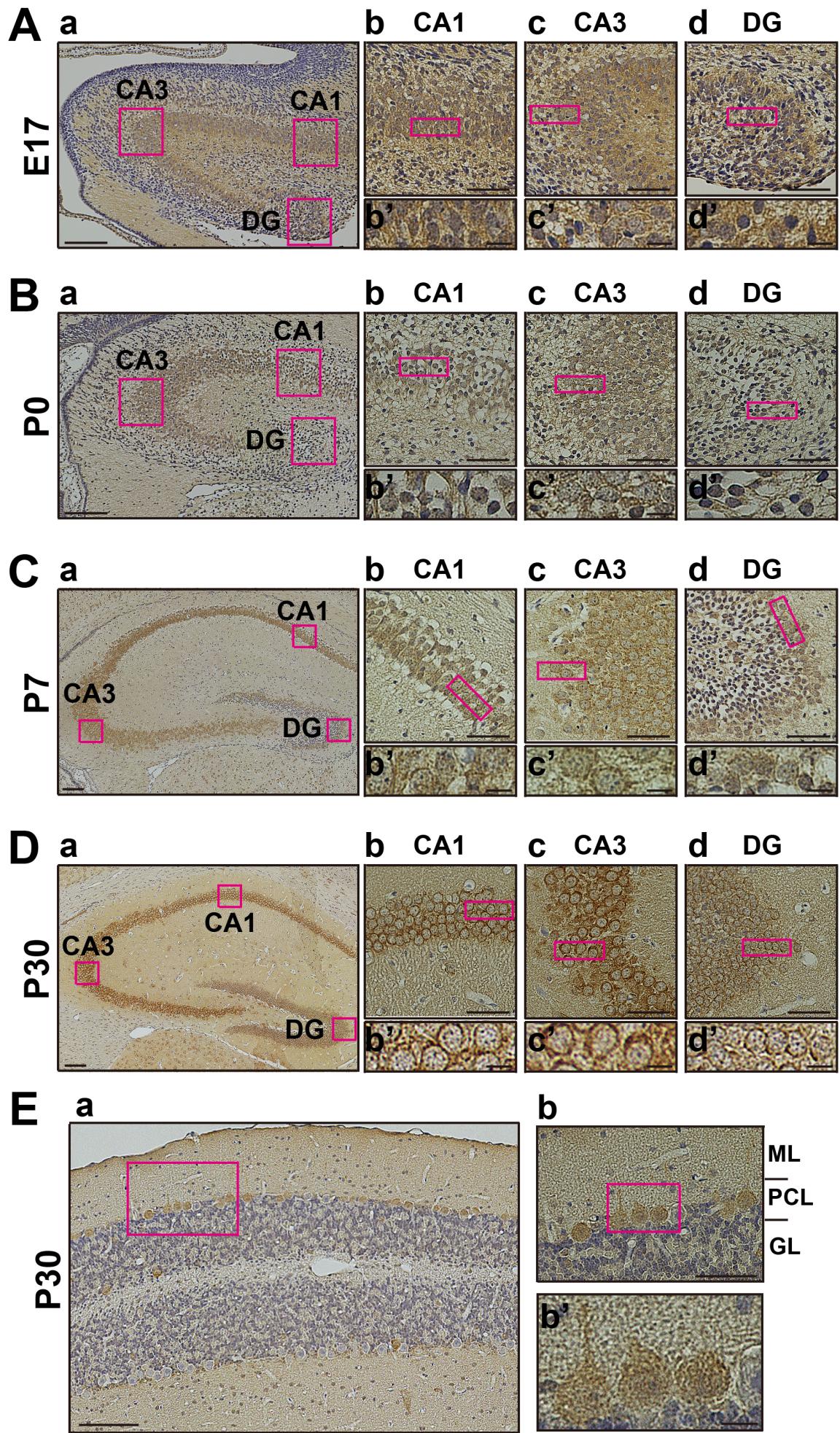
Physiological significance of *WDR45*, a responsible gene for b-propeller protein associated neurodegeneration (BPAN), in brain development

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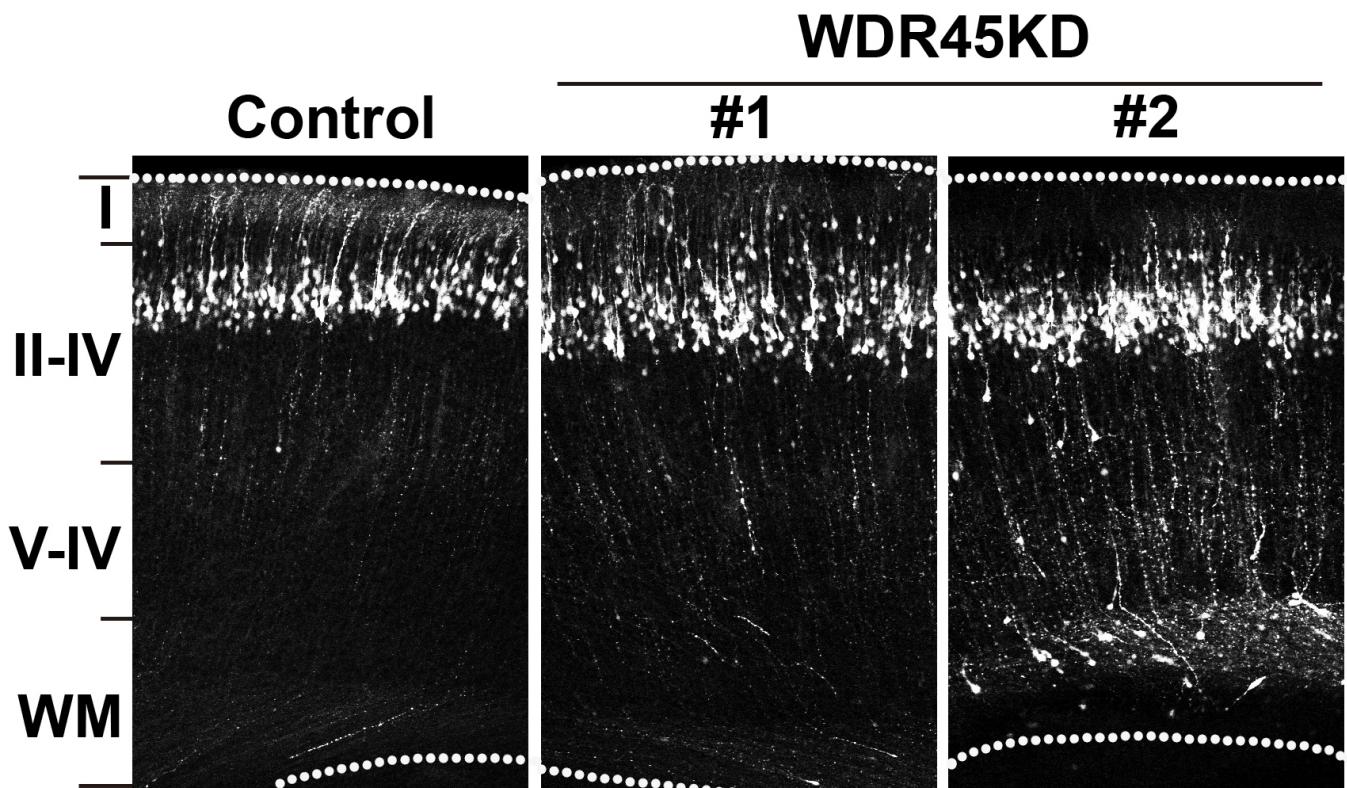
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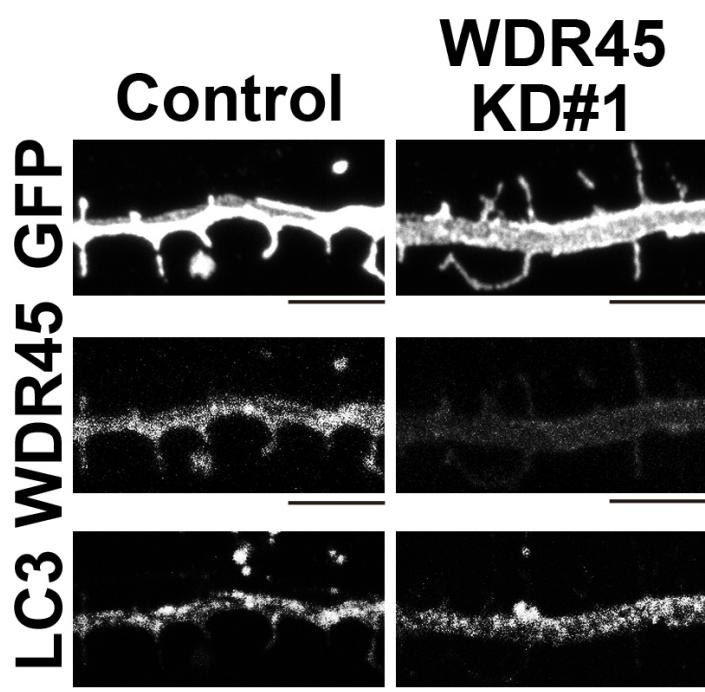
Supplementary Figure 1. Immunohistochemical analyses of Wdr45 in hippocampus and cerebellum

Hippocampal sections at E17 (A), P0 (B), P7 (C) and P30 (D) were stained with anti-WDR45. Boxed areas in (a) were magnified in (b) – (d). Boxed areas in (b) – (d) were magnified in (b') – (d'), respectively. CA, *cornu ammonis*; DG, dentate gyrus. (E) A cerebellar section at P30 was stained with anti-WDR45. Boxed areas in (a) and (b) were magnified in (b) and (b'), respectively. Layers were indicated in (b). ML, molecular layer; PCL, Purkinje cell layer; GL, granular layer. Counter staining was done with Mayer's hematoxylin. Scale bars; 100 μ m (A-E,a), 50 μ m (A-D,b-d and E,b) and 10 μ m (A-D,b'-d' and E,b').



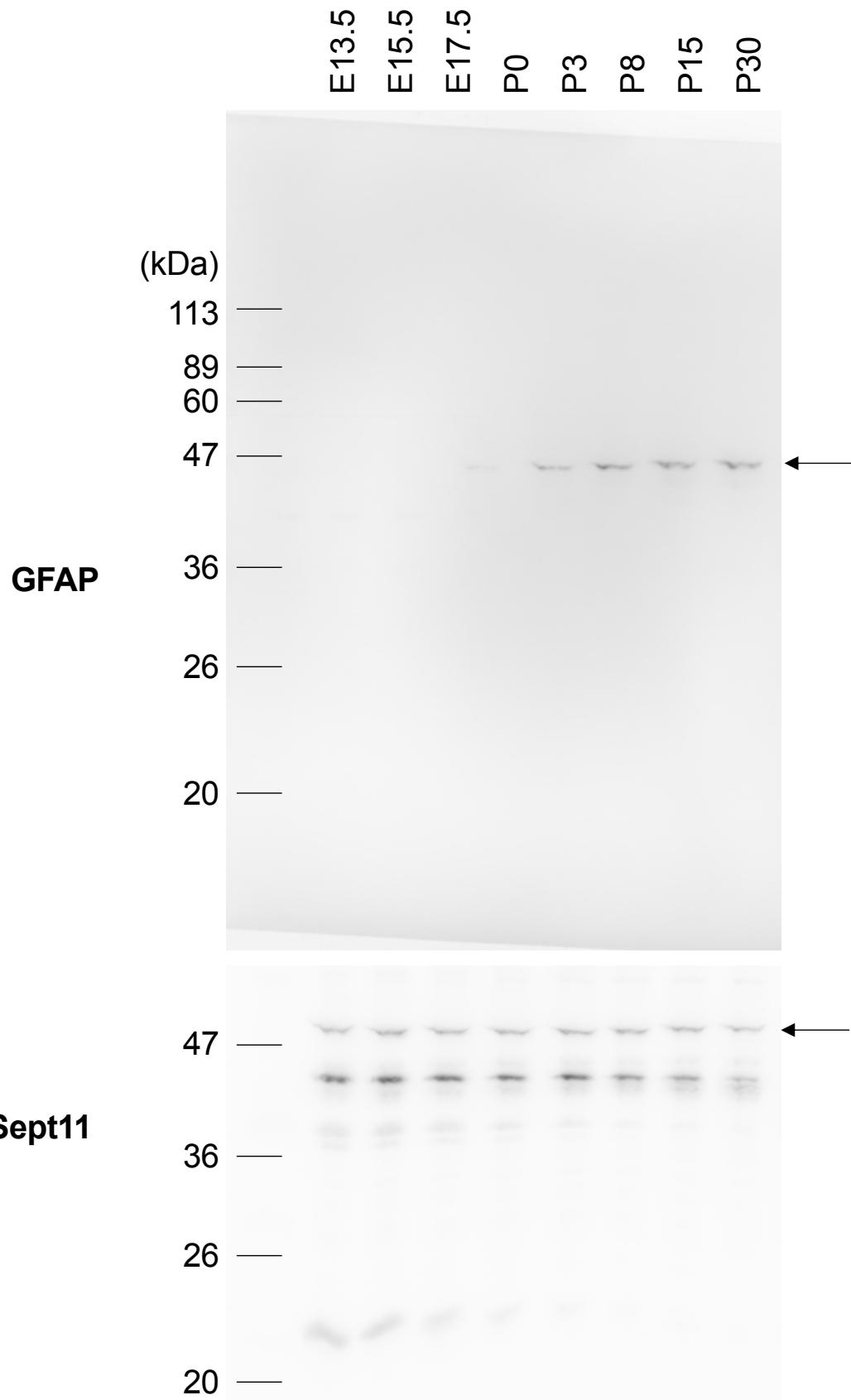
Supplementary Figure 2. Effects of Wdr45-knockdown on cortical neuron migration during corticogenesis.

pCAG-TurboRFP was co-electroporated with pSuper-H1.shLuc (control) or pSuper-Wdr45#1 or #2 into the VZ progenitors at E14.5. Coronal sections were prepared at P2 and stained for RFP. Dotted lines represent the pial (*upper*) and the ventricular (*lower*) surfaces.



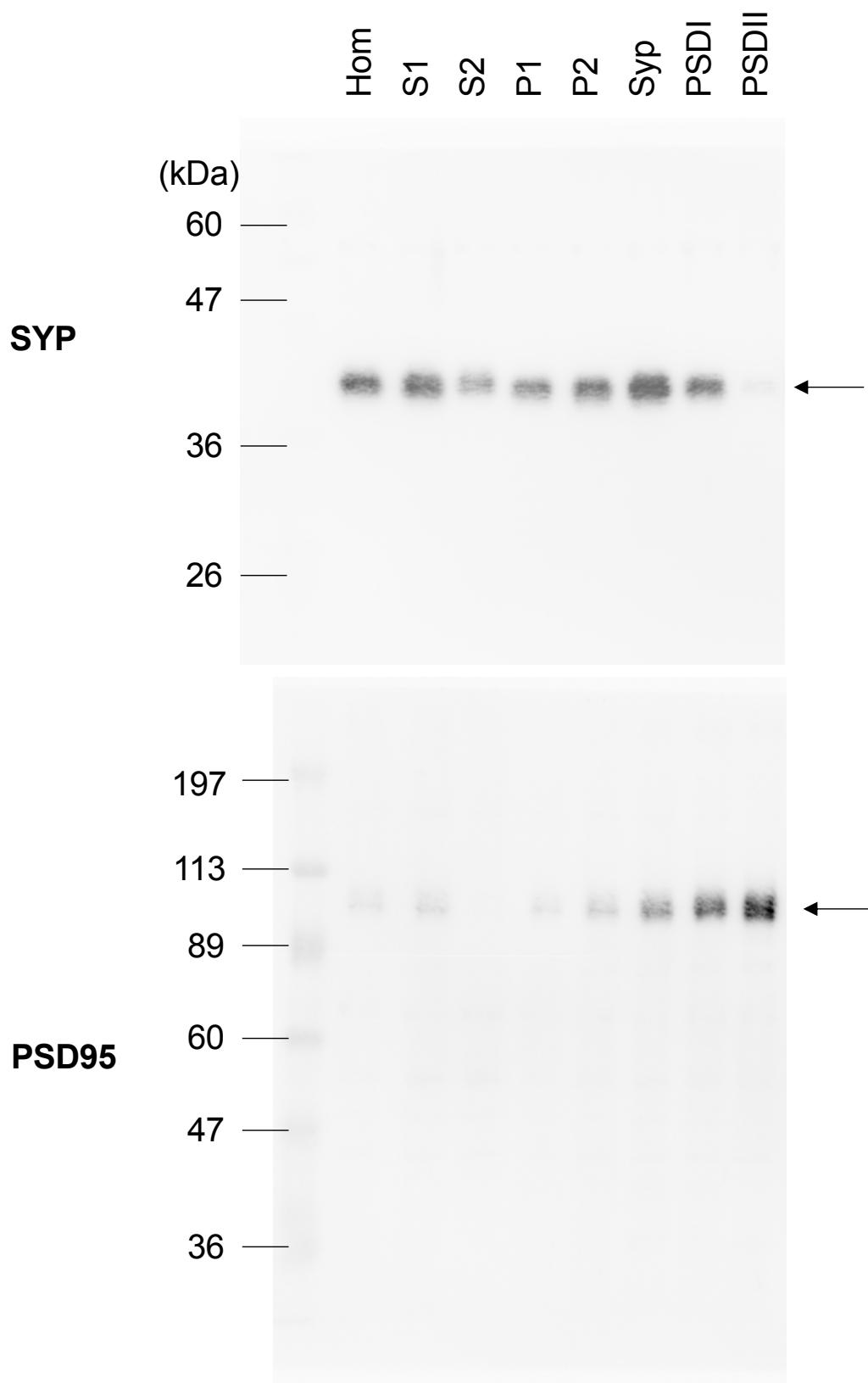
Supplementary Figure 3. Effects of Wdr45-knockdown on LC3 expression.

pCAG-TurboRFP was co-electroporated with pSuper-H1.shLuc (Control) or pSuper-Wdr45#1(KD#1) into the VZ progenitors at E14.5. Coronal sections were prepared at P2 and stained for Wdr45 and LC3. Representative images of dendritic spines on the 1st-order apical dendrites were shown. Scale bars, 5 μ m.



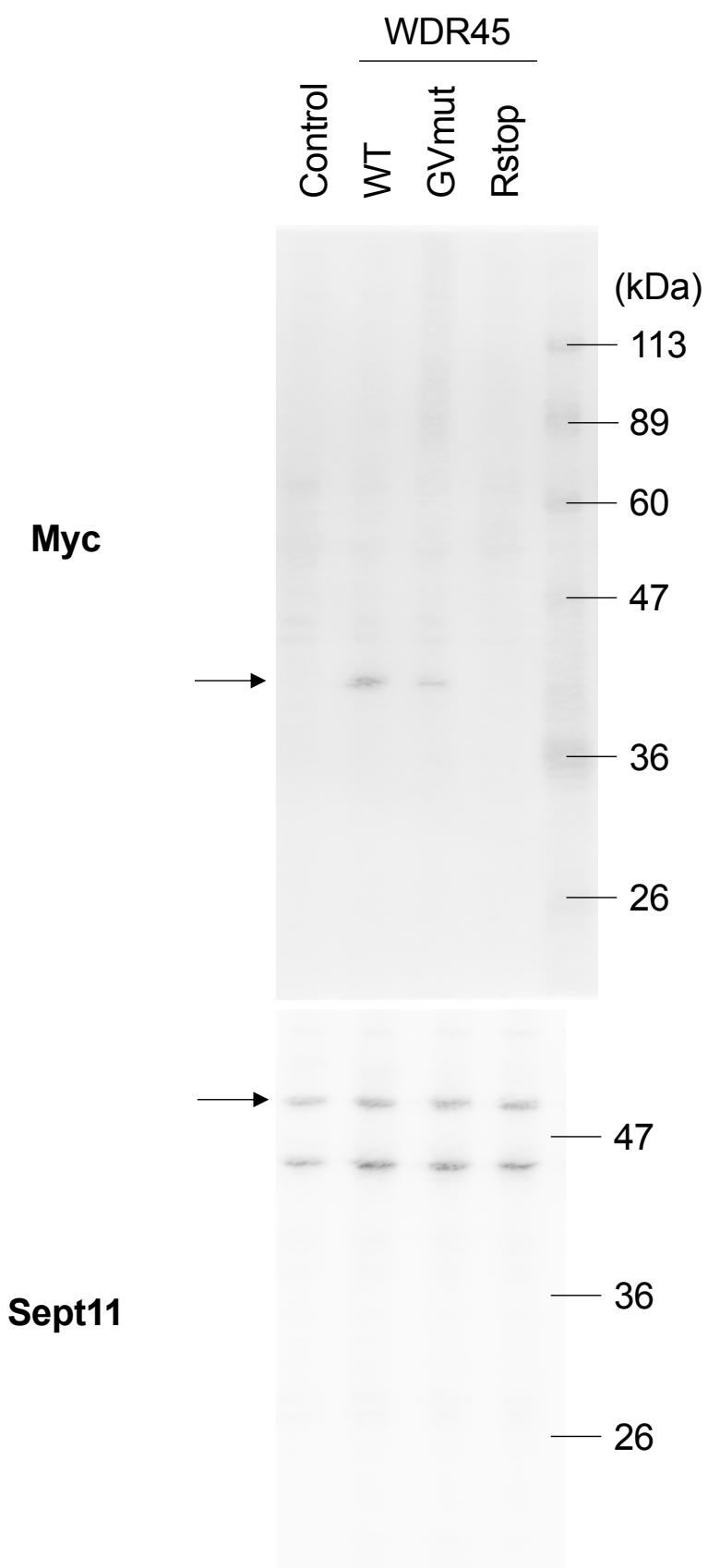
Supplementary Figure 4. Uncropped blots of Figure 1B

Western blot of protein samples immunoblotted with anti-GFAP and anti-Sept11. The protein bands shown in Figure 1B are indicated by arrows.



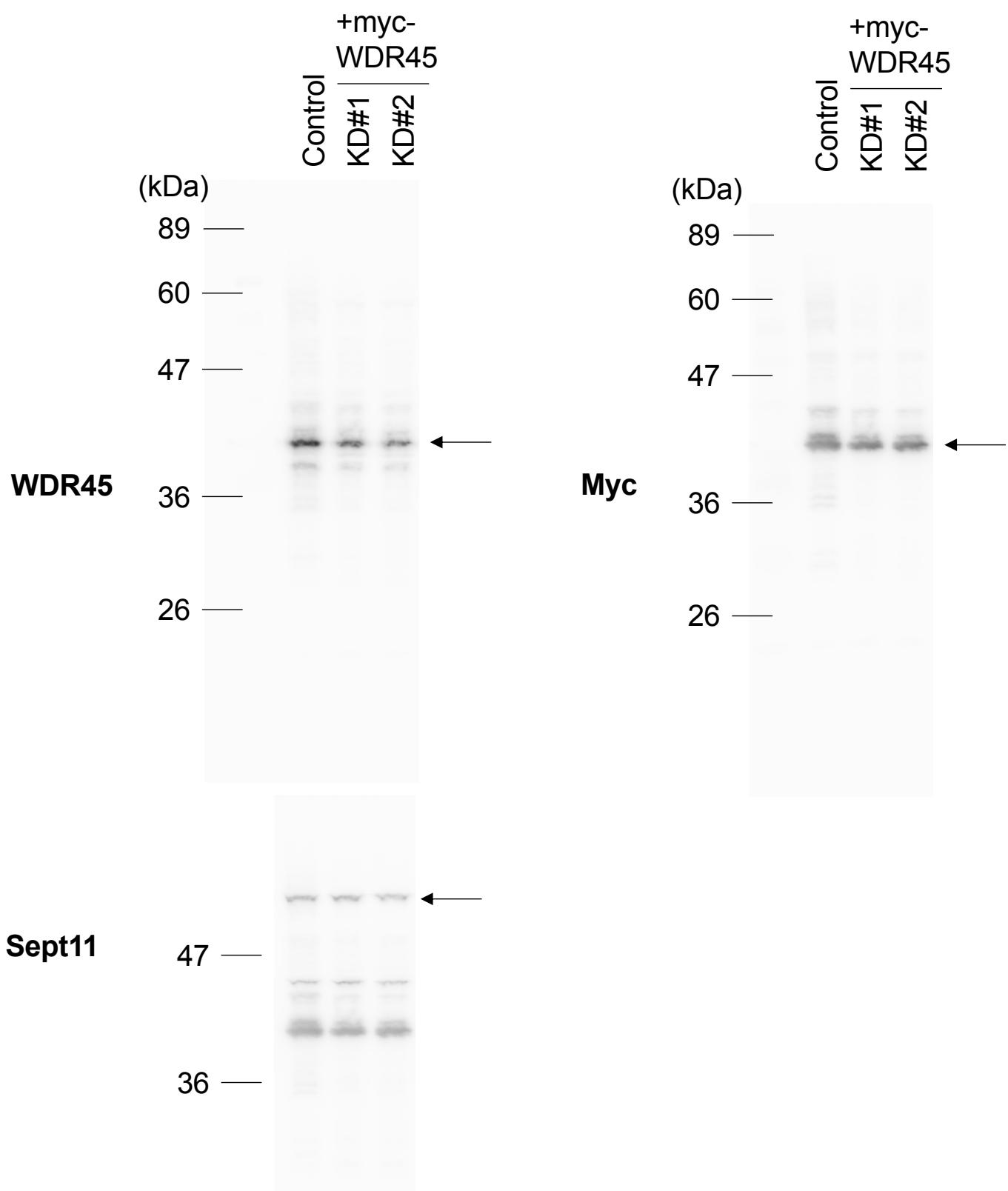
Supplementary Figure 5. Uncropped blots of Figure 1C

Western blot of protein samples immunoblotted with anti-Synaptophysin (SYP) and anti-PSD95. The protein bands shown in Figure 1C are indicated by arrows.



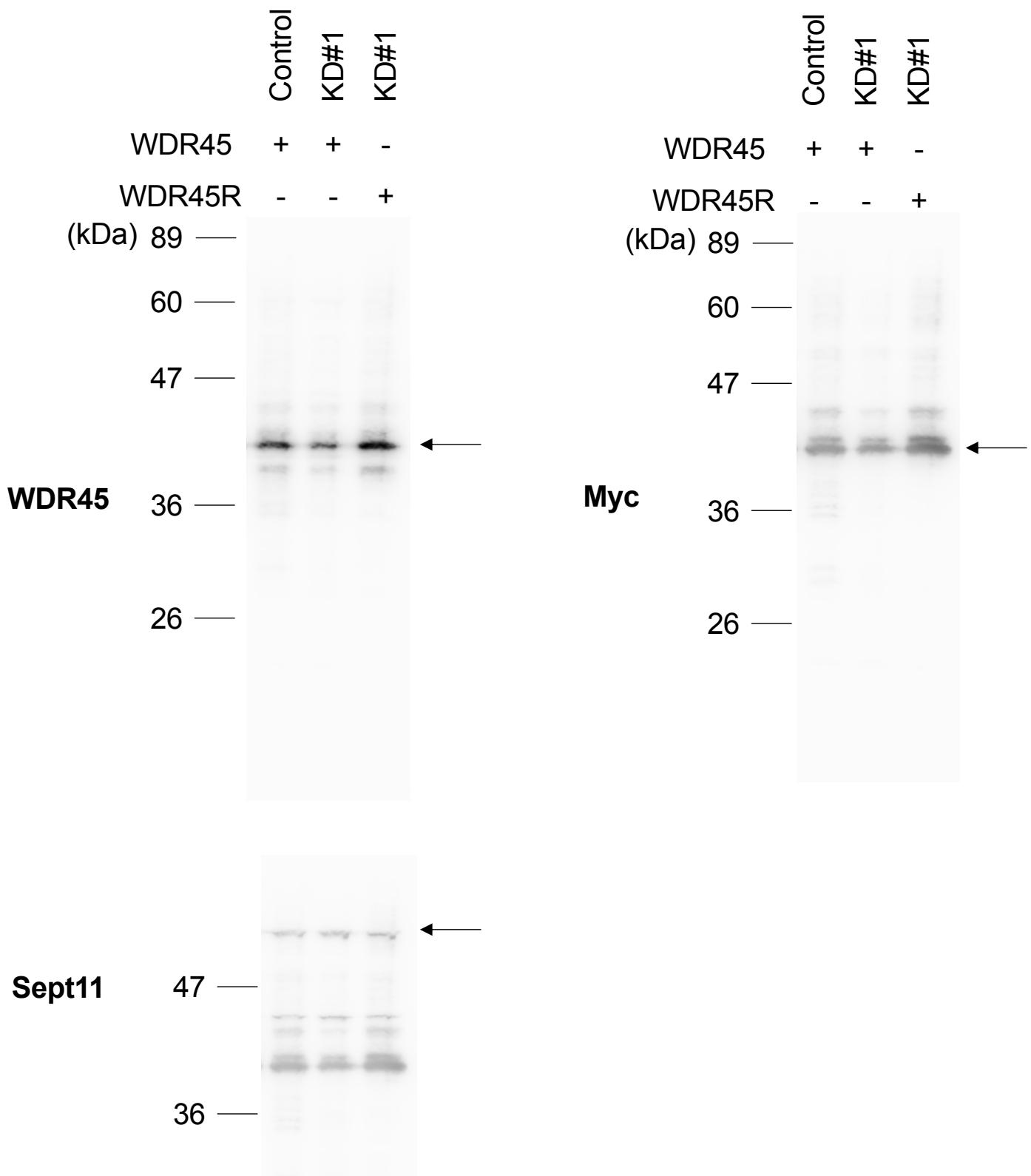
Supplementary Figure 6. Uncropped blots of Figure 3A

Western blot of protein samples immunoblotted with anti-Myc and anti-Sept11. The protein bands shown in Figure 3A are indicated by arrows.



Supplementary Figure 7. Uncropped blots of Figure 3B

Western blot of protein samples immunoblotted with anti-WDR45, anti-Myc and anti-Sept11. The protein bands shown in Figure 3B are indicated by arrows.



Supplementary Figure 8. Uncropped blots of Figure 3D

Western blot of protein samples immunoblotted with anti-WDR45, anti-Myc and anti-Sept11. The protein bands shown in Figure 3D are indicated by arrows.