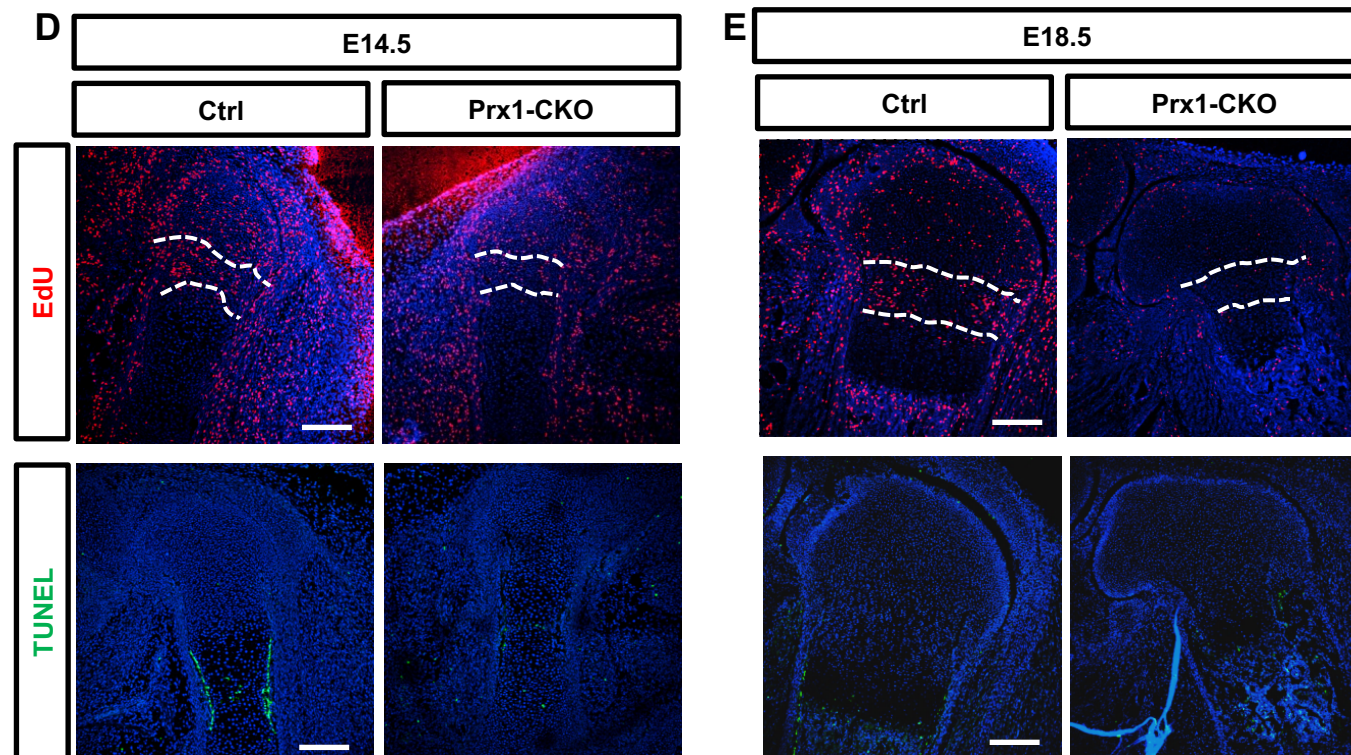
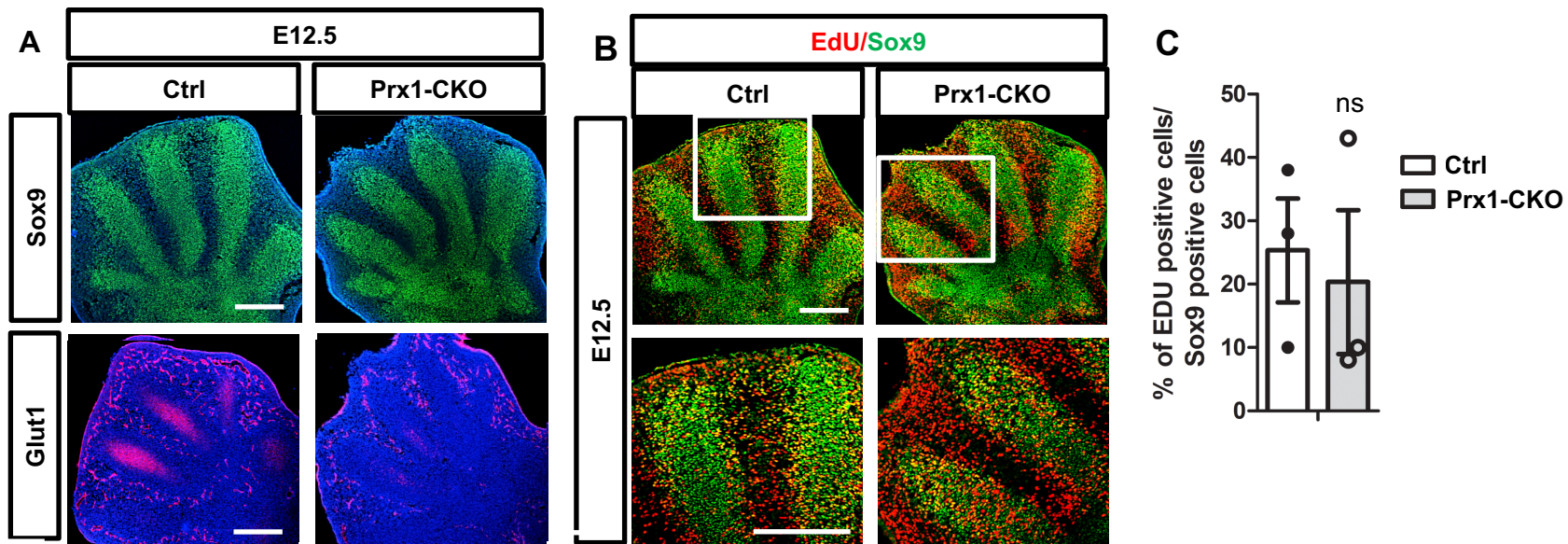
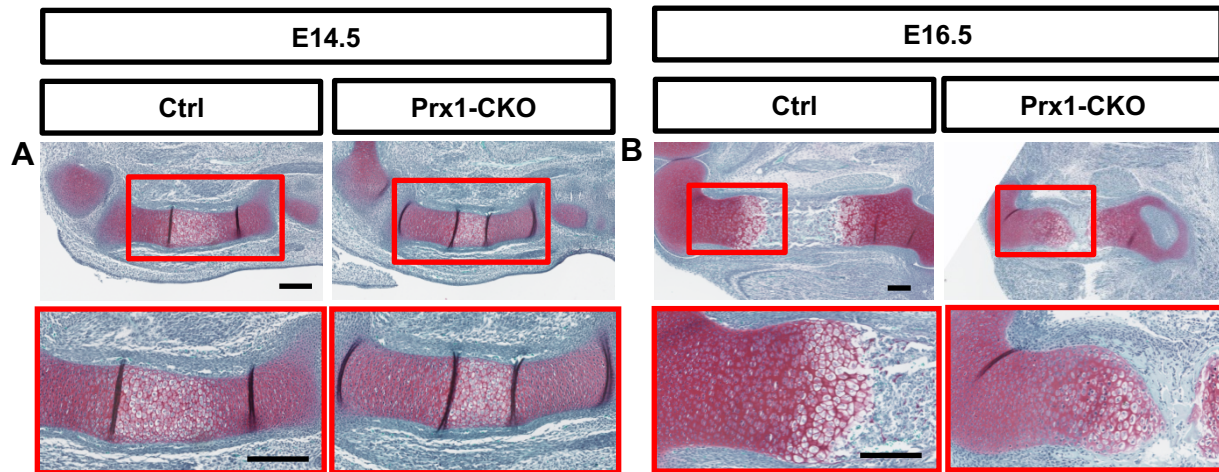


**Supplementary Fig. 1. Glut1 is essential for chondrocyte maturation and hypertrophy.** H&E staining of the femur section from control (Ctrl) versus mutant (Prx1-CKO) littermates at E14.5 (A) or E18.5 (B). Color-coded boxed areas are shown at higher magnification. Scale bar: 100  $\mu$ m.

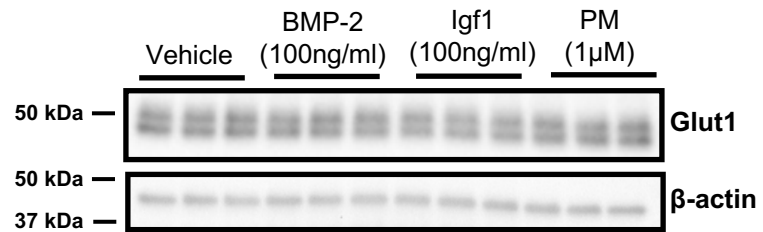


**Supplementary Fig. 2. Glut1 is necessary for chondrocyte proliferation but not survival.**

(A) Immunofluorescence staining of Sox9 (up) and Glut1 (bottom) on sections of the autopod from E12.5 ctrl (left) and Prx1-CKO (right) littermates. (B) Double fluorescent labeling of EdU (red) and Sox9 (green) on sections of the autopod from E12.5 ctrl (left) and Prx1-CKO (right) littermates. Boxed areas are shown at higher magnification below and used for quantification. (C) Quantification of EdU percentage among Sox9<sup>+</sup> cells. n=3 mice per genotype. Two-tailed Student's t test, ns :  $p > 0.05$ . (D, E) Representative images of EdU (red) or TUNEL (green) labeling in the femur at E14.5 (D) or E18.5 (E). Region between dashed lines is used for quantification of EdU labeling index. Scale bar: 200  $\mu\text{m}$ .

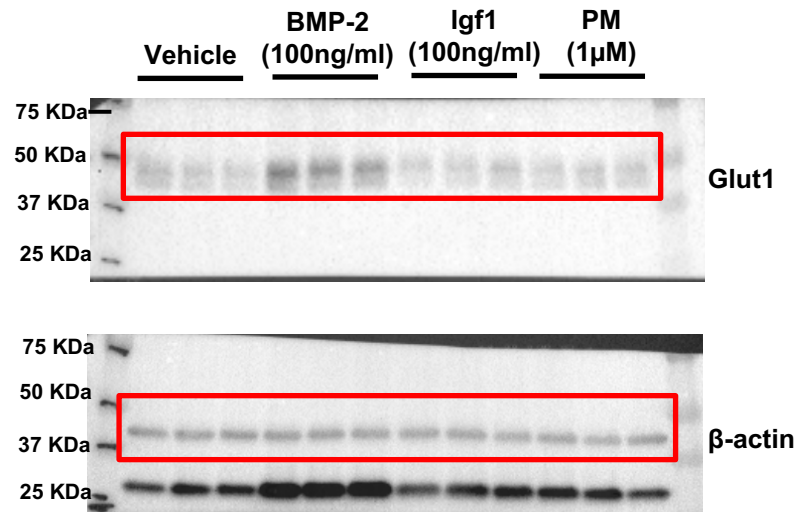


**Supplementary Fig. 3. Glut1 is necessary for optimal production of proteoglycans.** Representative images of Safranin O staining at E14.5 (A) or E16.5 (B). Boxed areas are shown at a higher magnification below. Scale bar: 200  $\mu$ m.



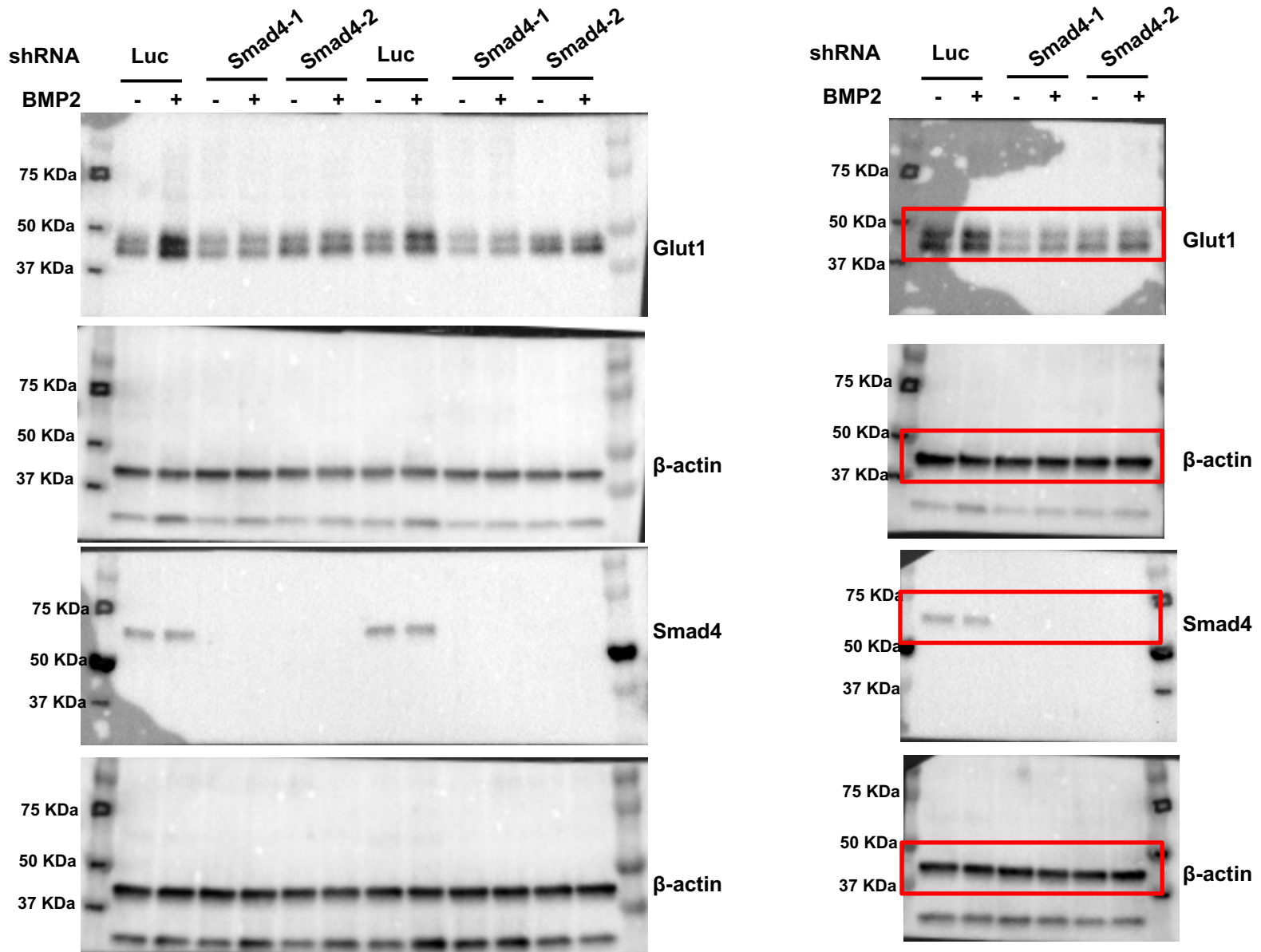
**Supplementary Fig. 4. Lack of change in Glut1 levels after 6 hrs of treatment.** Western blots of Glut1 in primary chondrocytes with indicated treatment for 6 hrs.  $\beta$ -actin used as loading control.

## Western Blots for Fig 8A.



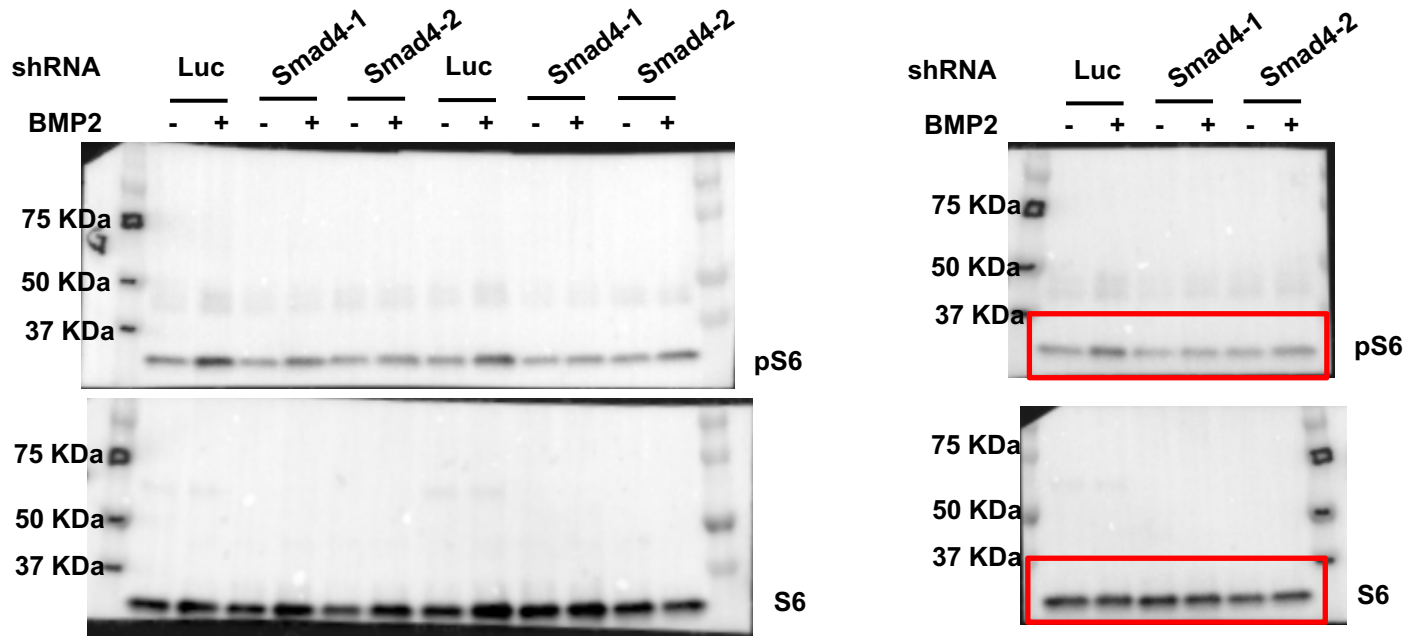
Supplementary Fig. 5. Uncropped Western blots for the study

### Western Blots for Fig 8D.



Supplementary Fig. 5. Uncropped Western blots for the study

## Western Blots for Fig 8F

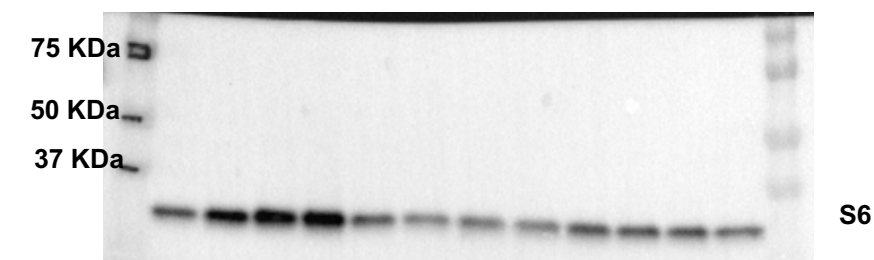
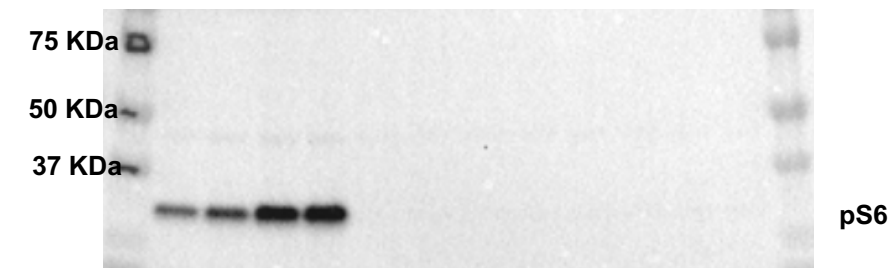
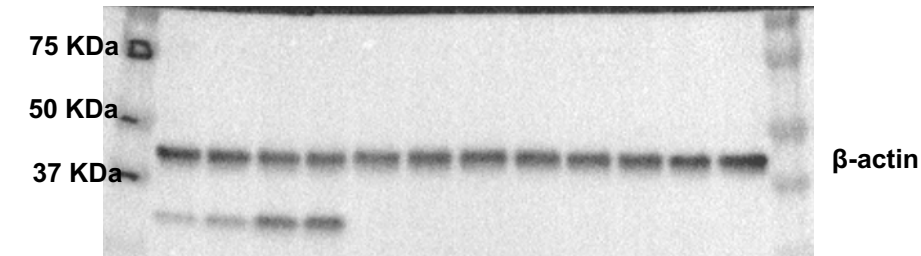
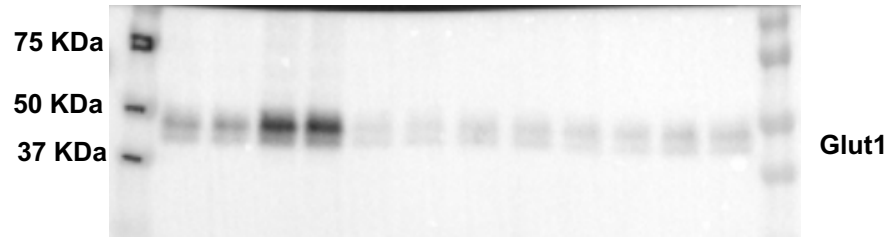


Supplementary Fig. 5. Uncropped Western blots for the study

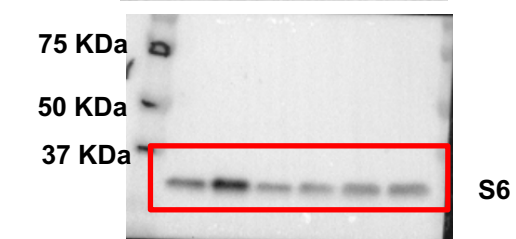
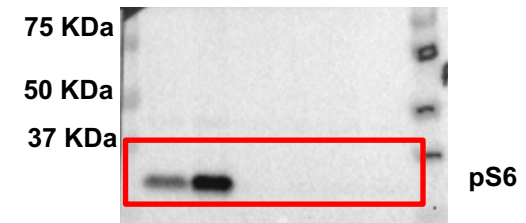
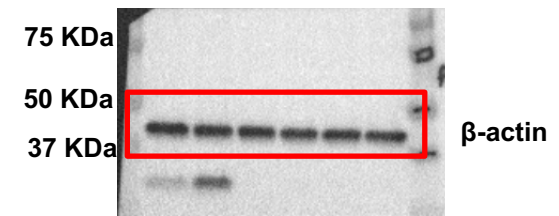
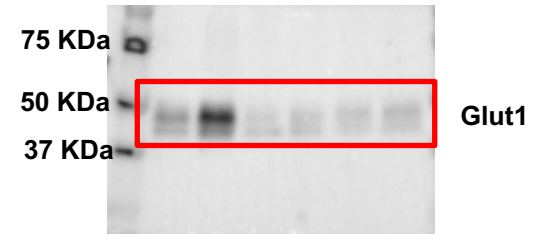


# Western Blots for Fig 9A

V	+	+										
BMP2			+	+			+	+			+	+
Torin1					+	+	+	+				
Rapa									+	+	+	+



V	+					
BMP2		+		+		+
Torin1			+	+		
Rapa					+	+

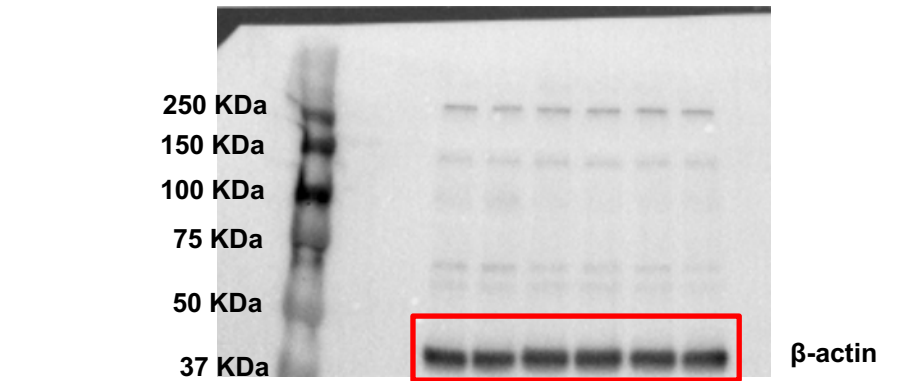
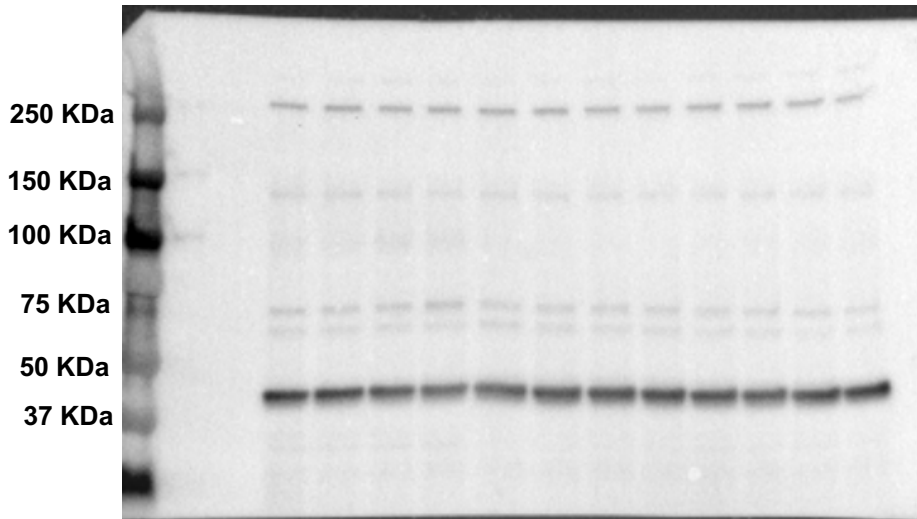
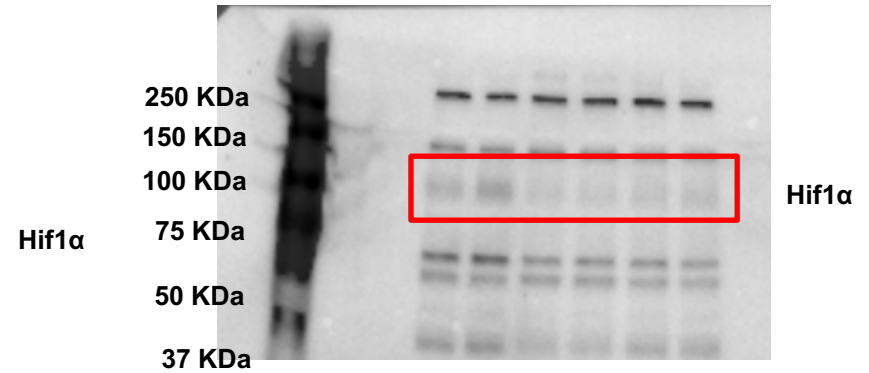
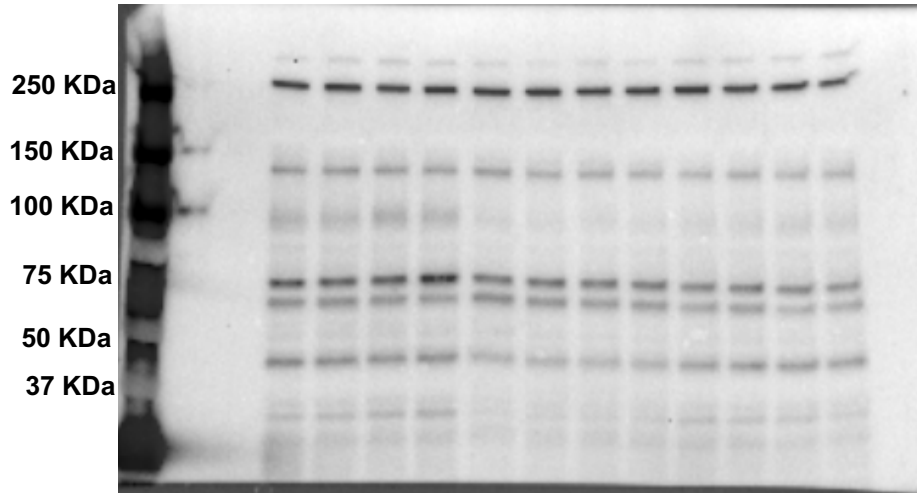


Supplementary Fig. 5. Uncropped Western blots for the study

# Western Blots for Fig 9C

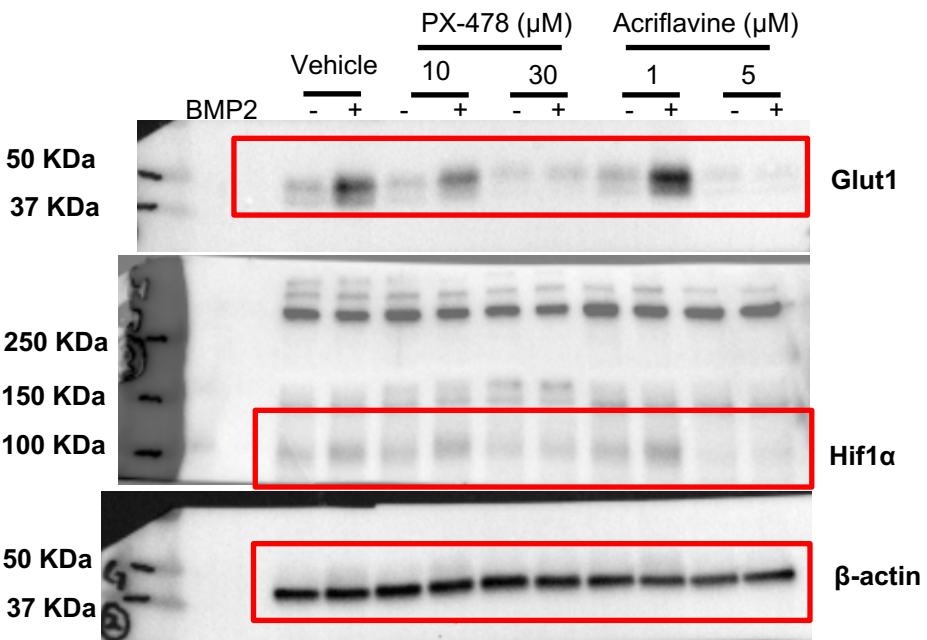
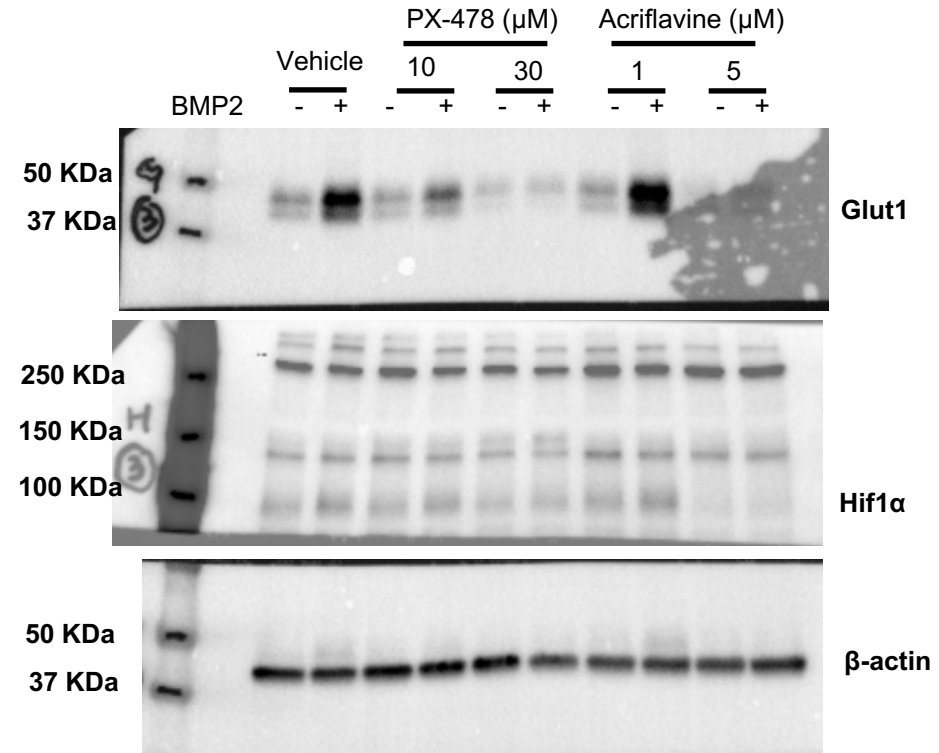
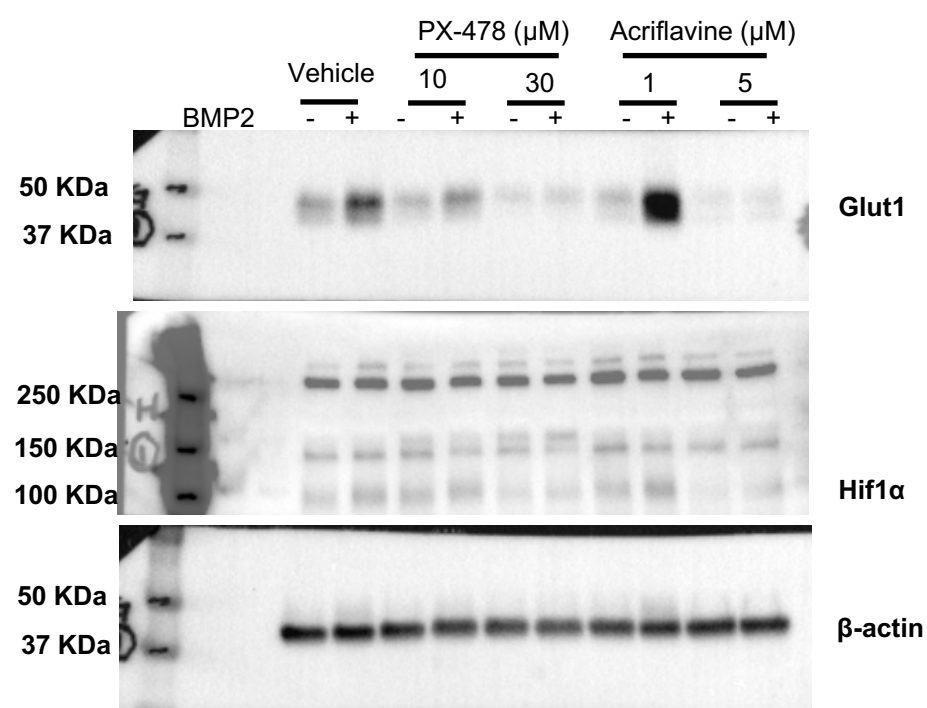
V	+	+										
BMP2			+	+			+	+			+	+
Torin1					+	+	+	+				
Rapa									+	+	+	+

V	+					
BMP2		+		+		+
Torin1			+	+		
Rapa					+	+



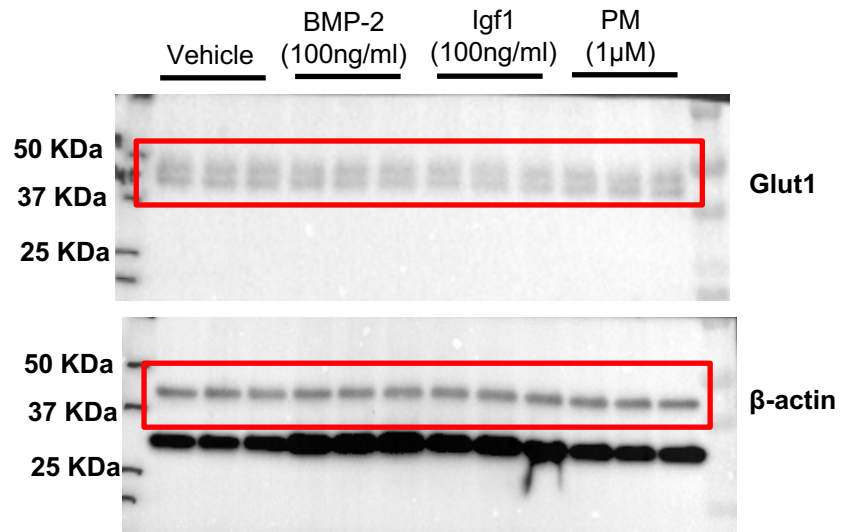
Supplementary Fig. 5. Uncropped Western blots for the study

## Western Blots for Fig 9D



Supplementary Fig. 5. Uncropped Western blots for the study

## Western Blots for Supplementary Fig. 4



Supplementary Fig. 5. Uncropped Western blots for the study