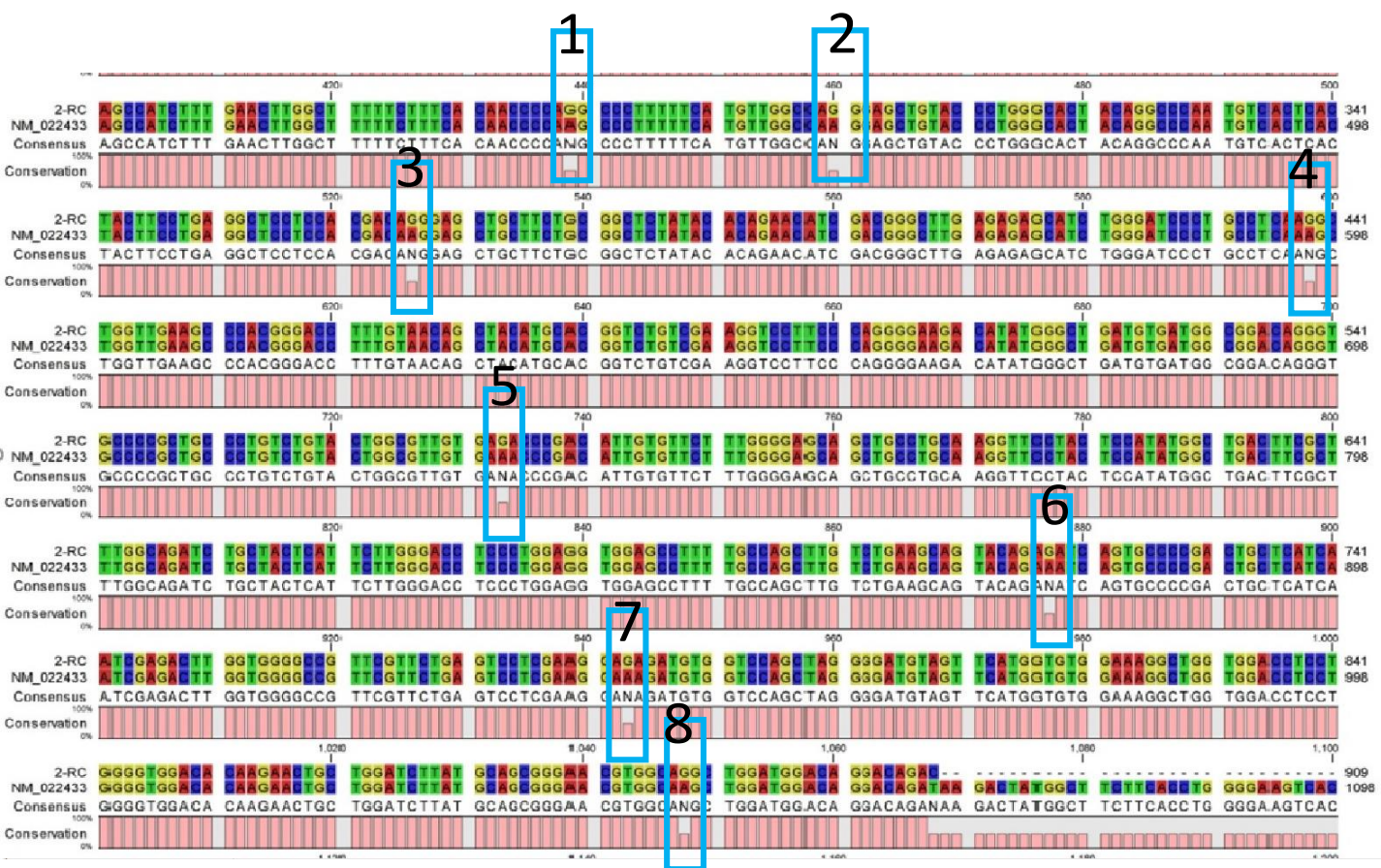


## Supplementary information

### **Ubiquitin-dependent rapid degradation conceals a cell-protective function of cytoplasmic SIRT3 against oxidative stress.**

Takashi Hayashi, Takashi Matsushita, Shin Hisahara, Naotoshi Iwahara, Atsushi Kuno, Risa Kunimoto, Ryusuke Hosoda, Masaya Tanno, Shun Shimohama, Yoshiyuki Horio

Supplementary Figure 1. Nucleotide and amino acid sequence of SIRT3ct-8KR.



2RC: SIRT3ct-8KR  
NM\_022433: SIRT3ct

SIRT3ct                      SIRT3ct-8KR  
AAA (Lys)                      AGA (Arg)  
AAG (Lys)                      AGG (Arg)

Amino acid sequence of SIRT3ct-8KR mutant

MVGAG ISTPS GIPDF RSPGS GLYSN LQQYD IPYPE AIFEL  
GFFFH NPRPF FMLAR ELYPG HYRPN VTHYF LRL LH DRELL  
LRLYT QNIDG LERAS GIPAS RLVEA HGTFV TATCT VCRRS  
FPGED IWADV MADRV PRCV CTGVV RPDIV FFGEQ LPARF  
LLHMA DFALA DLLLI LGTSL EVEPF ASLSE AVQRS VPRLL  
INRDL VGPFV LSPRR RDVVQ LGDVV HGVER LVDLL GWTQE  
LLDLM QRERG RLDGQ DR

Supplementary Figure 2. Amino acid sequence of SIRT3ct.

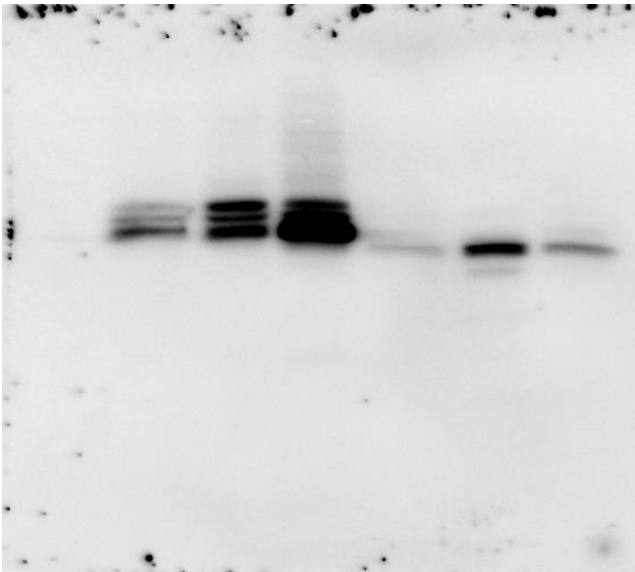
Amino acid sequence of SIRT3ct

MVGAG	ISTPS	GIPDF	RSPGS	GLYSN	
LQQYD	IPYPE	AIFEL	GFFFH	NP <u>K</u> PF	50
FMLA <u>K</u>	ELYPG	HYRPN	VTHYF	LRL LH	
D <u>K</u> ELL	LRLYT	QNIDG	LERAS	GIPAS	100
<u>K</u> LVEA	HGTFV	TATCT	VCRRS	FPGED	
IWADV	MADRV	PRCAV	CTGVV	<u>K</u> PDIV	150
FFGEQ	LPARF	LLHMA	DFALA	DLLLI	
LGTSL	EVEPF	ASLSE	AVQ <u>K</u> S	VPRLI	200
INRDL	VGPFV	LSPRR	<u>K</u> DVVQ	LGDVV	
HGVER	LVDLL	GWTQE	LLDLM	QRERG	250
<u>K</u> LDGQ	DR				

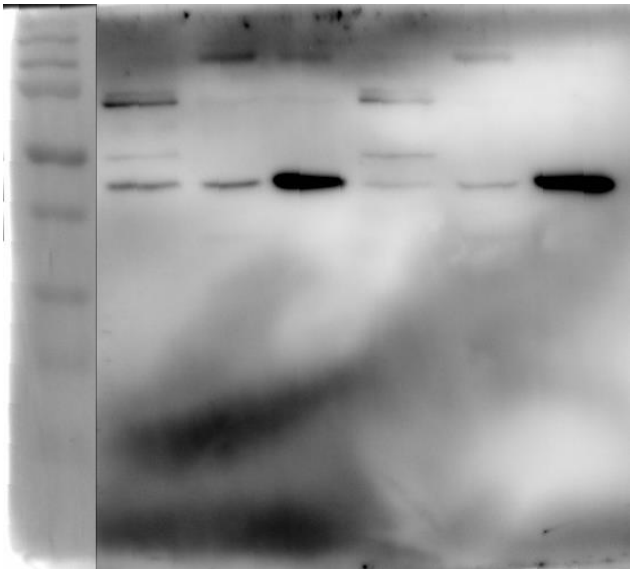
K: lysine

Supplementary Figure 3. Unprocessed Western blots for Figure 1e.

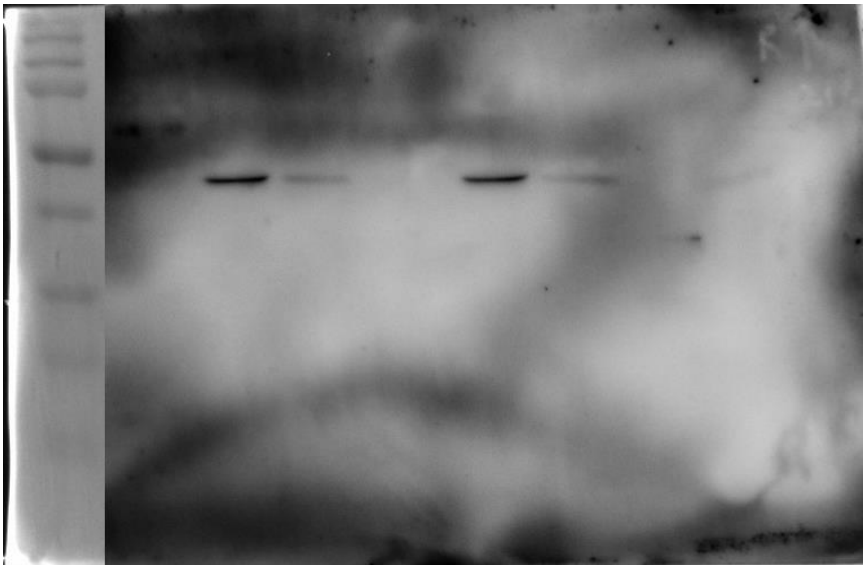
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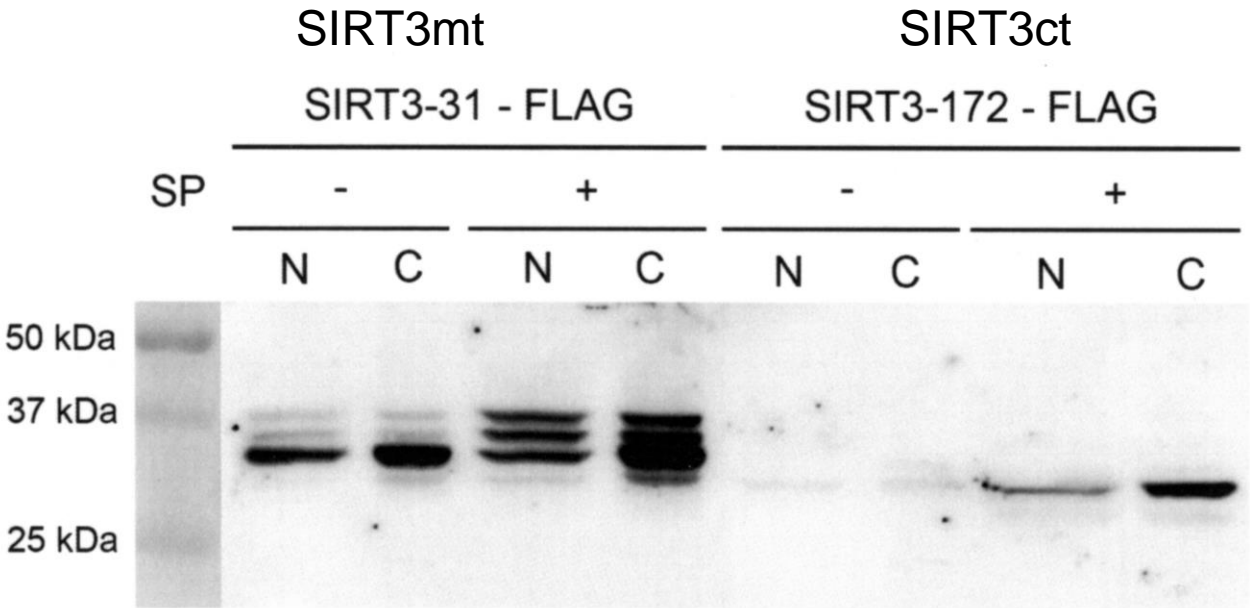
Lamin-  
mAST-



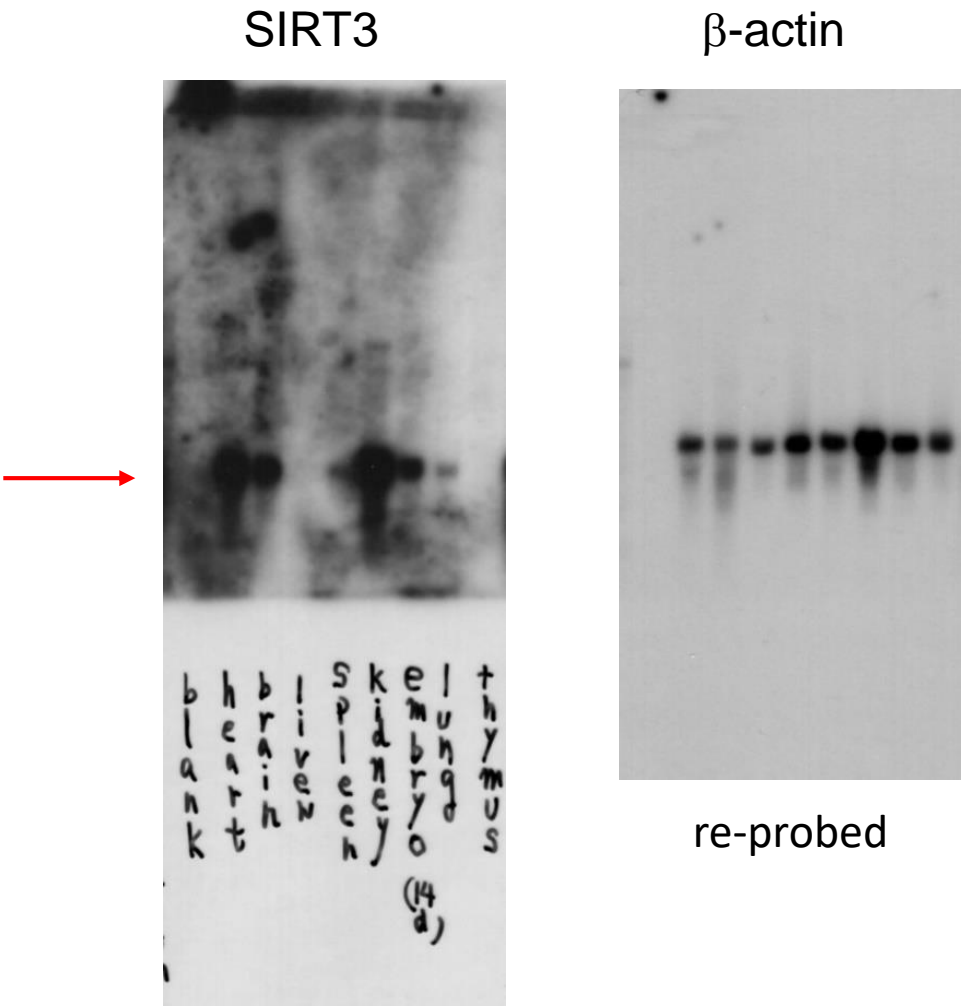
cAST-



Supplementary Figure 4. An unprocessed Western blot for Figure 1f.



Supplementary Figure 5. Unprocessed Northern blots for Figure 2a.



Supplementary Figure 6. Unprocessed Northern blots for Figures 2b and 2c.

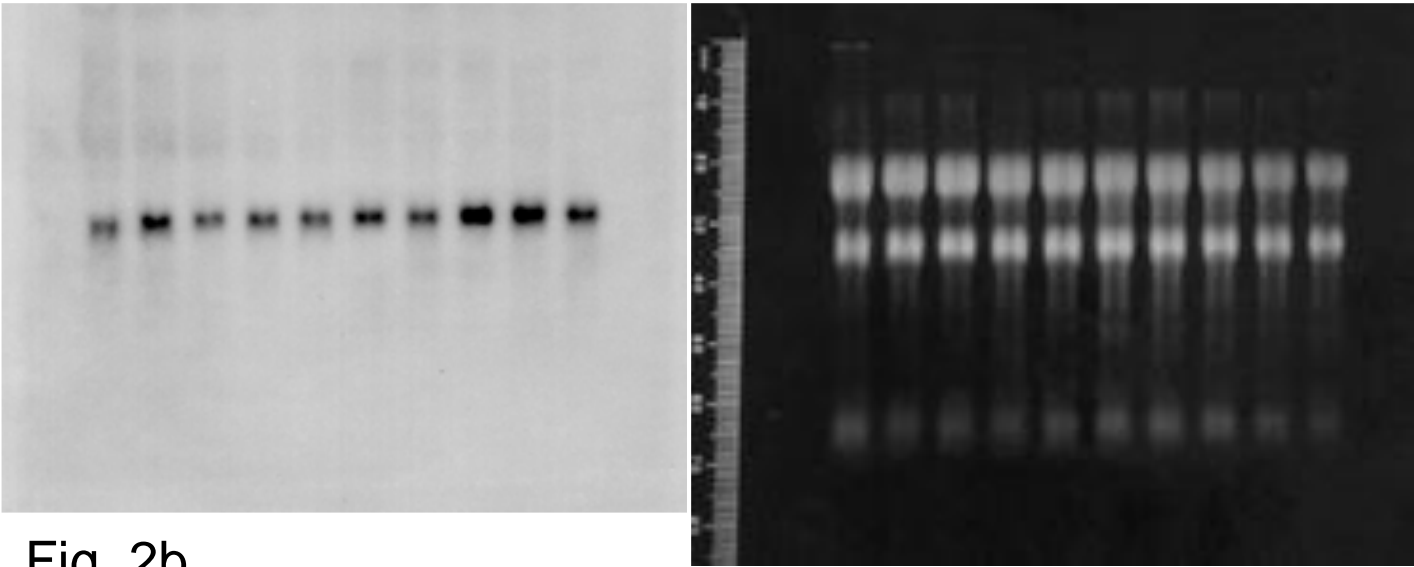


Fig. 2b

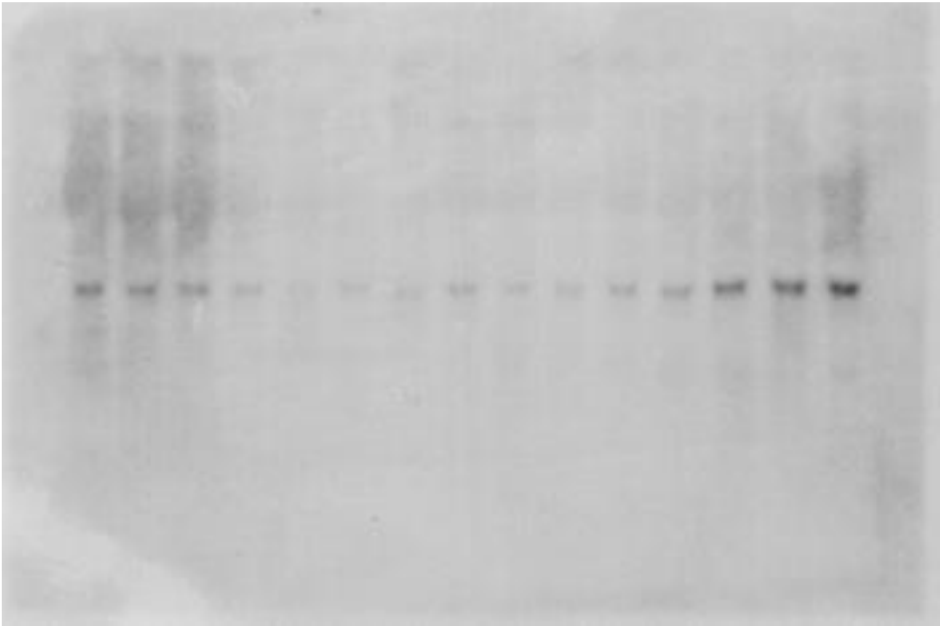
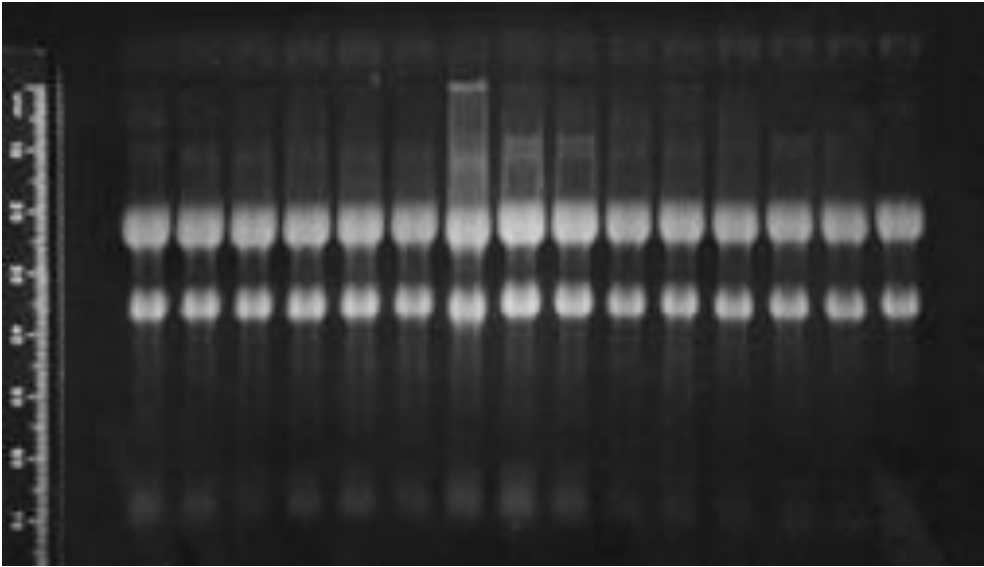
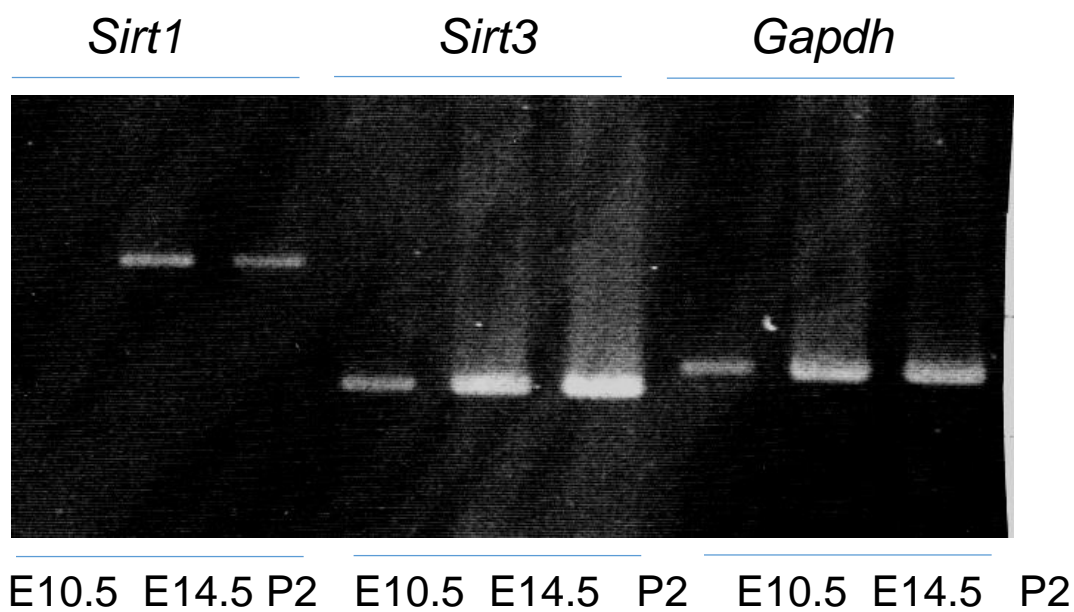


Fig. 2c

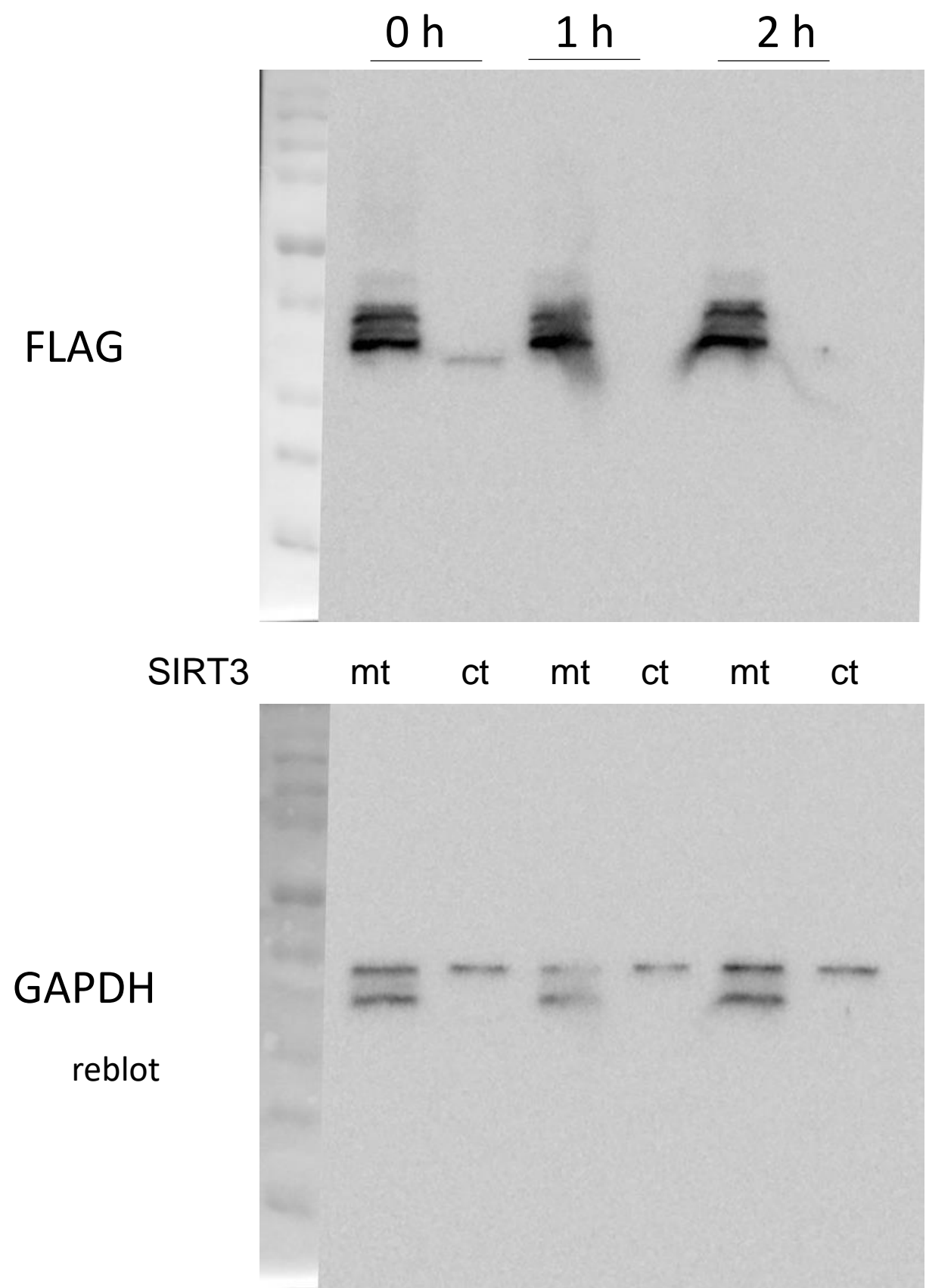


Supplementary Figure 7. Unprocessed PCR gel for Figure 2d.



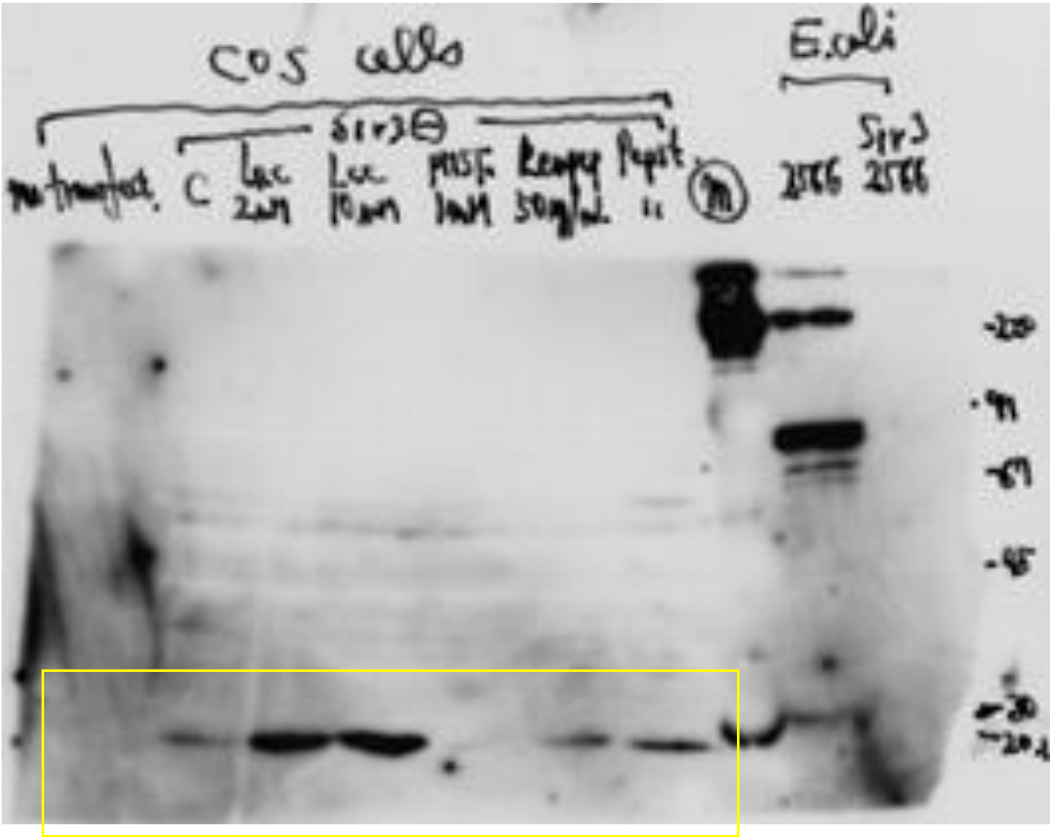


Supplementary Figure 8. Unprocessed Western blots for Figure 4a.

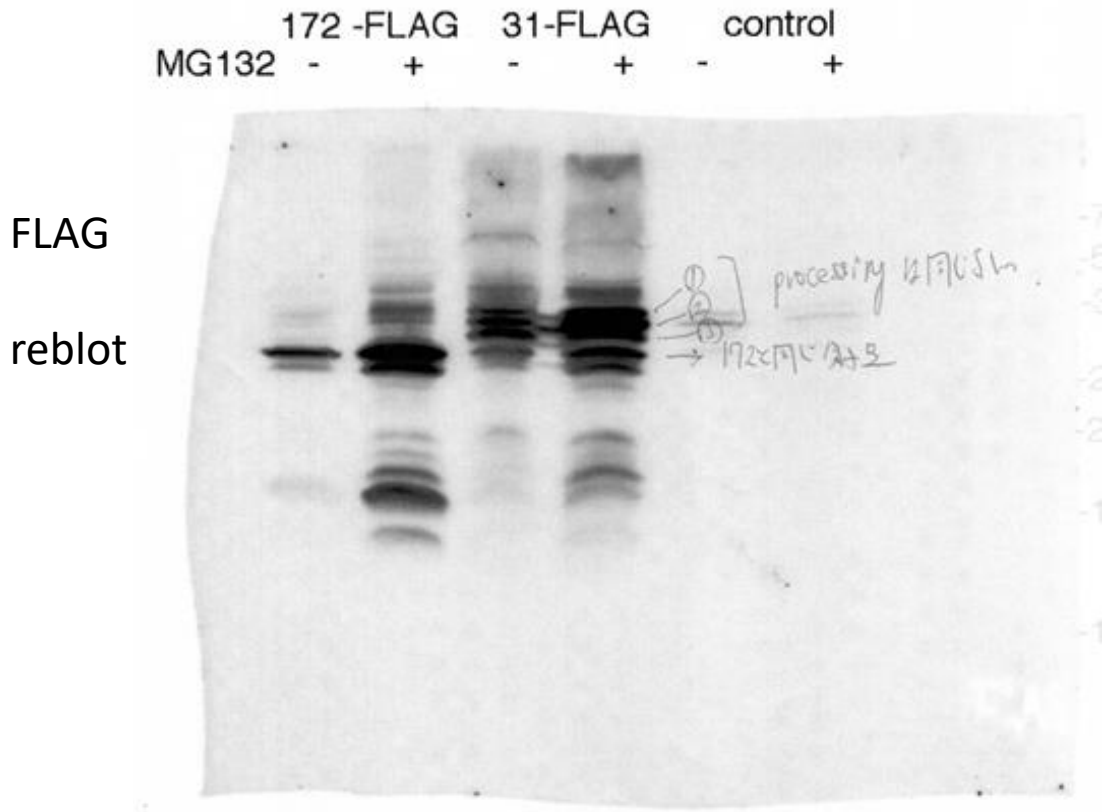


Supplementary Figure 9. Unprocessed Western blots for Figure 4b.

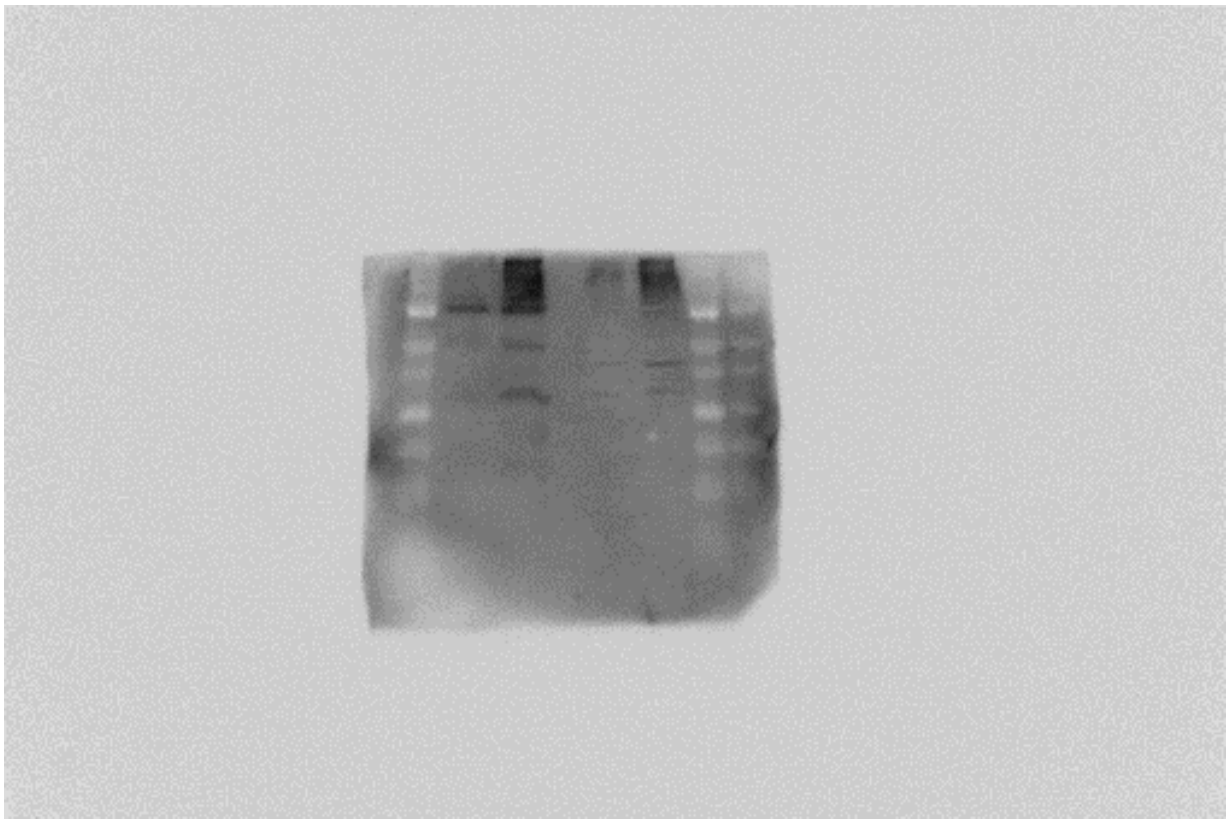
FLAG



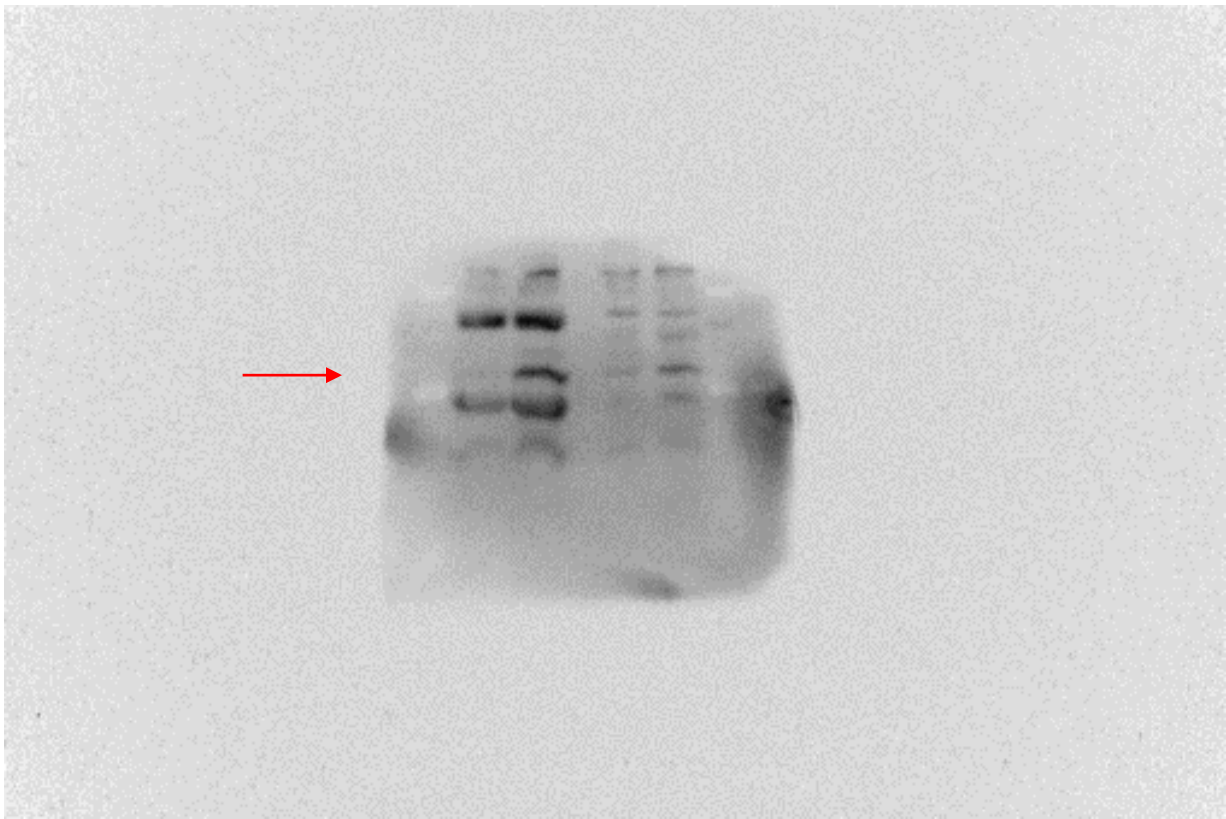
Supplementary Figure 10. Unprocessed Western blots for Figure 4c.



Supplementary Figure 11. Unprocessed Western blots for Figure 4e.



Ub

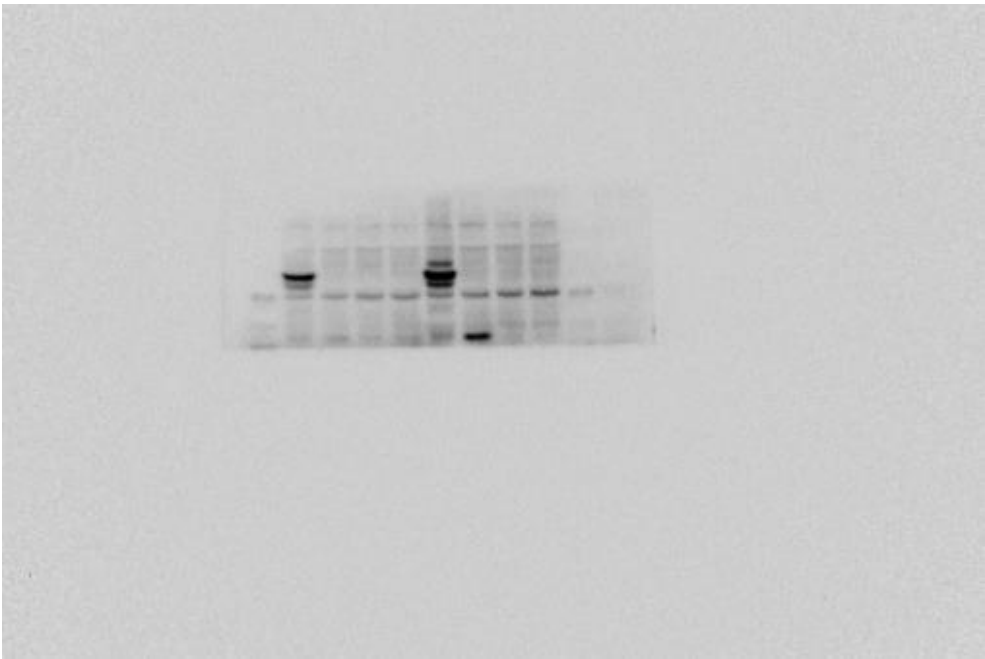


FLAG

Supplementary Figure 12. Unprocessed Western blots for Figure 4g.

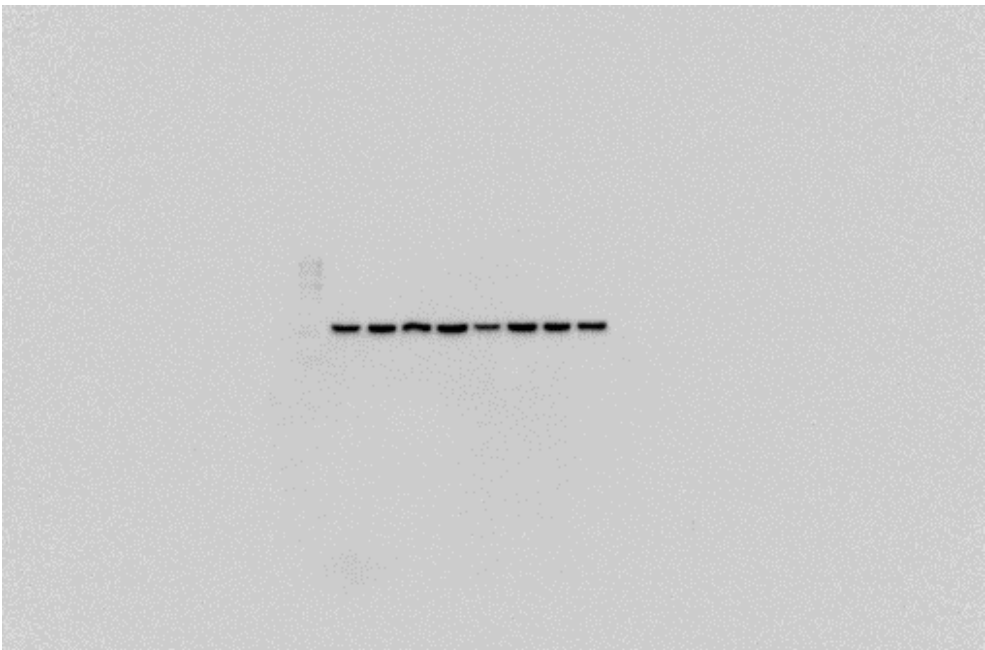


SIRT3-EGFP



SIRT3-FLAG

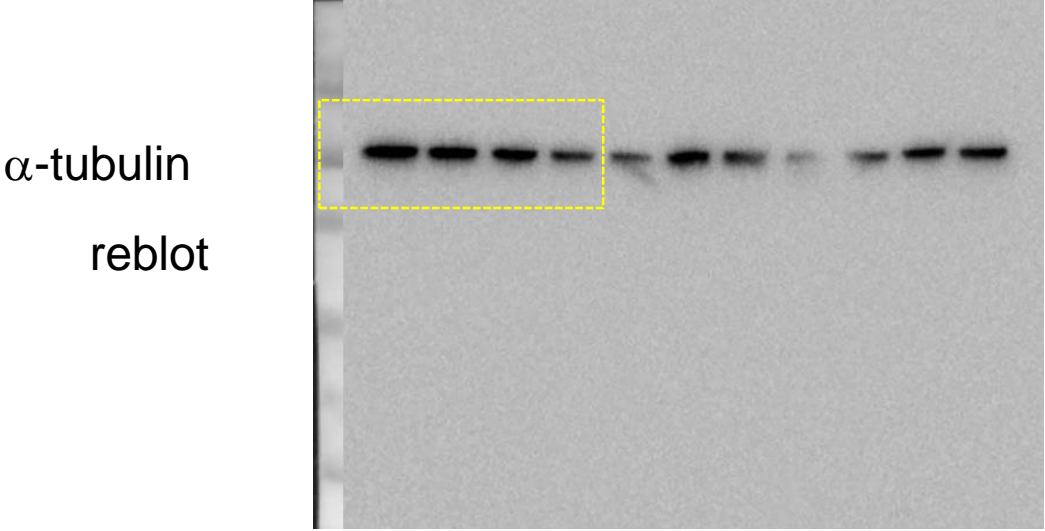
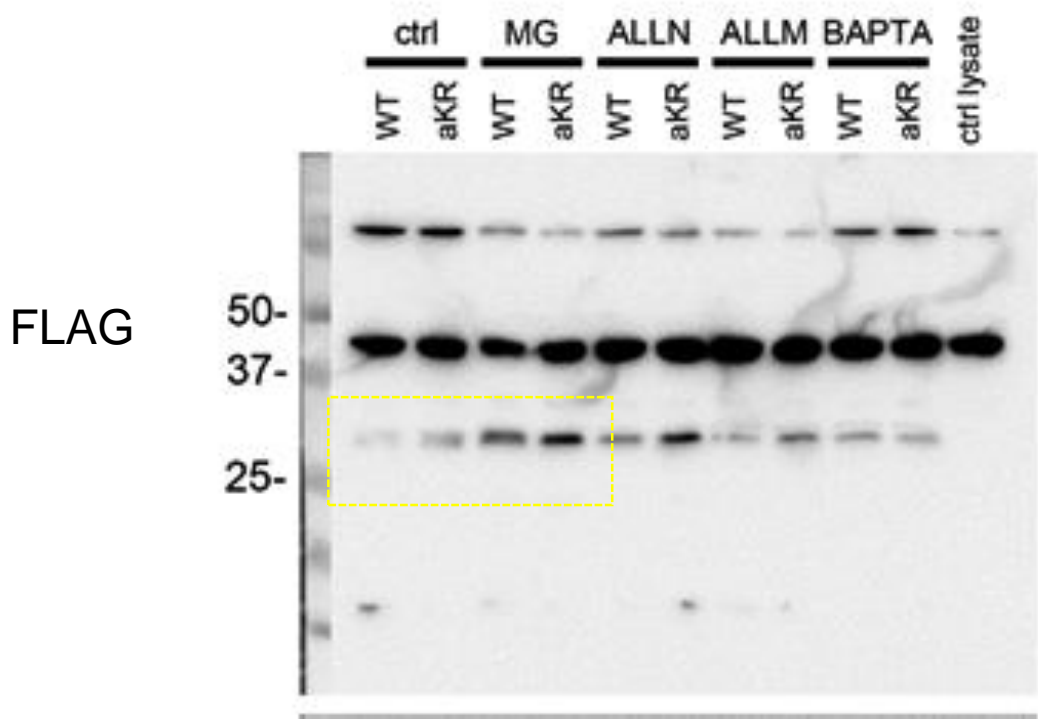
reblot



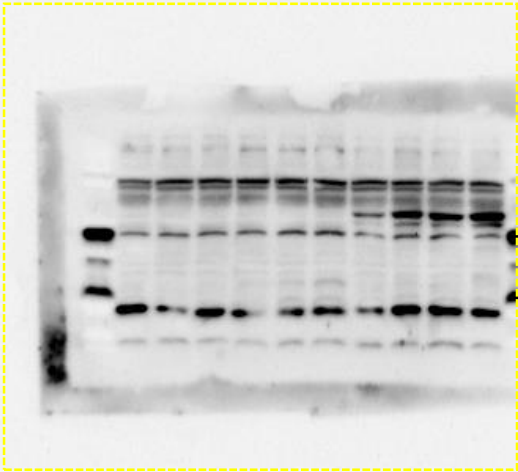
$\alpha$ -tubulin

reblot

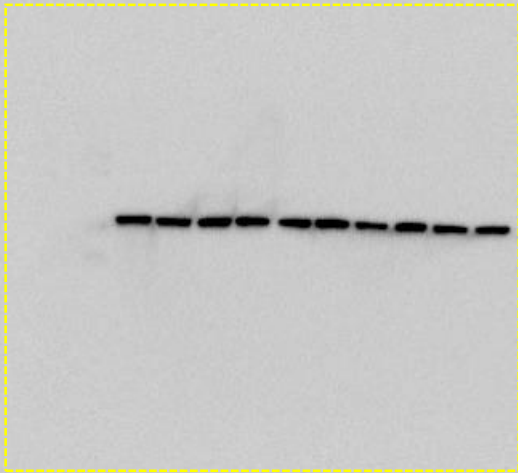
Supplementary Figure 13. Unprocessed Western blots for Figure 4f.



Supplementary Figure 14. Unprocessed Western blots for Figure 4h.



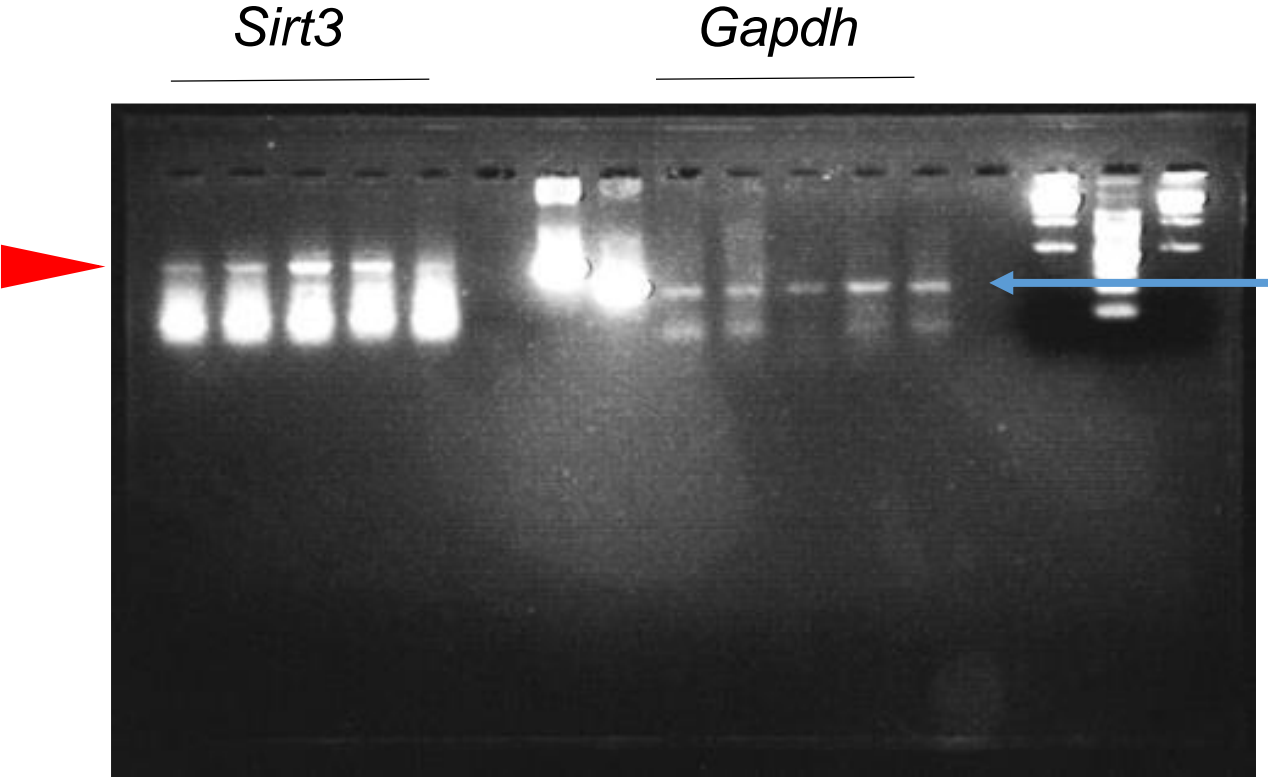
FLAG



$\alpha$ -tubulin

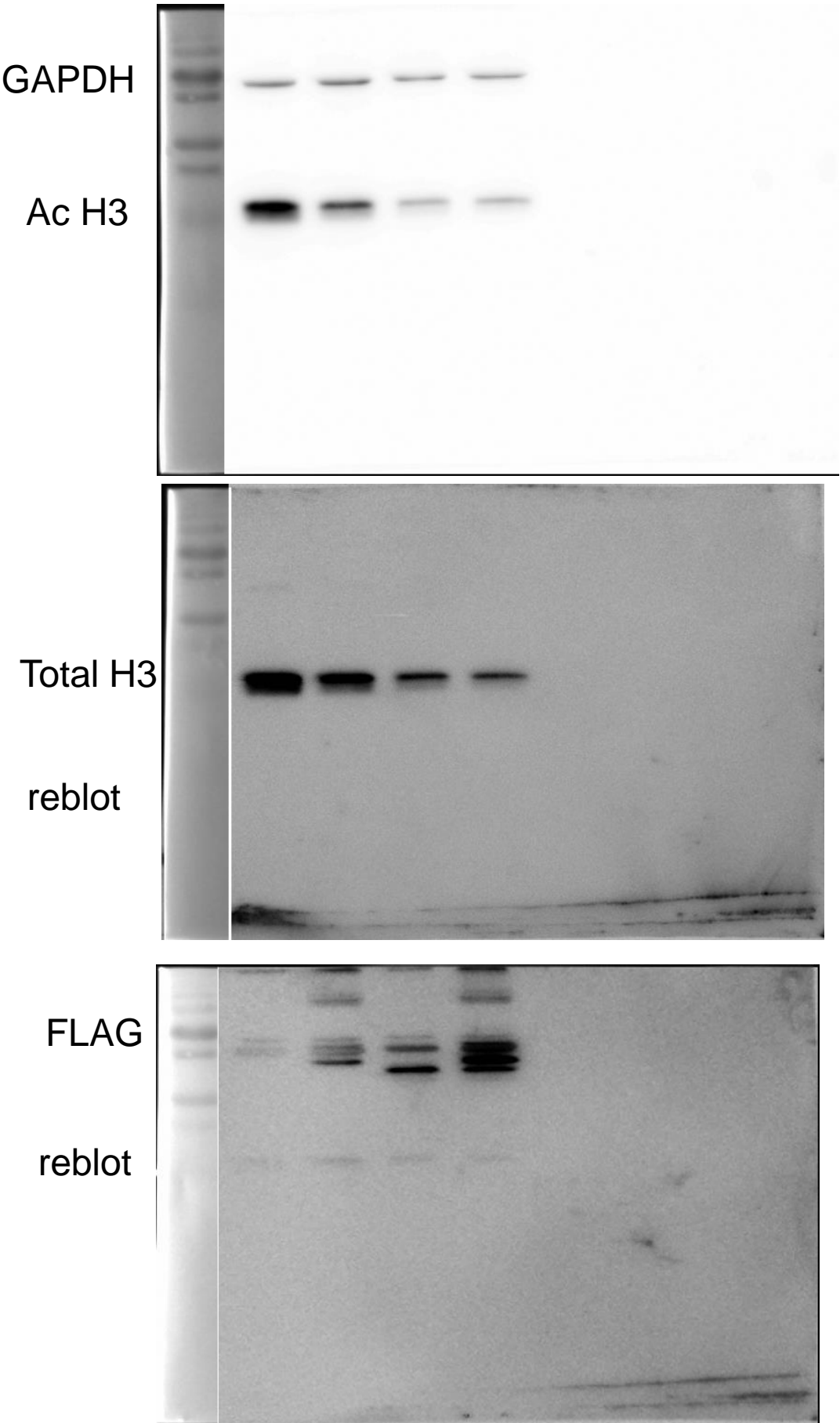
reblot

Supplementary Figure 15. An unprocessed PCR gel for Figure 5a.





Supplementary Figure 16. Unprocessed Western blots for Figure 5e.



Supplementary Figure 17. Unprocessed Western blots for Figure 6b.

SIRT3

$\alpha$ -tubulin

