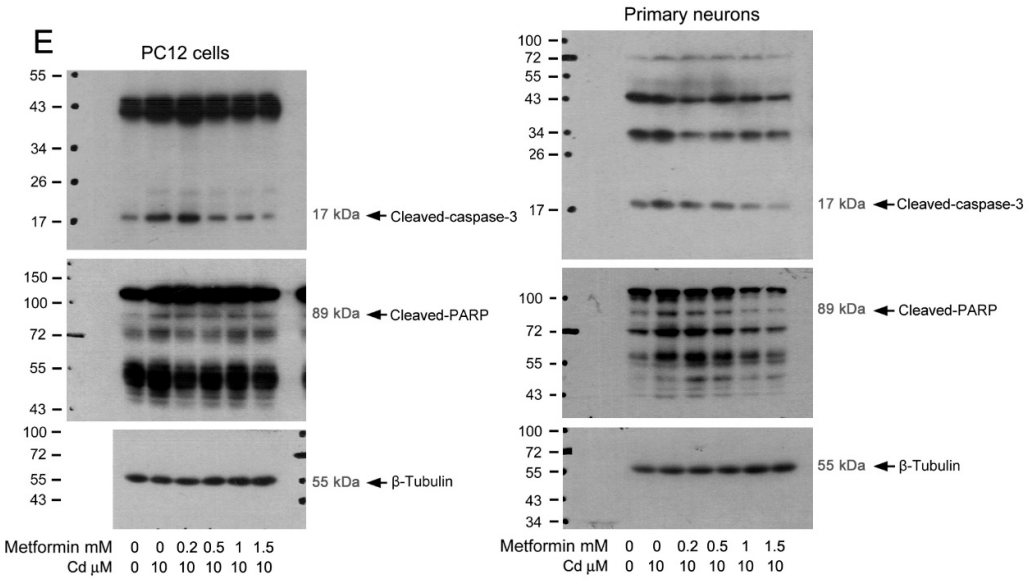
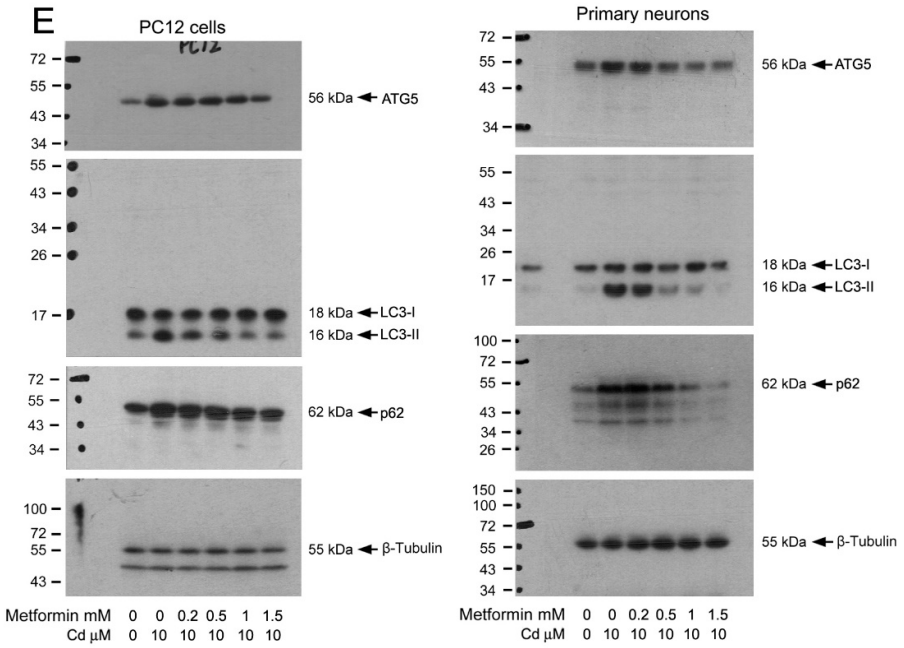
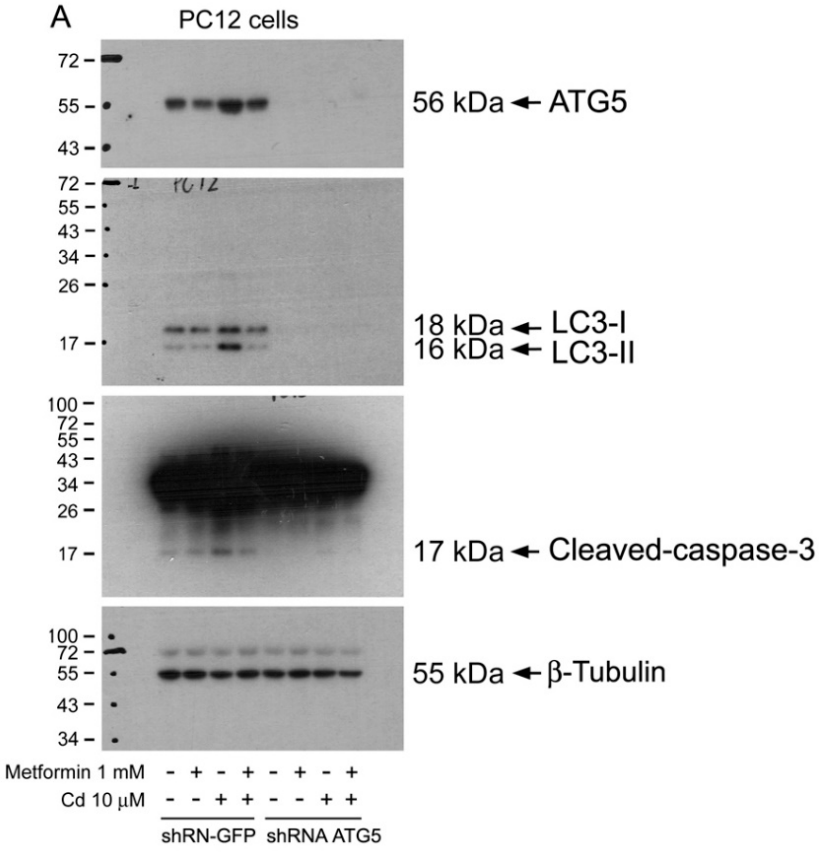
Supplementary Material



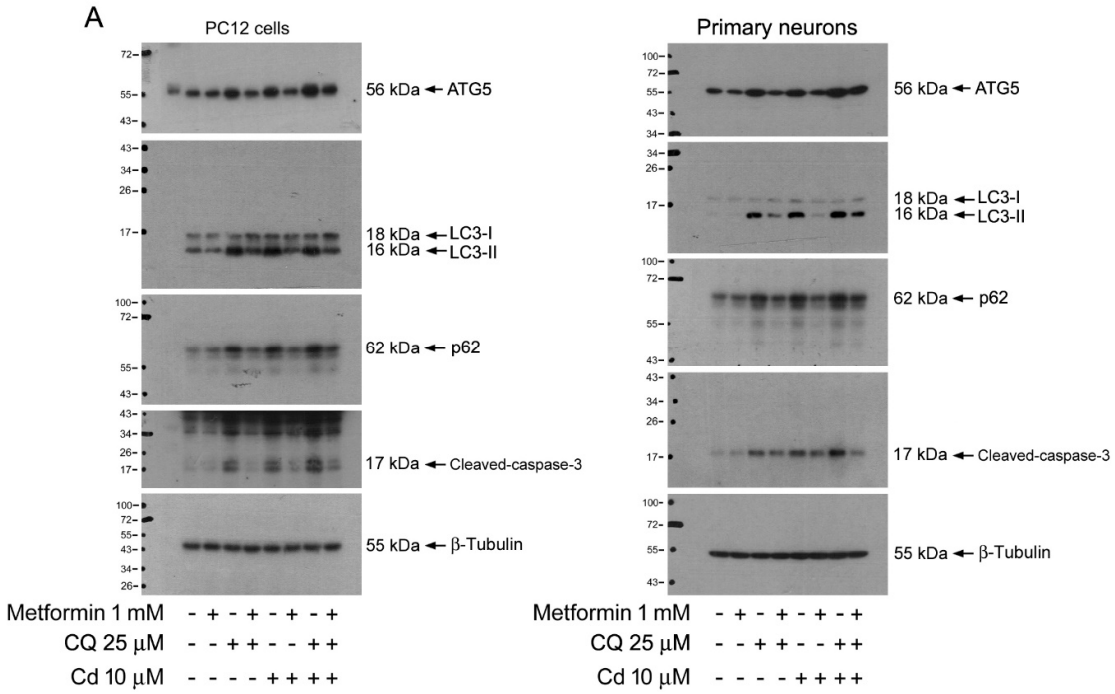
Scheme S1. Untruncated images of blots in Figure 1E. PC12 cells and primary neurons were pre-incubated with metformin (0–1.5 mM) for 24 h, followed by exposure to Cd (10 μM) for 4 h. Whole-cell extracts were subjected to immunoblotting using indicated antibodies. The blots were probed for β- tubulin as a loading control.



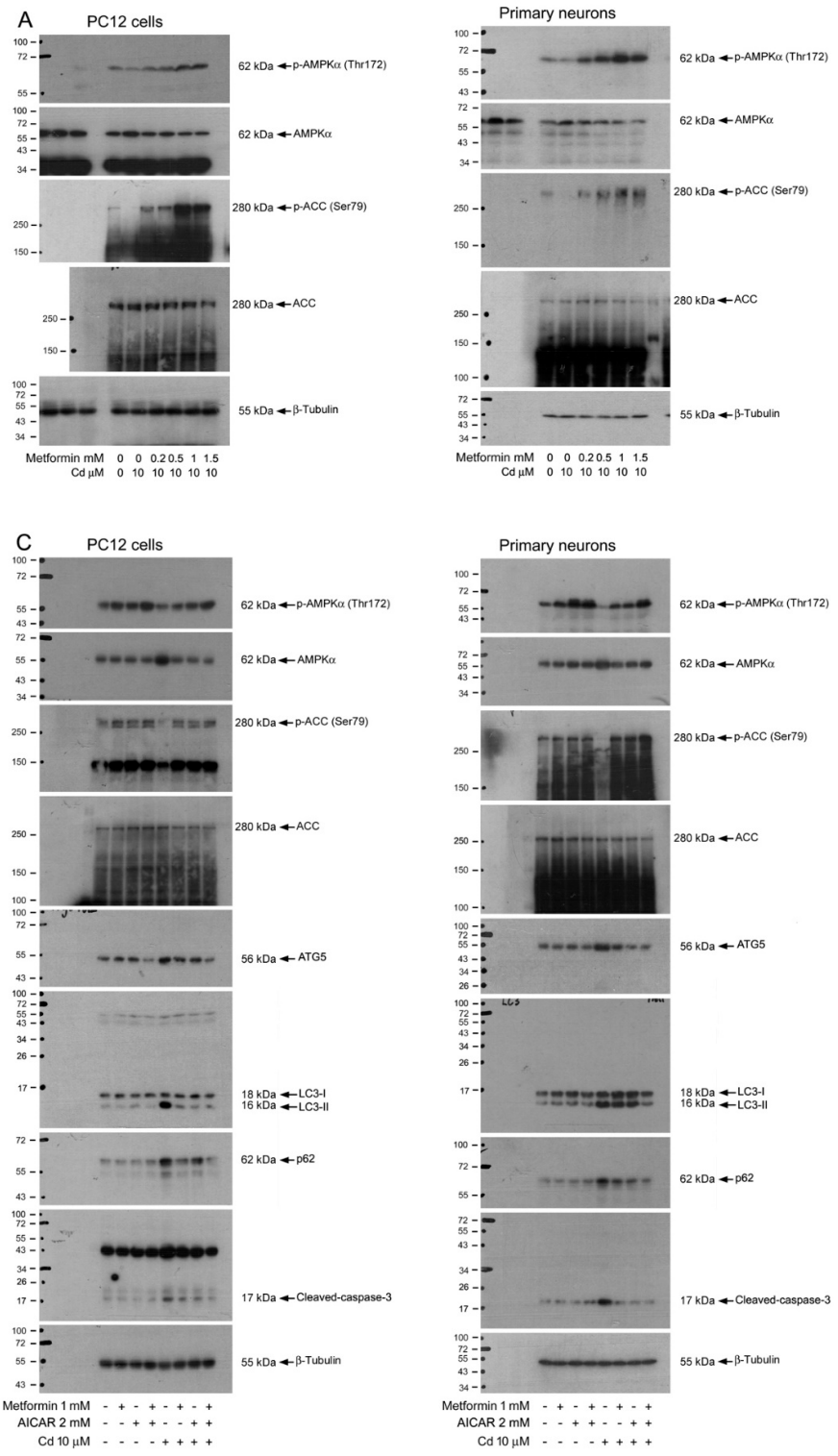
Scheme S2. Untruncated images of blots in Figure 2E. PC12 cells and primary neurons were pre-incubated with metformin (0–1.5 mM) for 24 h, followed by exposure to Cd (10 μM) for 4 h. Whole-cell extracts were subjected to immunoblotting using indicated antibodies. The blots were probed for β- tubulin as a loading control.



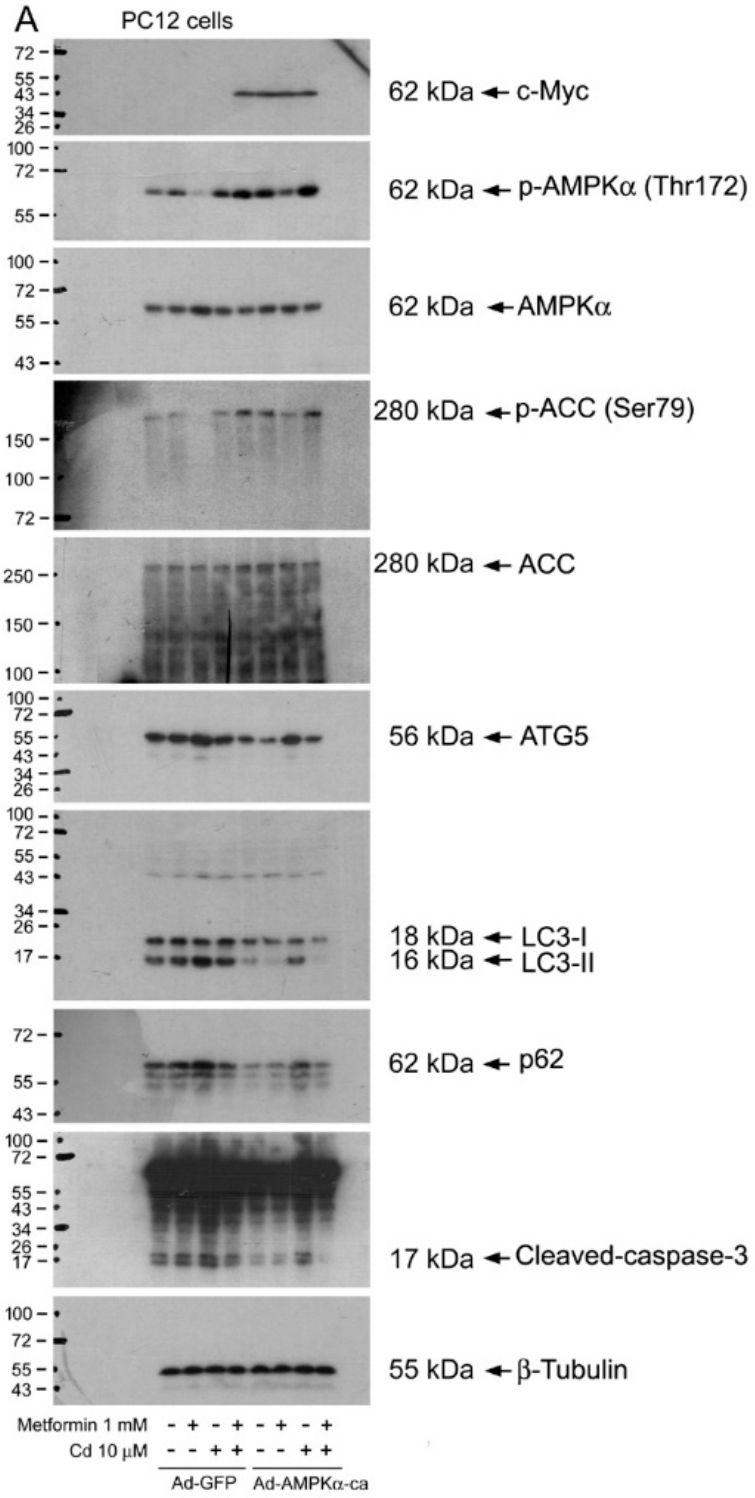
Scheme S3. Untruncated images of blots in Figure 3A. PC12 cells transduced with lentiviral particles encoding shRNA targeting ATG5 or a non-targeting control (GFP shRNA) were subjected to metformin pretreatment (1 mM) for 24 h and Cd (10 μM) challenge for 4 h. Whole-cell extracts were subjected to immunoblotting using indicated antibodies. The blots were probed for β-tubulin as a loading control.



Scheme S4. Untruncated images of blots in Figure 4A. PC12 cells and primary neurons were pre-incubated with/without CQ (25 μM) for 1 h, followed by metformin (1 mM) pretreatment for 24 h, and subsequently exposed in the presence or absence of Cd (10 μM) for 4 h. Whole-cell extracts were subjected to immunoblotting using indicated antibodies. The blots were probed for β- tubulin as a loading control.



Scheme S5. Untruncated images of blots in Figure 5A,C. PC12 cells and primary neurons were pretreated with metformin (0-1.5 mM) for 24 h, or pretreated with AICAR (2 mM, 1 h) followed by metformin (1 mM), then exposed to Cd (10 μM) for 4 h. Whole-cell extracts were subjected to immunoblotting using indicated antibodies. The blots were probed for β-tubulin as a loading control.



Scheme S6. Untruncated images of blots in Figure 6A. PC12 cells engineered to express a constitutively active AMPKα mutant (Ad-AMPKα-ca) or GFP control (Ad-GFP) were pretreated with/without metformin (1 mM) for 24 h, followed by exposure to Cd (10 μM) for 4 h. Whole-cell extracts were subjected to immunoblotting using indicated antibodies. The blots were probed for β- tubulin as a loading control.