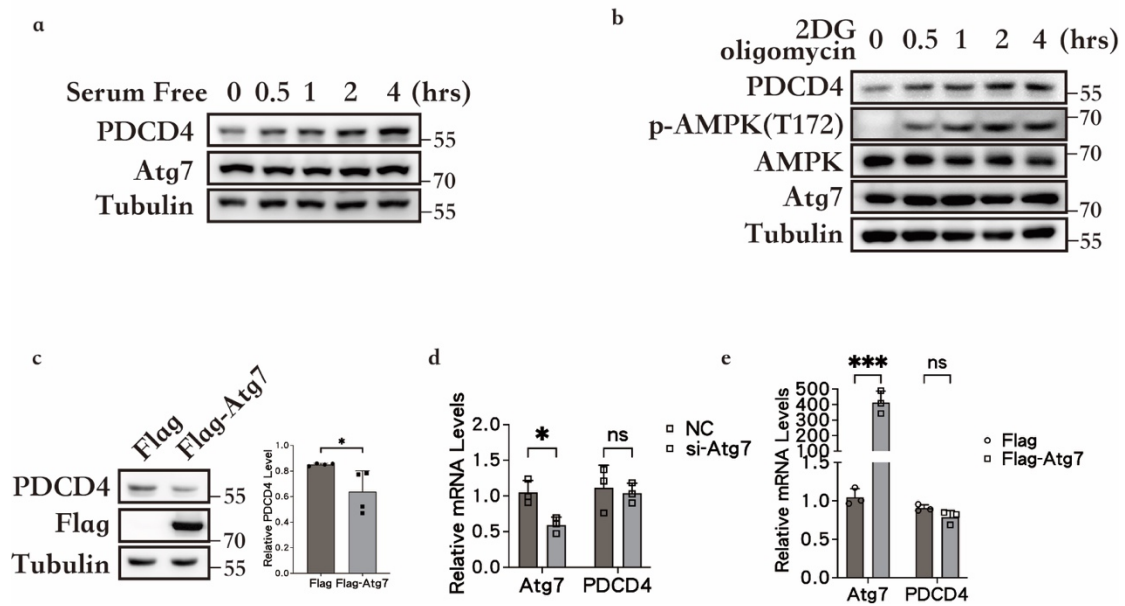


Supplementary Figure 1. Atg7 interacts with PDCD4 and negatively regulates PDCD4 protein levels



a. Western blot detection of PDCD4 and Atg7 in HCT116 cells in normal medium or serum-free medium for the indicated times.

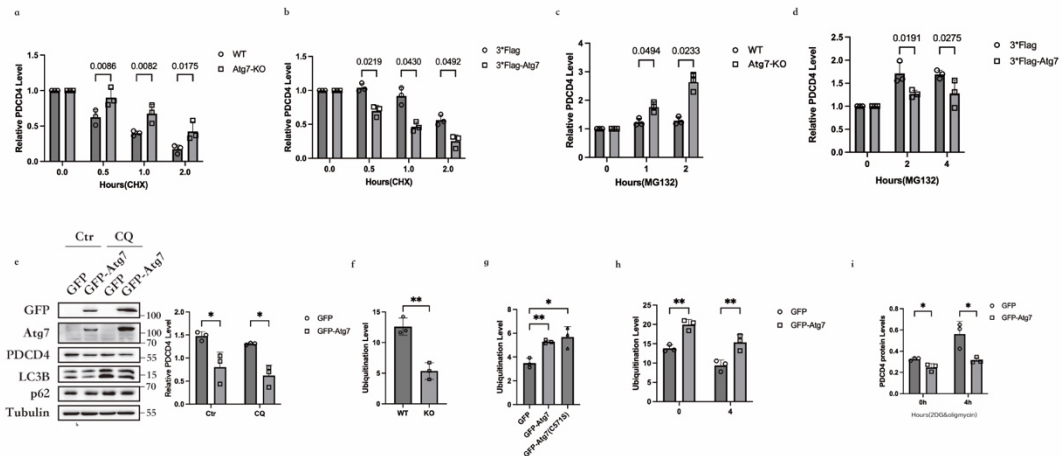
b. Western blot detection of PDCD4, Atg7, p-AMPK α Thr172, and AMPK α in HCT116 cells in normal medium or after 2DG (5 mM) and oligomycin (2.5 μ M) treatment for the indicated times.

c. PDCD4 expression levels were decreased in HCT116 cells transfected with Flag-Atg7 compared with control cells. Data represent the mean $\pm$ SD of three independent experiments. P values were calculated by t-test. *P<0.05

d. HEK293 cells were transfected with si-Atg7 or NC control, followed by qRT-PCR to determine mRNA expression. Data represent the mean $\pm$ SD of three independent experiments. P values were calculated by t-test. *P<0.05.

e. HEK293 cells were transfected with Flag-Atg7 or vector control, followed by qRT-PCR to determine mRNA expression. Data represent the mean $\pm$ SD of three independent experiments. P values were calculated by t-test. ***p < 0.001.

Supplementary Figure 2. Atg7 degrades PDCD4 through the ubiquitin-proteasomal pathway



a. The band intensities were quantified by gray values. P values were calculated by two-way ANOVA.

b. The band intensities were quantified by gray values. P values were calculated by two-way ANOVA.

c. The band intensities were quantified by gray values. P values were calculated by two-way ANOVA.

d. The band intensities were quantified by gray values. P values were calculated by two-way ANOVA.

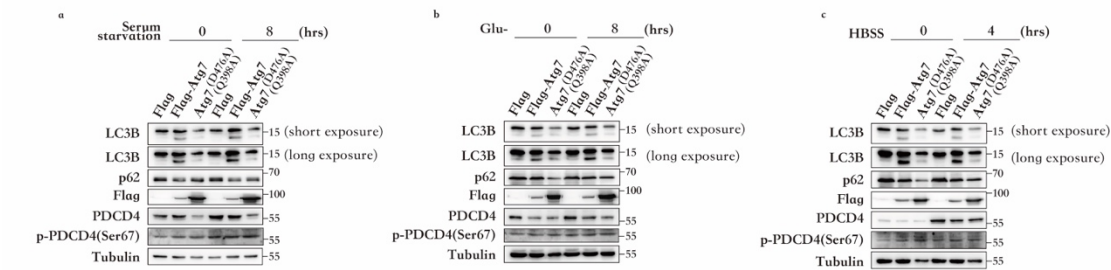
e. HEK293 cells were transfected with GFP-Atg7 or control vector. After pretreated with CQ (10 μ M) in complete medium for 12 hours then collected for Western blot analysis. The band intensities were quantified by gray values. P values were calculated by two-way ANOVA. *P<0.05

f. The band intensities were quantified by gray values. P values were calculated by t-test. **P<0.01

g. The band intensities were quantified by gray values. P values were calculated by t-test. *P<0.05, **P<0.01

h,i. The band intensities were quantified by gray values. P values were calculated by two-way ANOVA. *P<0.05, **P<0.01

Supplementary Figure 3. Atg7 senses ATP levels and promotes PDCD4 phosphorylation at Ser67

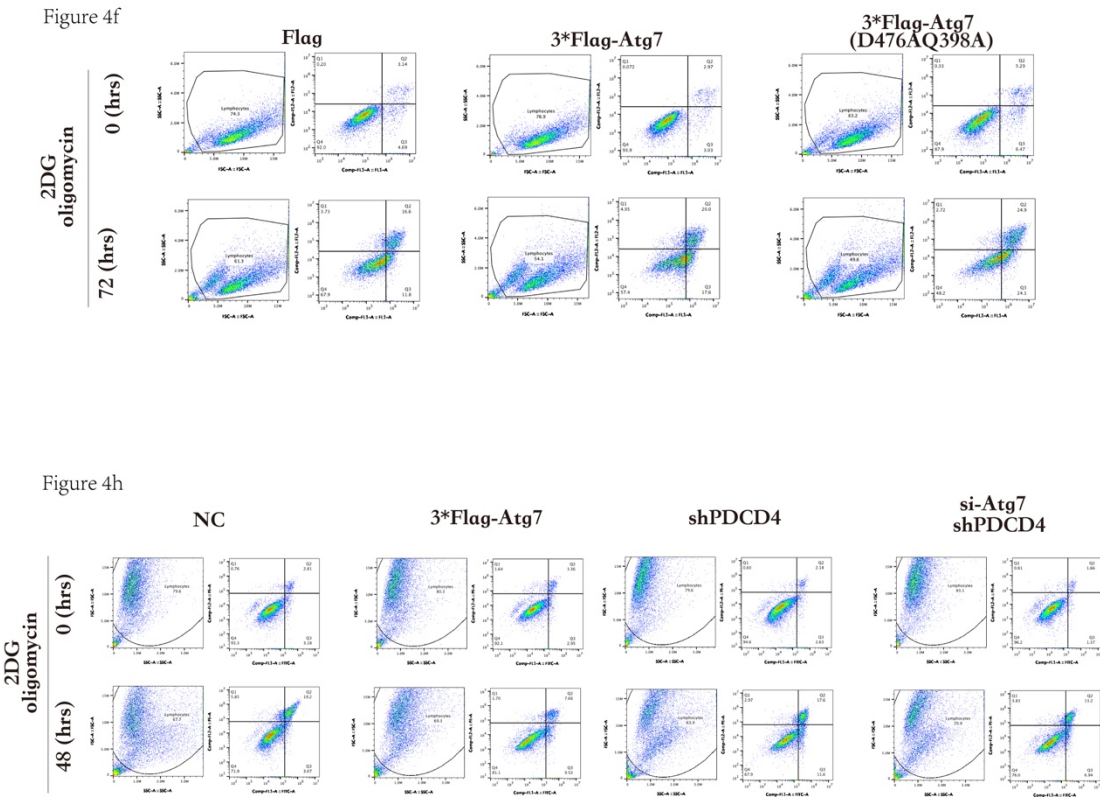


a. Atg7-KO cells were transfected with Flag-Atg7, Flag-Atg7^{D476A/Q398A}, or control vector. Then treated or untreated with serum starvation stimulation for eight hours then collected for Western blot analysis.

b. Atg7-KO cells were transfected with Flag-Atg7, Flag-Atg7^{D476A/Q398A}, or control vector. Then treated or untreated with glucose starvation stimulation for eight hours then collected for Western blot analysis.

c. Atg7-KO cells were transfected with Flag-Atg7, Flag-Atg7^{D476A/Q398A}, or control vector. Then treated or untreated with HBSS starvation stimulation for four hours then collected for Western blot analysis.

Supplementary Figure 4. Gating strategy



Supplementary Figure 5. Uncropped blots

Figure 1a

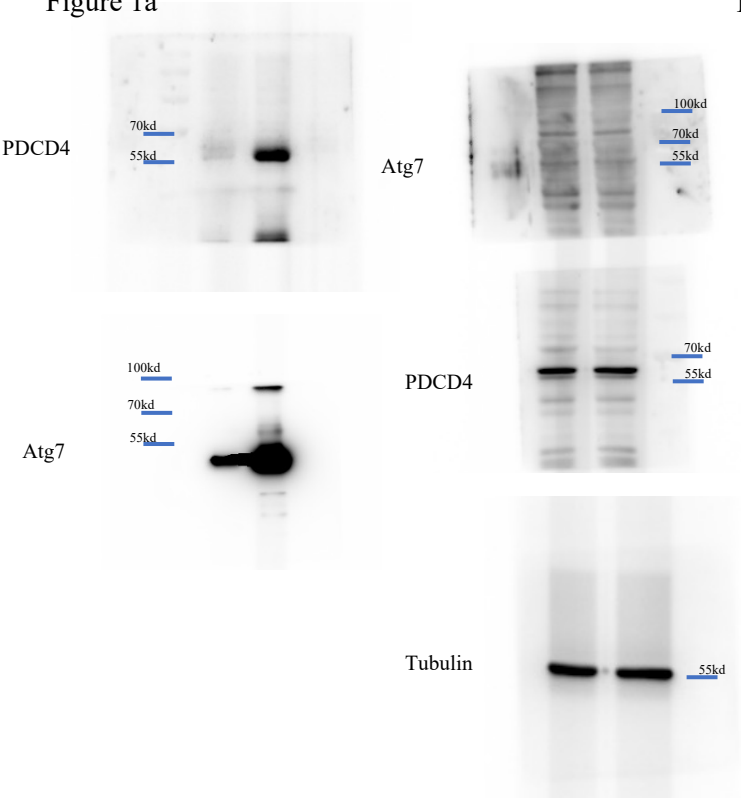


Figure 1b

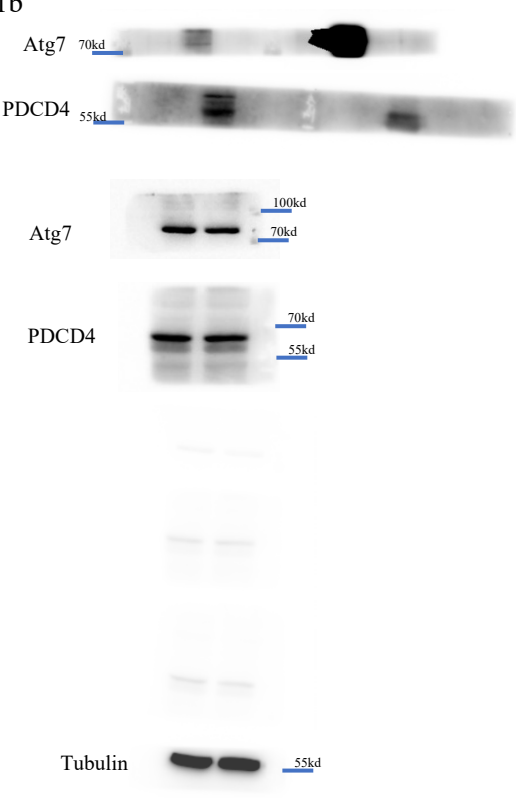


Figure 1c

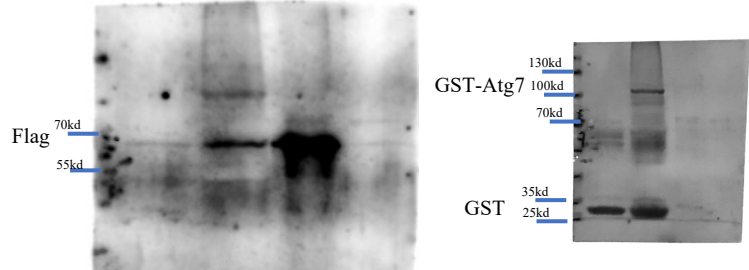


Figure 1d

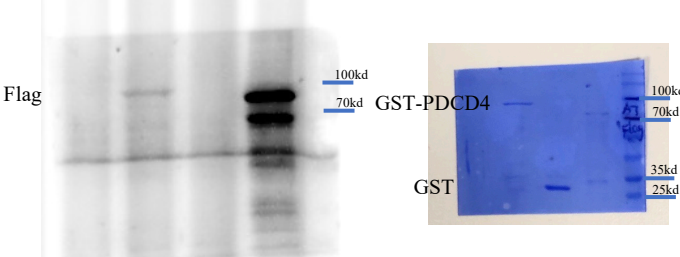


Figure 1f

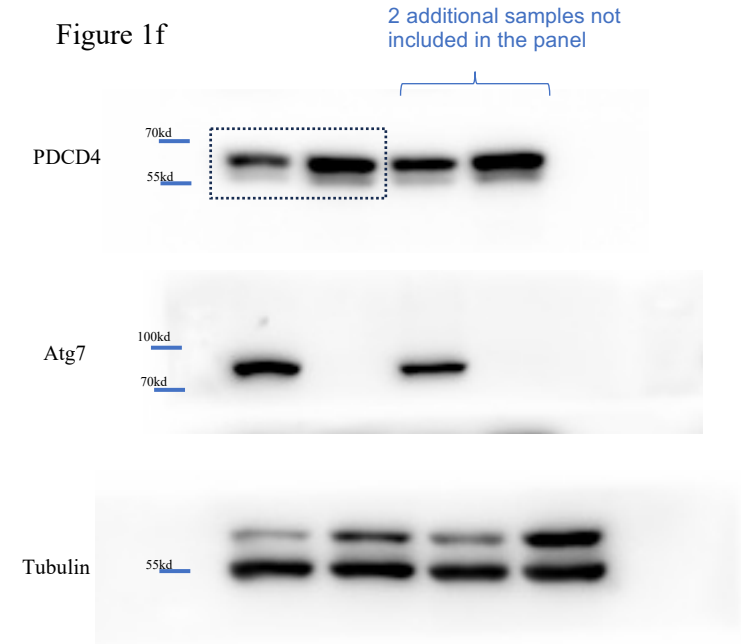


Figure 1g

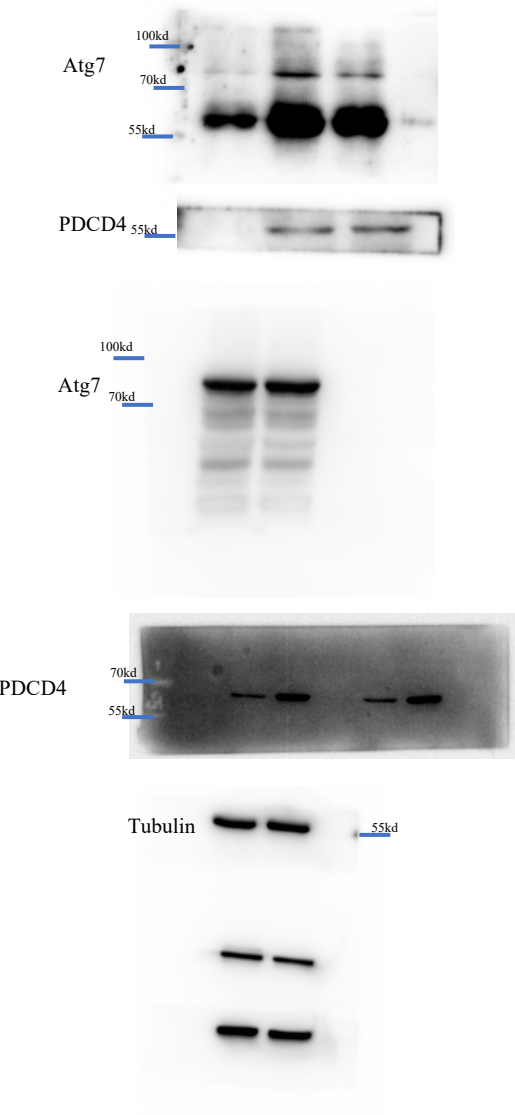


Figure 1h

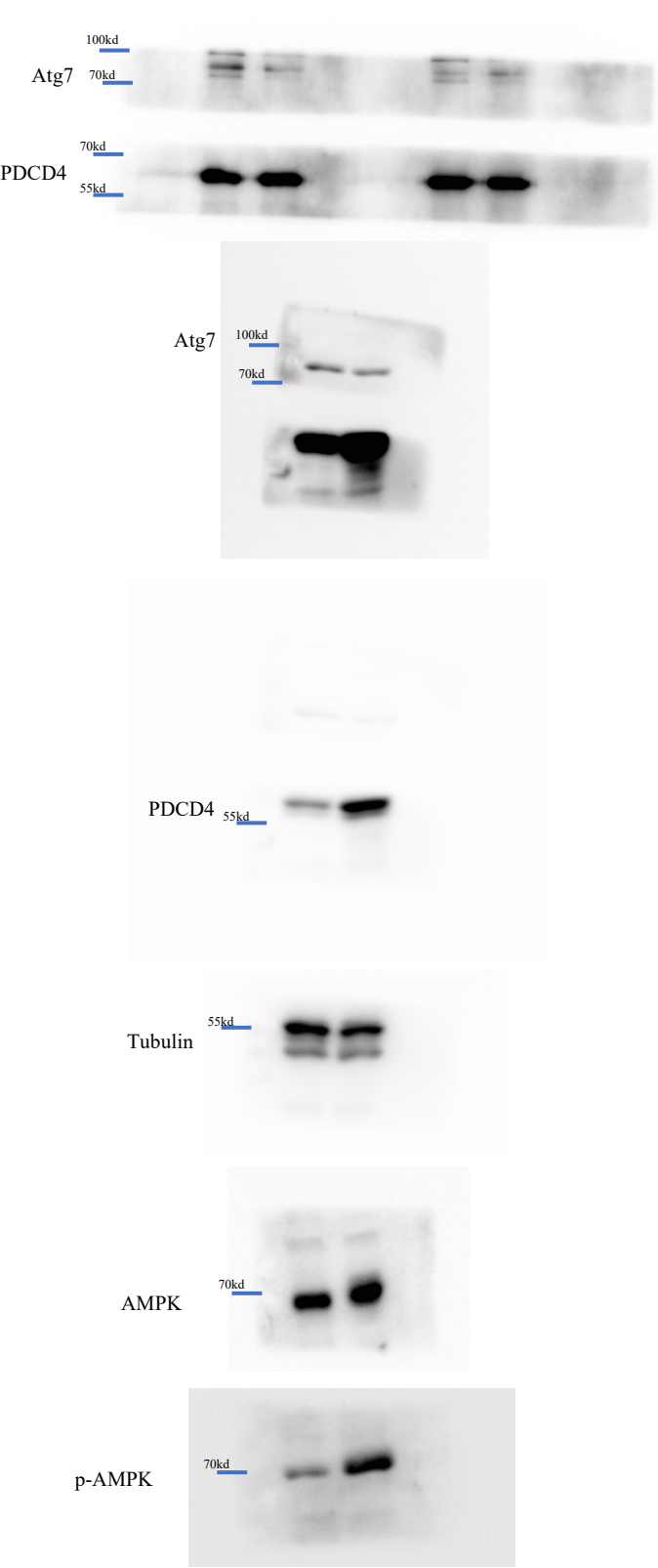


Figure 2a

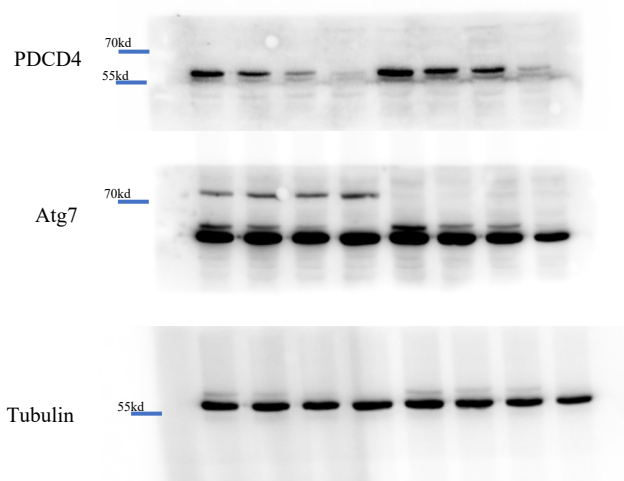


Figure 2b

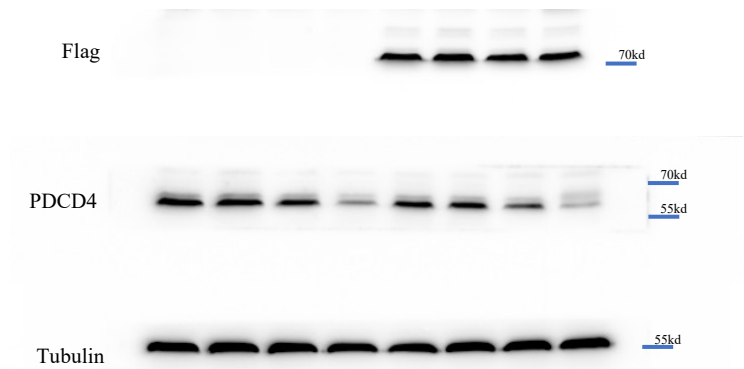


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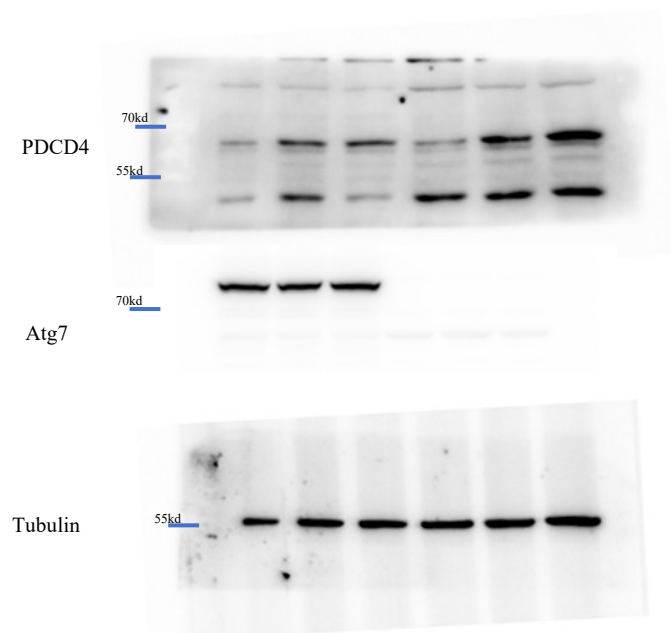


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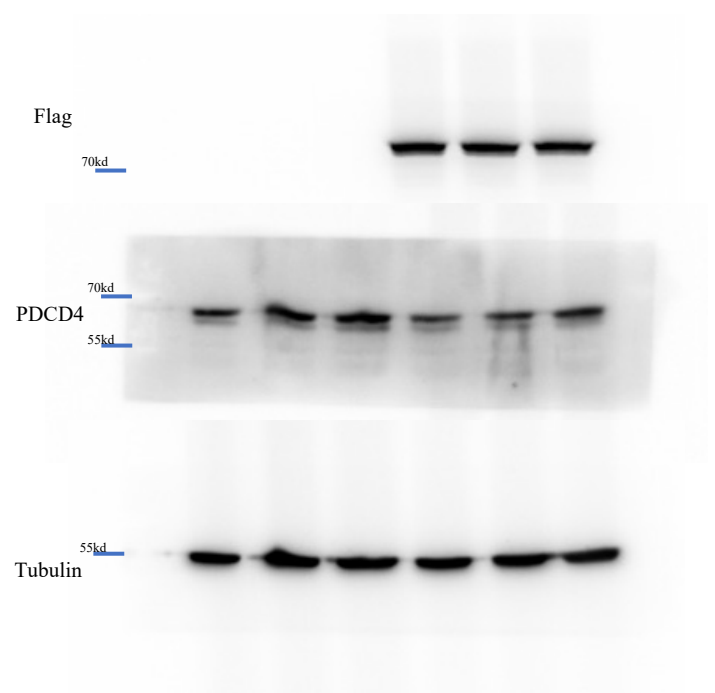


Figure 2e

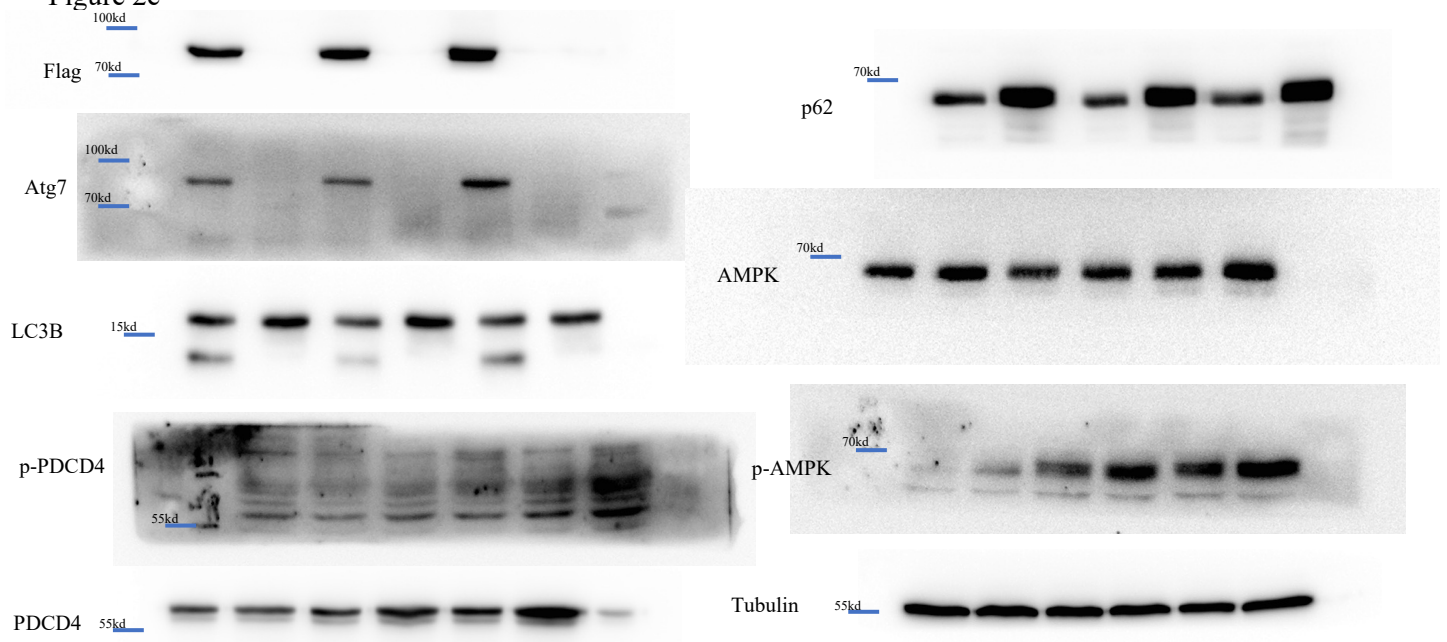


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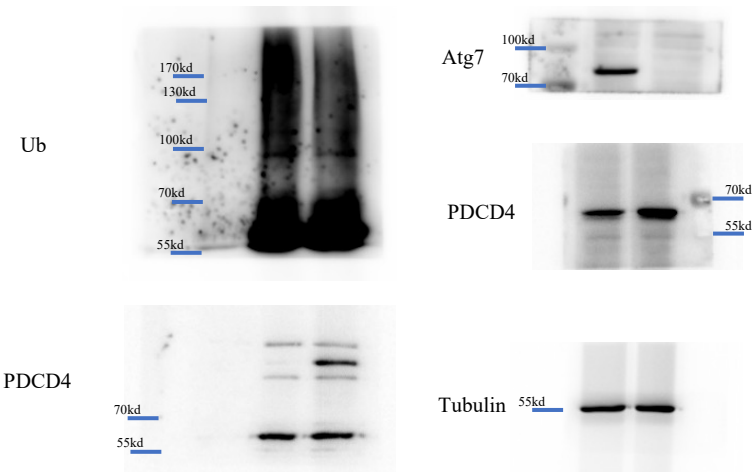


Figure 2g

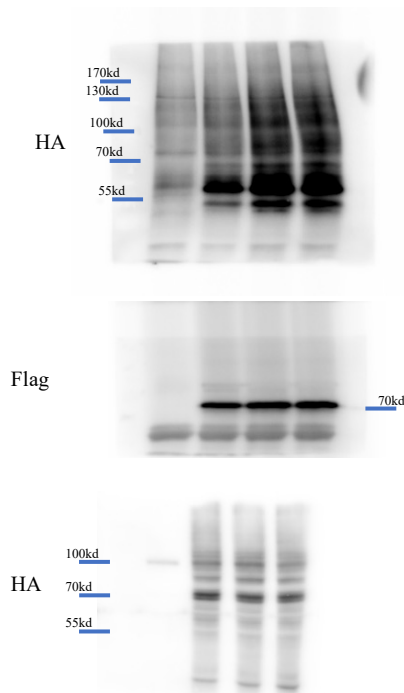


Figure 2h

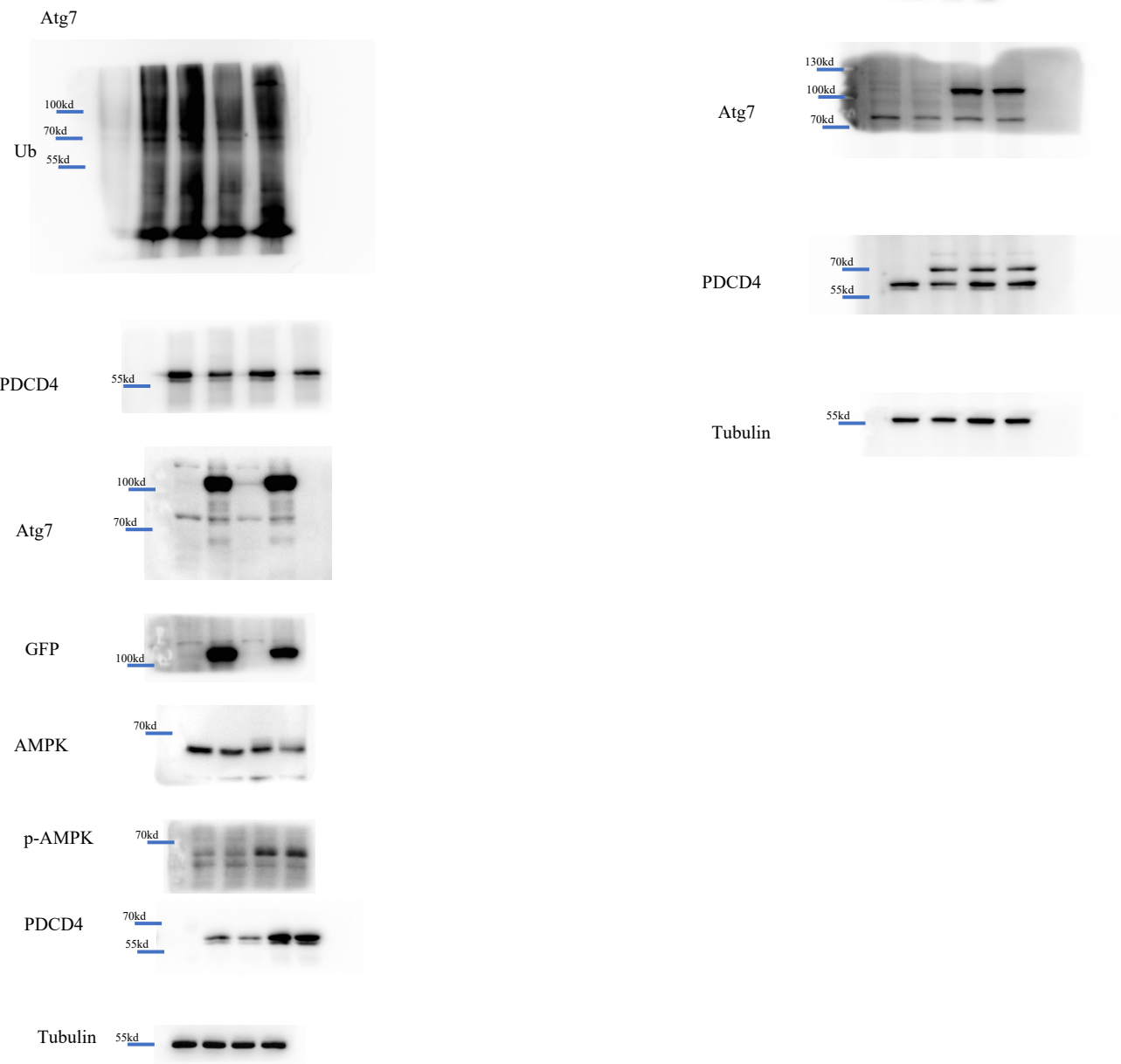


Figure 3a

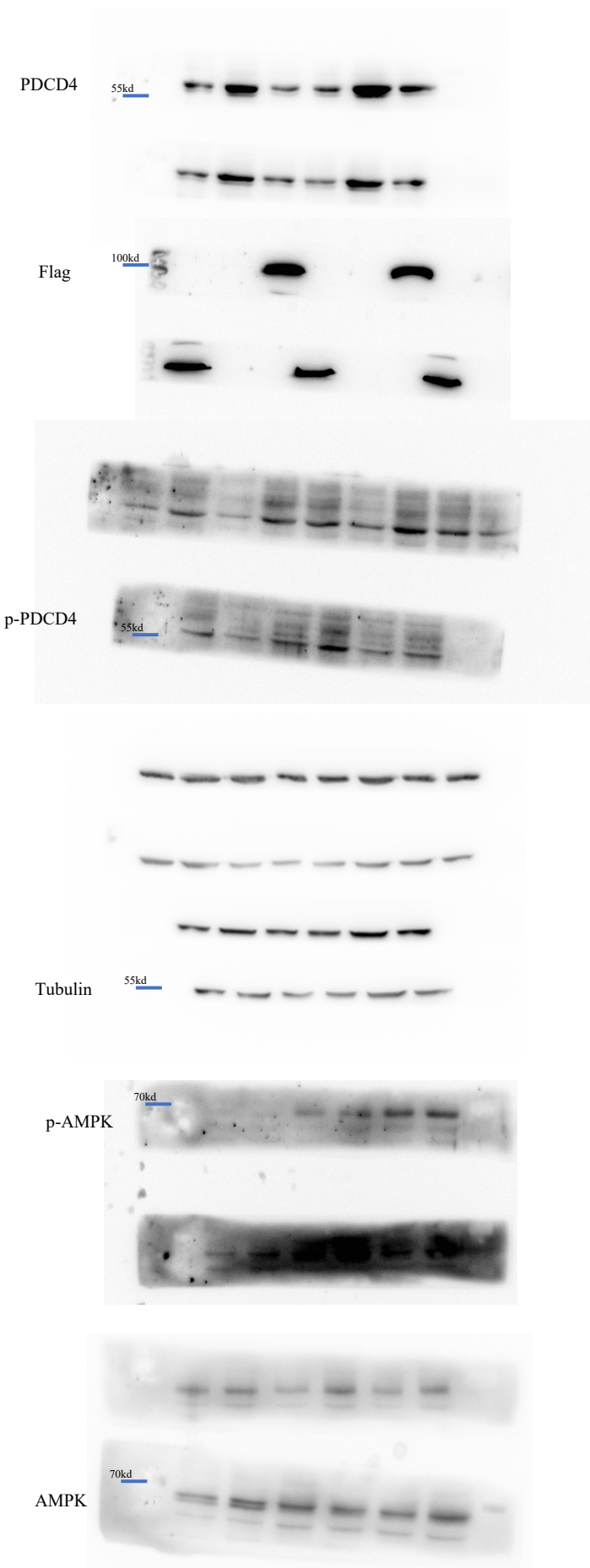


Figure 3b

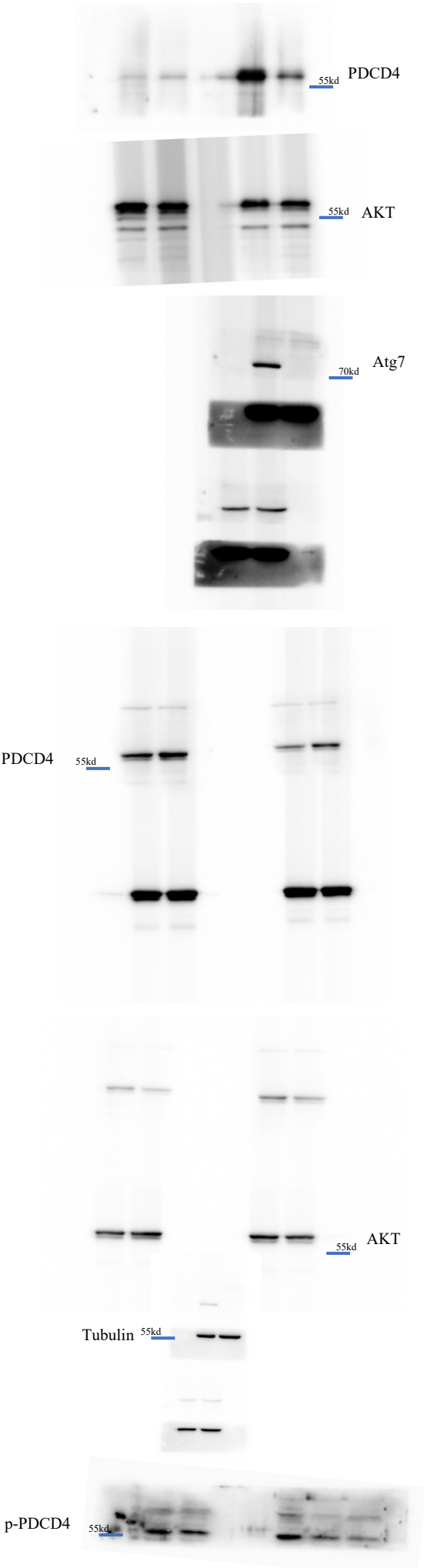


Figure 3c

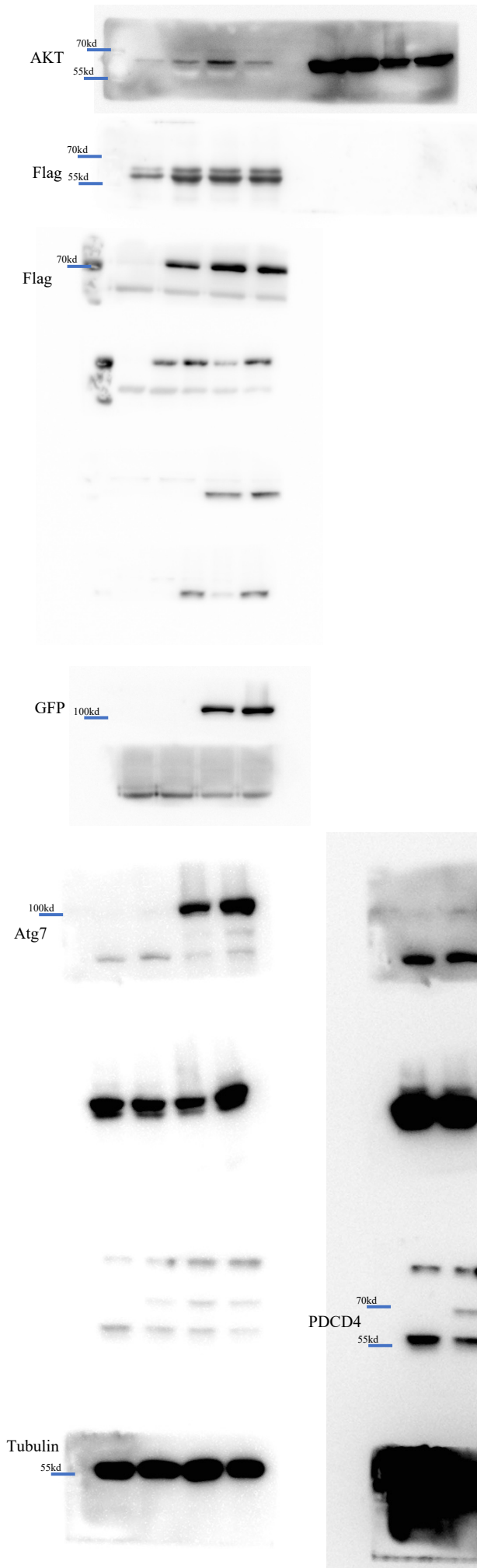


Figure 3d

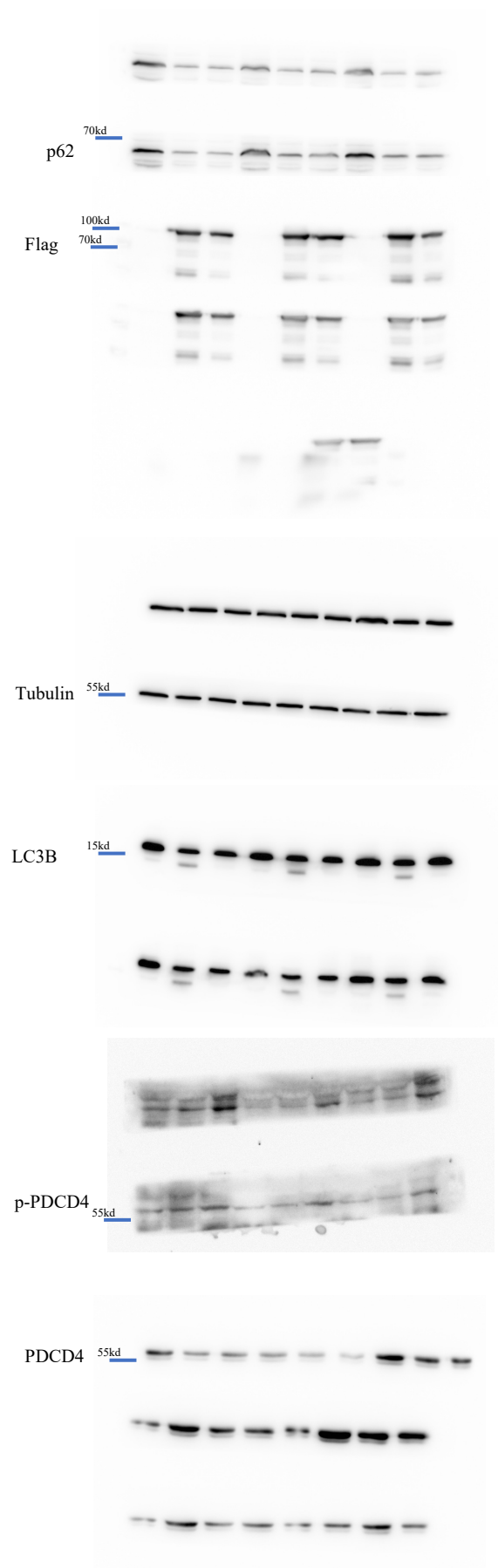


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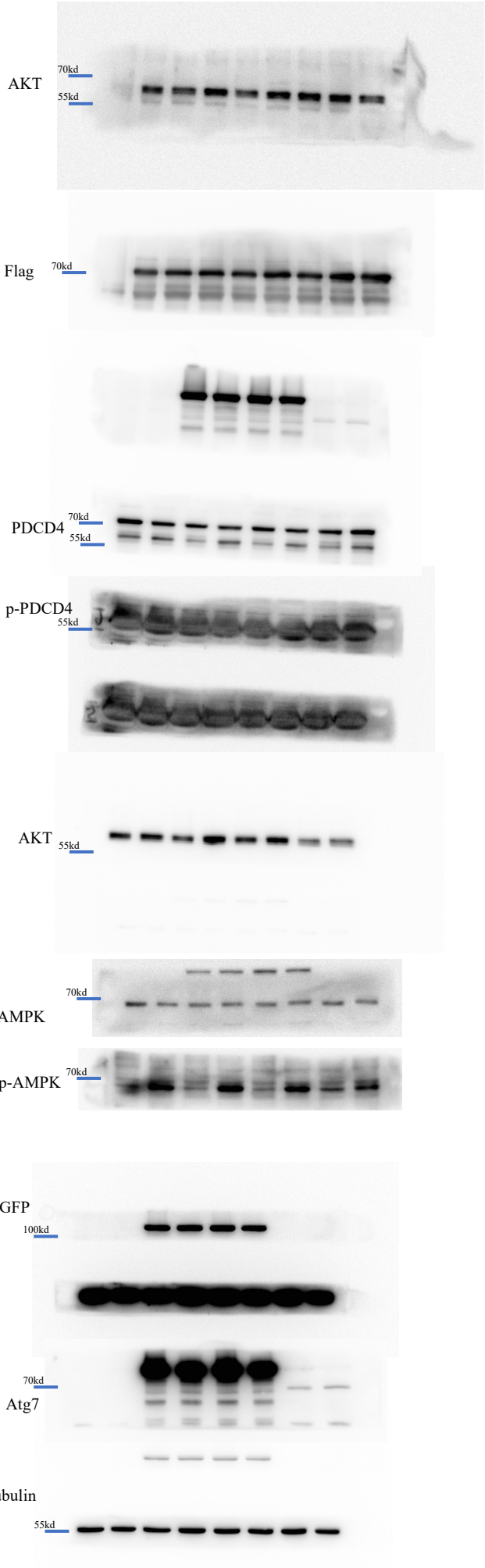


Figure 3f

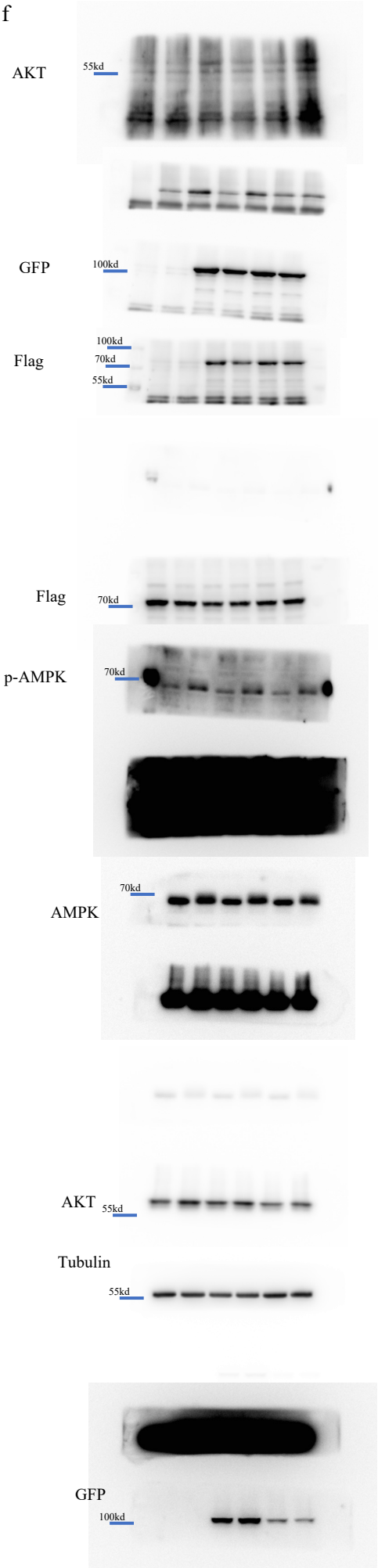


Figure 4e

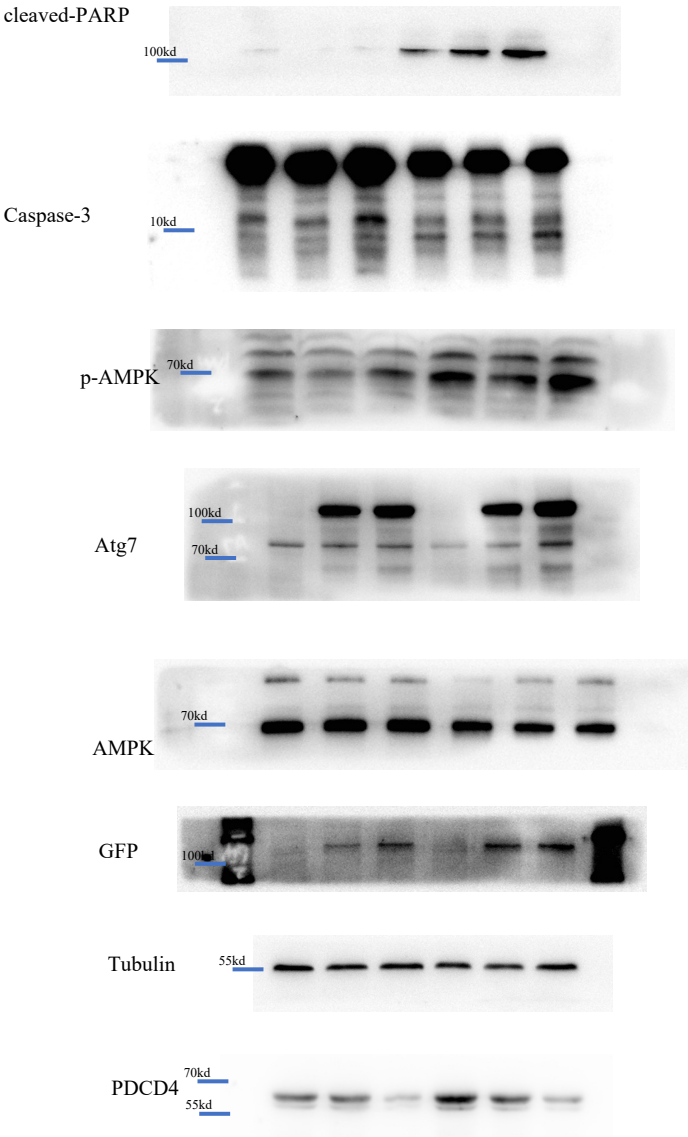
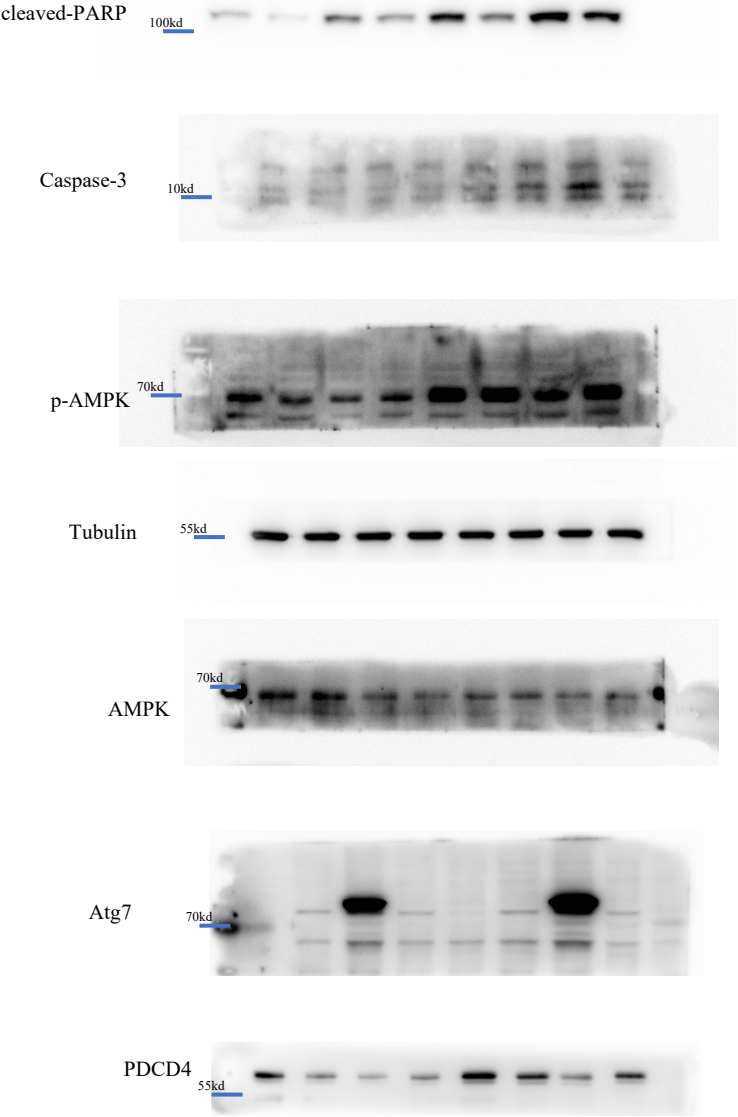
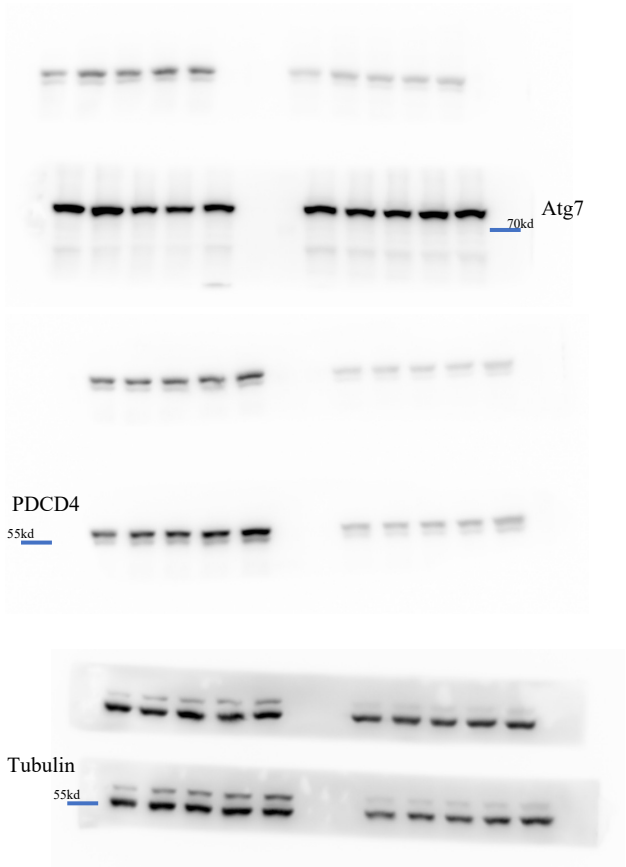


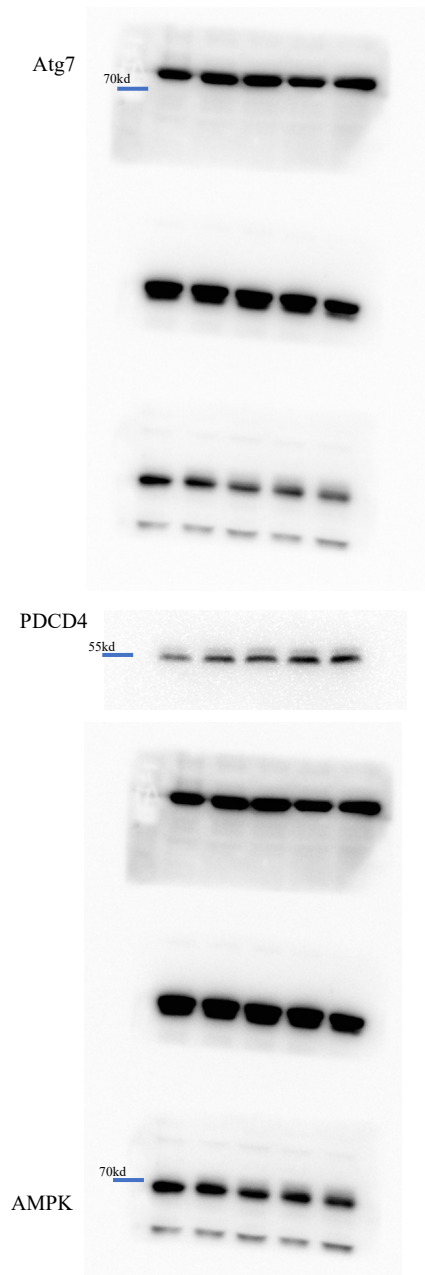
Figure 4g



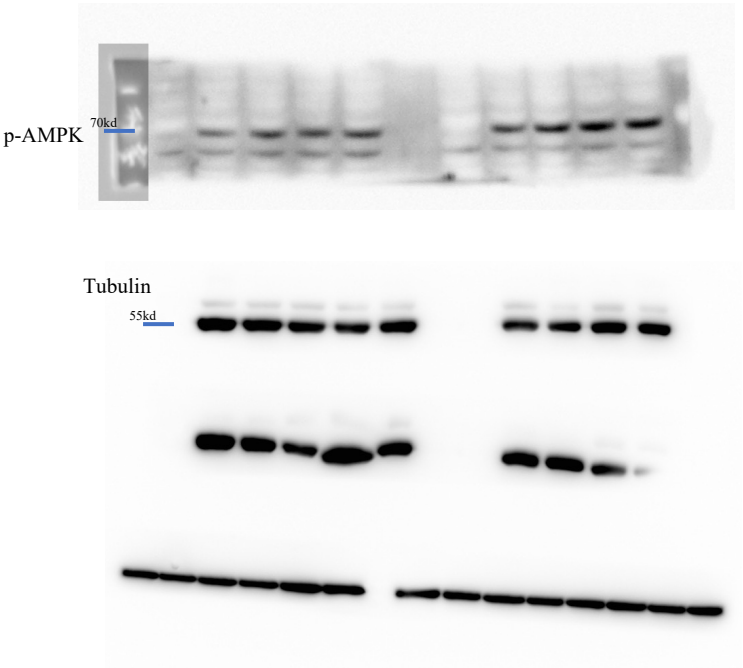
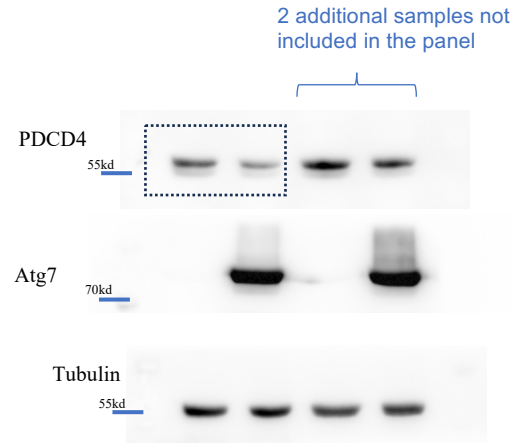
Supplementary Figure 1a



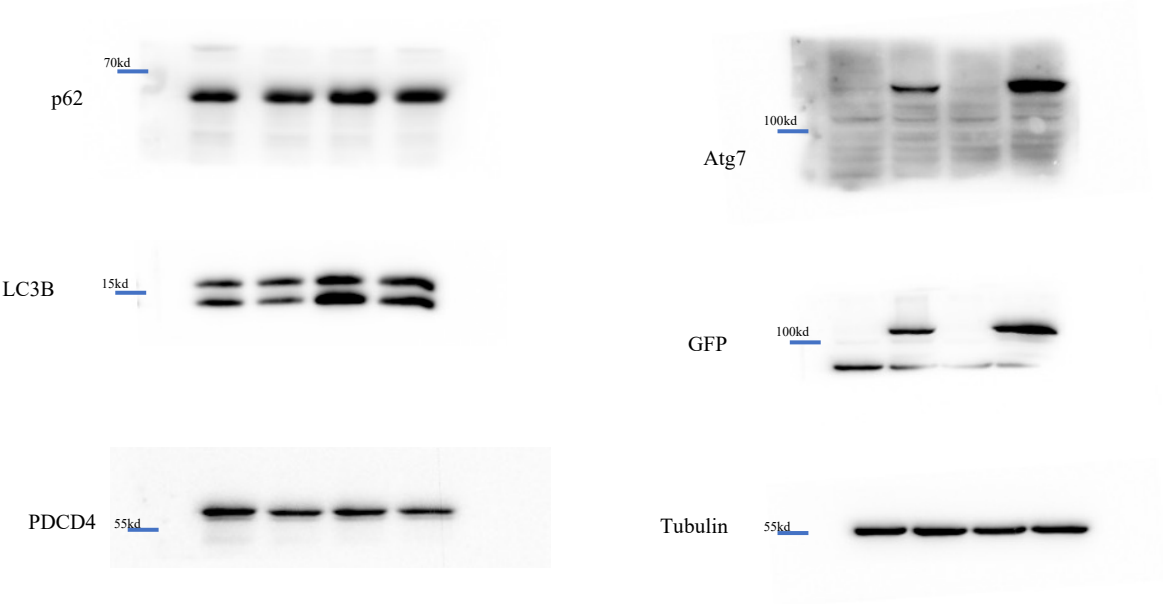
Supplementary Figure 1b



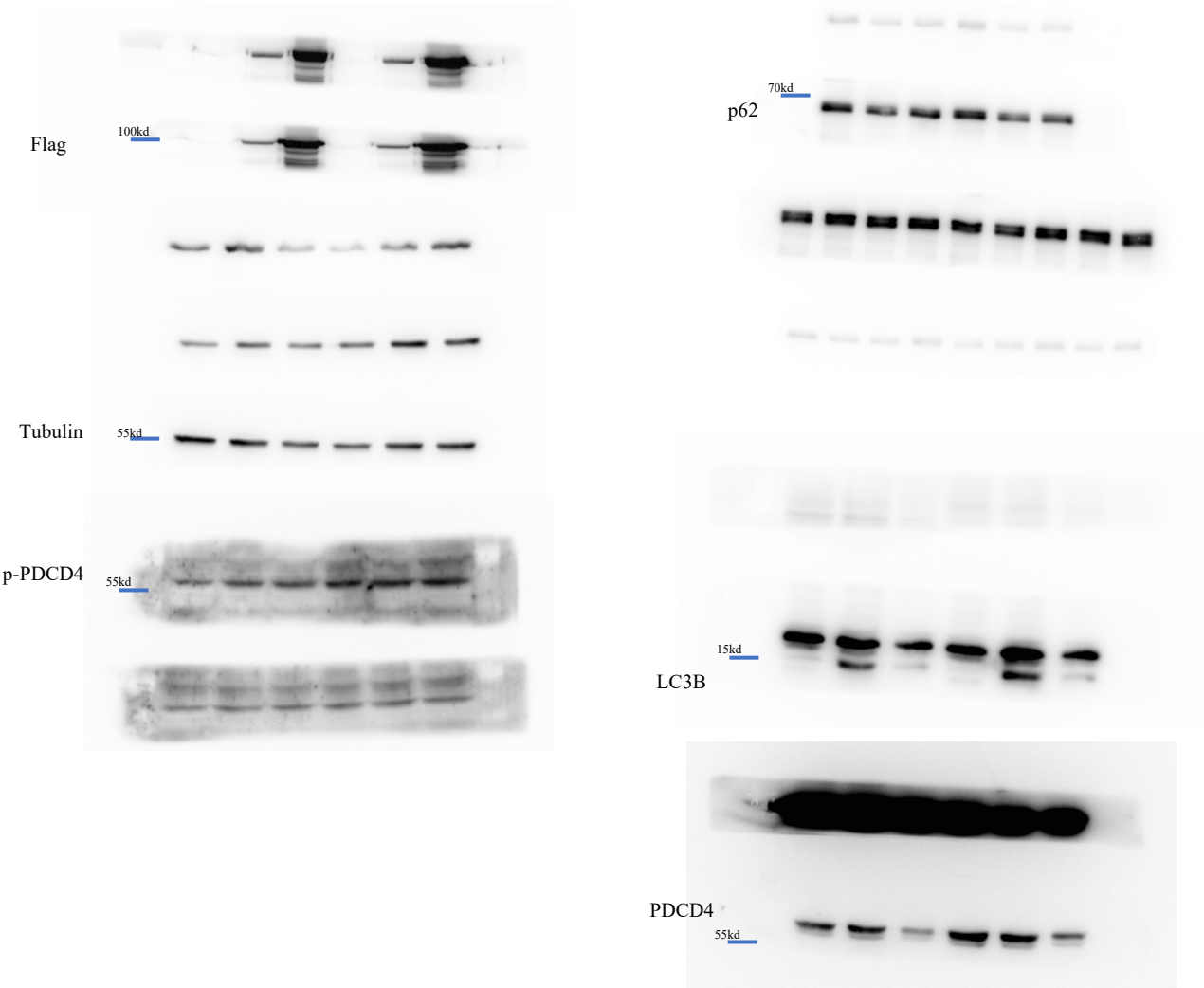
Supplementary Figure 1c



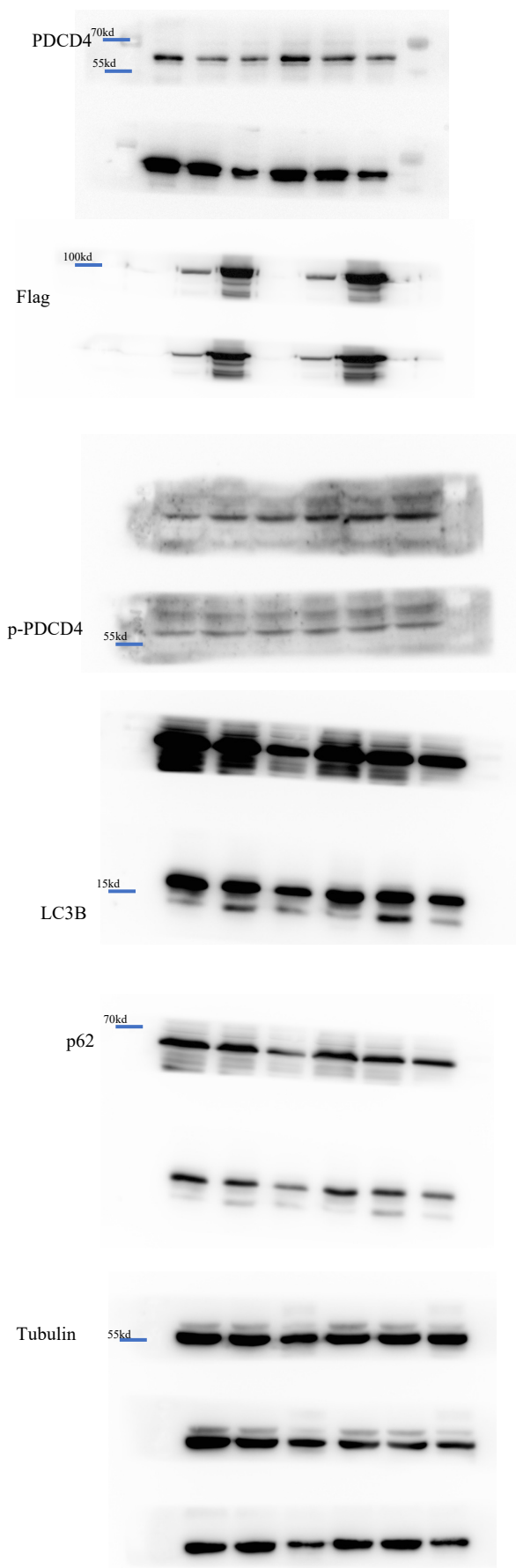
Supplementary Figure 2e



Supplementary Figure 3a



Supplementary Figure 3b



Supplementary Figure 3c

