

Supplementary Table 1. Sequences for primers used in RT-qPCR

Gene	Primer	Sequence (5'-3')
TNF- α	Forward prime	CATCTTCTCAAAATTTCGAGTGACAA
	Reverse prime	TGGGAGTAGACAAGGTACAACCC
IL-1 β	Forward prime	TCAAATCTCGCAGCAGCACATC
	Reverse prime	CCAGCAGGTTATCATCATCATCCC
IL-6	Forward prime	ATGGATGCTACCAAAGTGGAT
	Reverse prime	TGAAGGACTCTCTGGCTTTGTCT
MCP-1	Forward prime	GCCCCACTCACCTGCTGCTACT
	Reverse prime	CCTGCTGCTGGTGATCCTCTTGT
GAPDH	Forward prime	TGGCAAAGTGGAGATTGTTGC
	Reverse prime	AAGATGGTGATGGGCTTCCCG

TNF- α , tumor necrosis factor alpha; IL-1 β , interleukin 1 beta; IL-6, interleukin 6; MCP-1, monocyte chemoattractant protein 1; GAPDH, glyceraldehyde 3-phosphate dehydrogenase.

Supplementary Table 2. Peptide content and degree of hydrolysis of bovine α -lactalbumin hydrolysates

Sample	Peptide content (mg/g)	Degree of hydrolysis (%)
α -LAH	746.67 \pm 11.47 ^c	31.46 \pm 0.27 ^c
GD- α -LAH	789.87 \pm 17.25 ^b	39.00 \pm 0.28 ^b
CA- α -LAH	821.86 \pm 4.68 ^a	43.716 \pm 0.97 ^a

α -LAH, α -lactalbumin hydrolysates; GD- α -LAH, gastrointestinal digest of α -LAH; CA- α -LAH, Caco-2 cell transported permeates of GD- α -LAH.

Each value represents the mean \pm SD (n=3). Values within a row without same superscript are significantly different at $p < 0.05$.

Figure captions:

Supplementary Figure 1. Identification of peptides from CA- α -LAH. (A) LC-MS/MS spectrum of VSLPEWV; (B) LC-MS/MS spectrum of SLPEWV; (C) LC-MS/MS spectrum of FLDDL; (D) LC-MS/MS spectrum of KILDK; (E) LC-MS/MS spectrum of LDKVGIN.

Supplementary Figure 2. Mature AA sequences of bovine α -lactalbumin. Peptide sequences identified in the F2 are underlined.

Supplementary Figure 3. The images of the blot for Figure 1B.

Supplementary Figure 4. The images of the blot for Figure 1C.

Supplementary Figure 5. The images of the blot for Figure 2B.

Supplementary Figure 6. The images of the blot for Figure 2C.

Supplementary Figure 7. The images of the blot for Figure 3B.

Supplementary Figure 8. The images of the blot for Figure 3C.

Supplementary Figure 9. The images of the blot for Figure 5B.

Supplementary Figure 10. The images of the blot for Figure 5C.

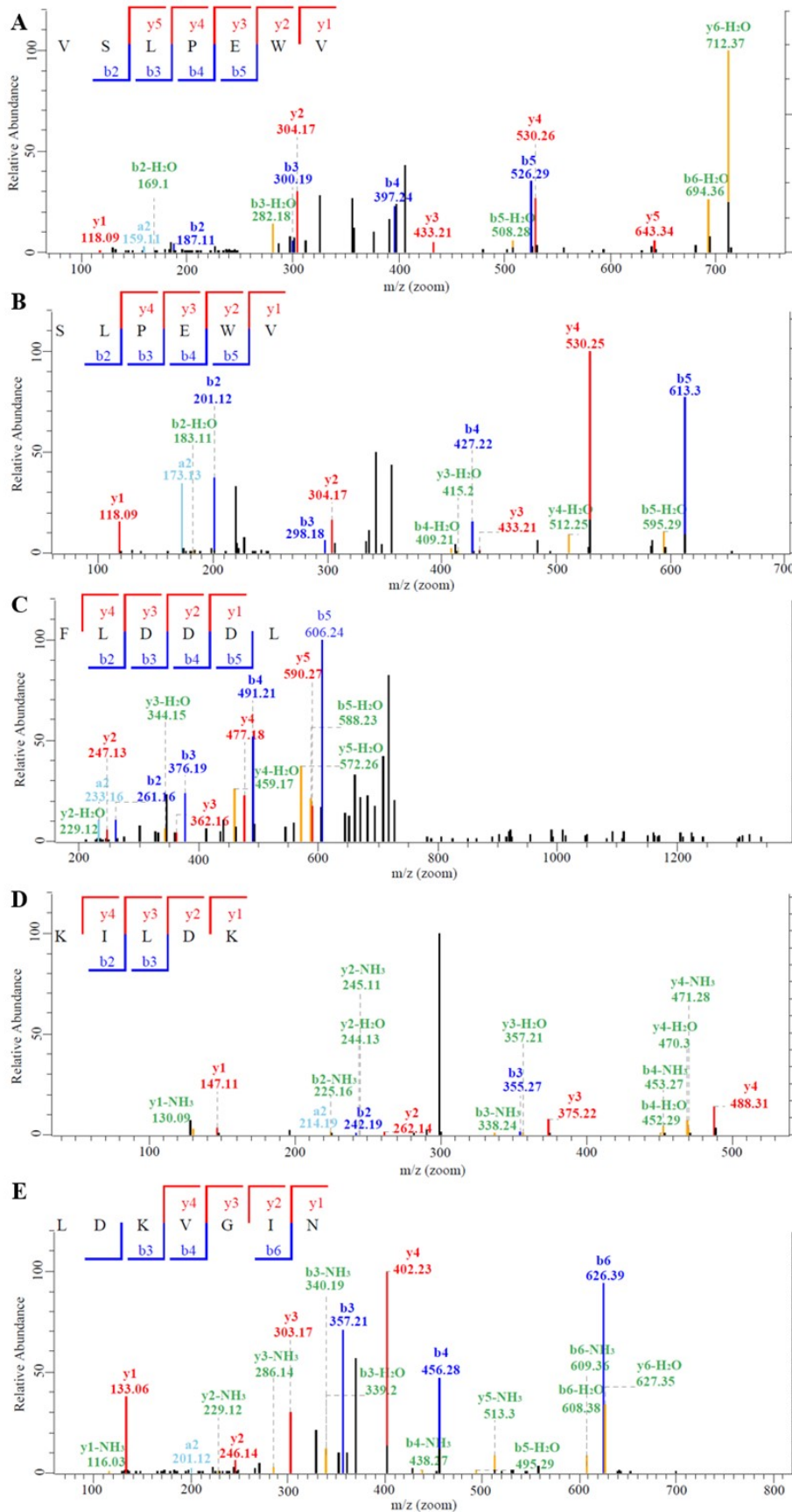
Supplementary Figure 11. The images of the blot for Figure 6A.

Supplementary Figure 12. The images of the blot for Figure 6B.

Supplementary Figure 13. The images of the blot for Figure 6C.

Supplementary Figure 14. The images of the blot for Figure 7B.

Supplementary Figure 1.



Supplementary Figure 2.

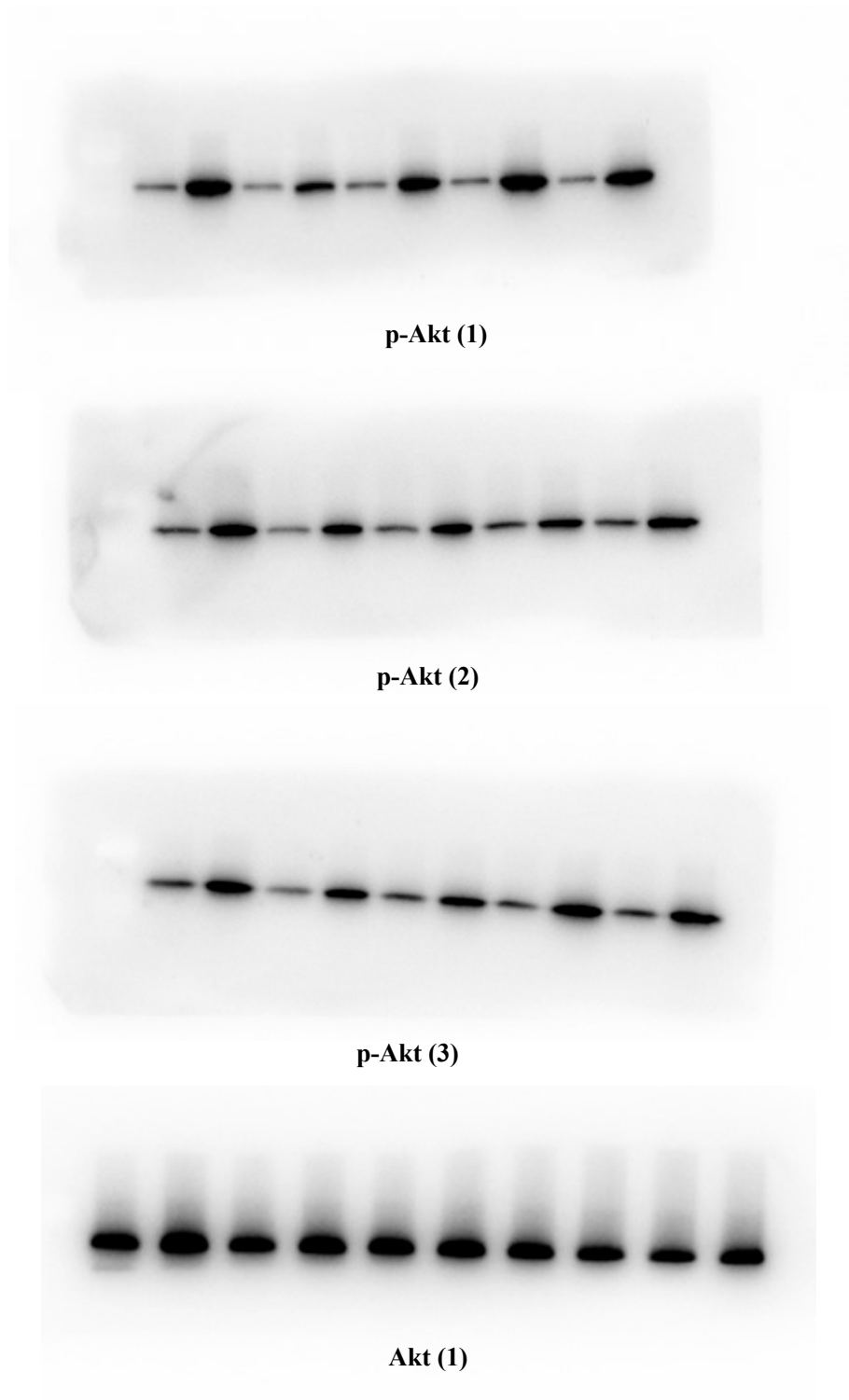
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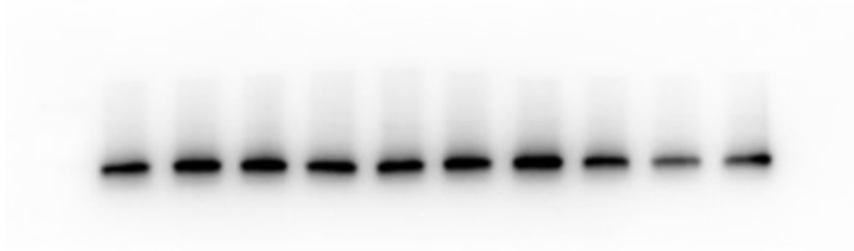
 40 50 60 70
Q⁴¹AIVQNNDSTE⁵⁰YGLFQINNKI⁶⁰W⁶¹CKDDQNPHS⁷⁰S⁷¹NICNISC

 80 90 100 110
DK⁸¹FLDDDLTDDIM⁹⁰CVK⁹¹KILDKV¹⁰⁰G¹⁰¹INYLAKAL¹¹⁰CSEKL

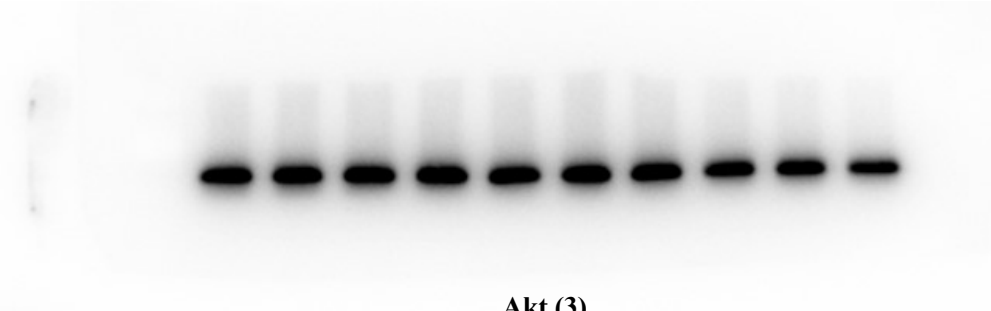
 120
DQWL¹²¹CEKL

Supplementary Figure 3.

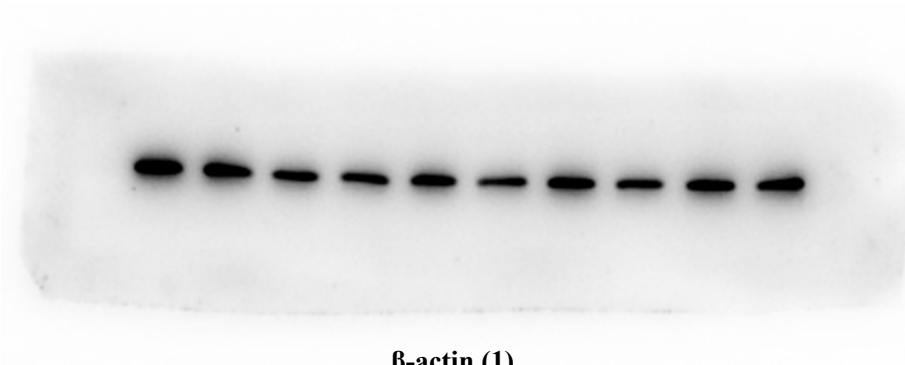




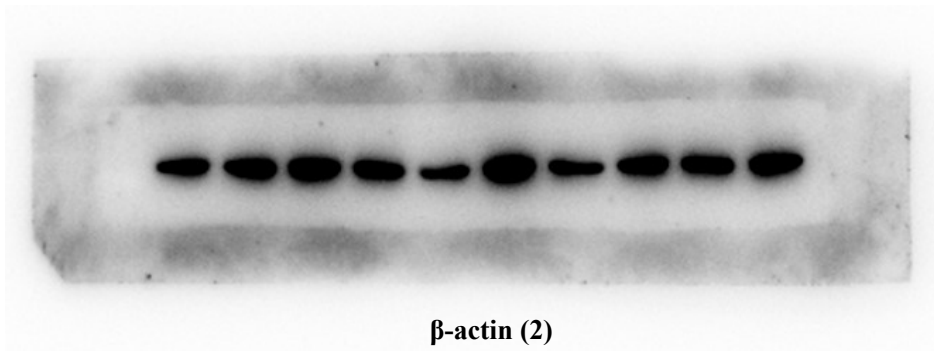
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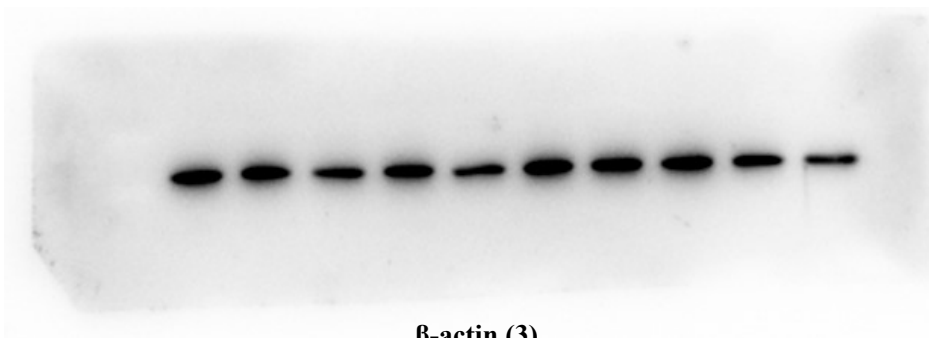
Akt (3)



β -actin (1)

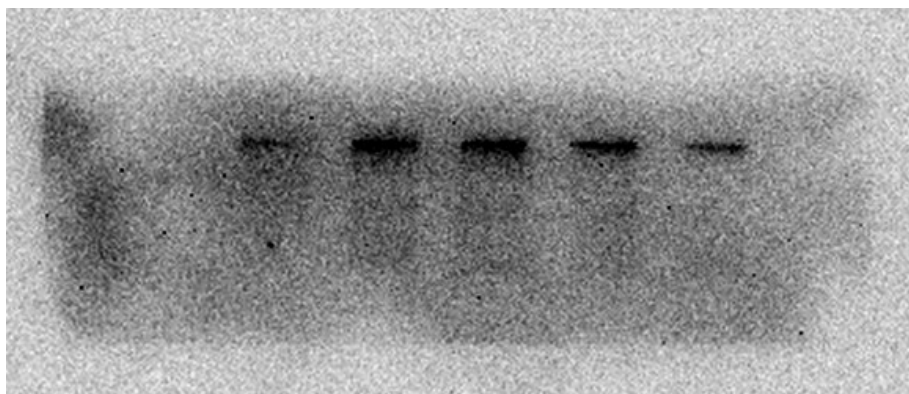


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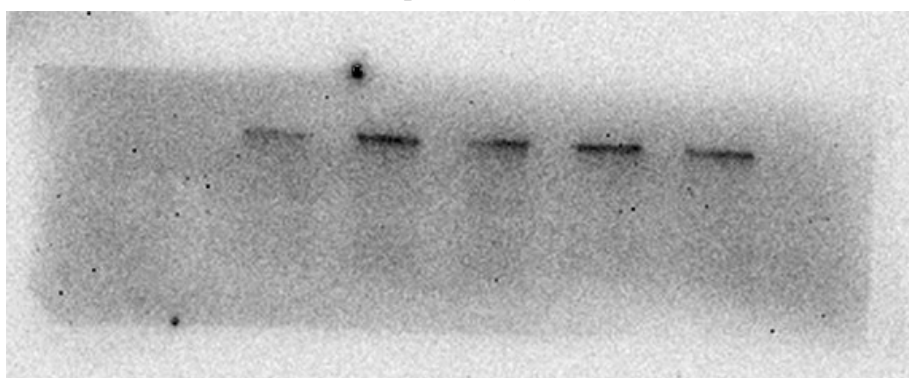


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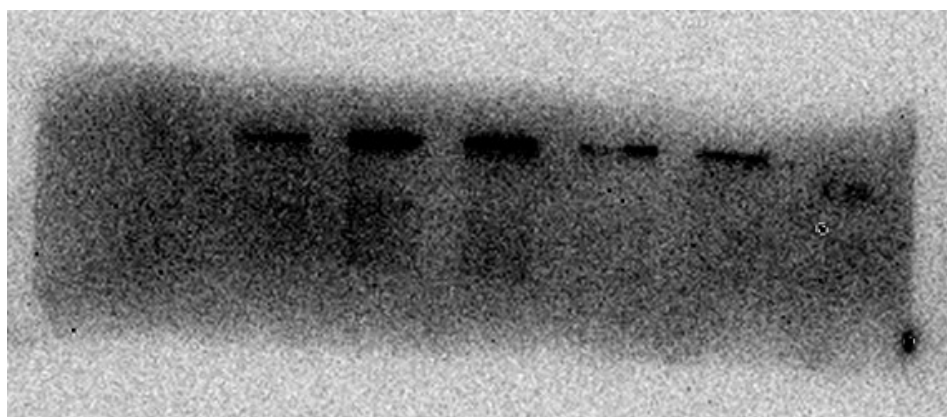
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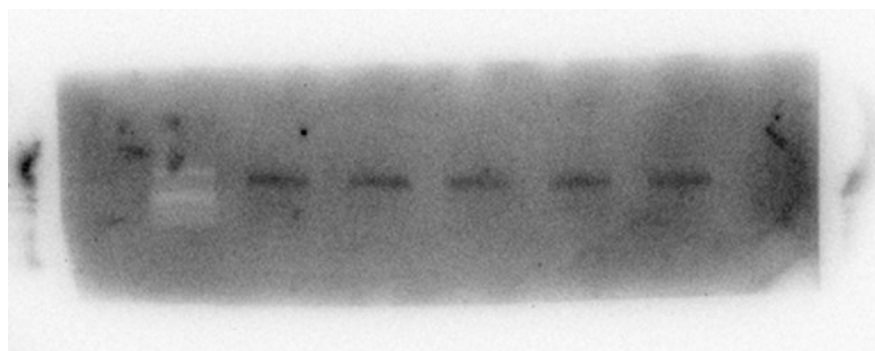
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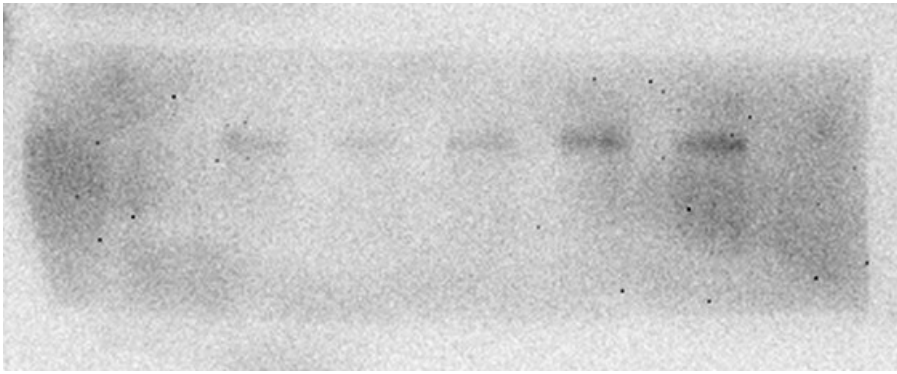
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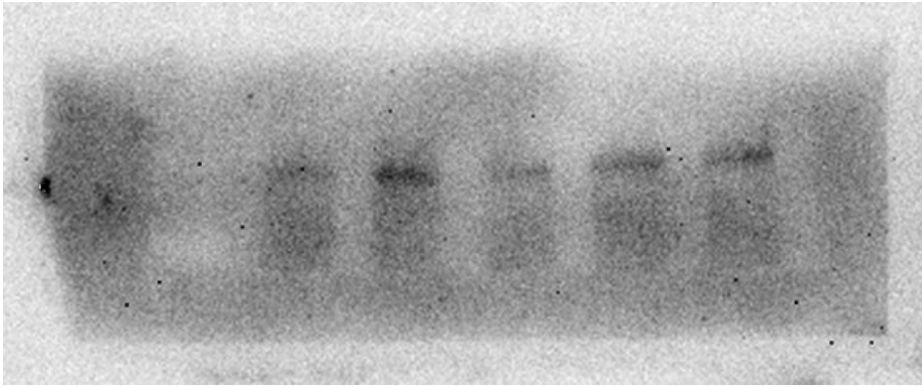
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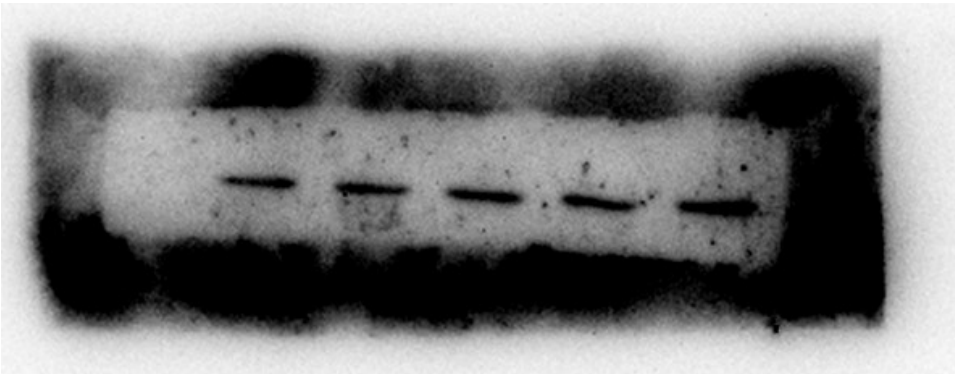
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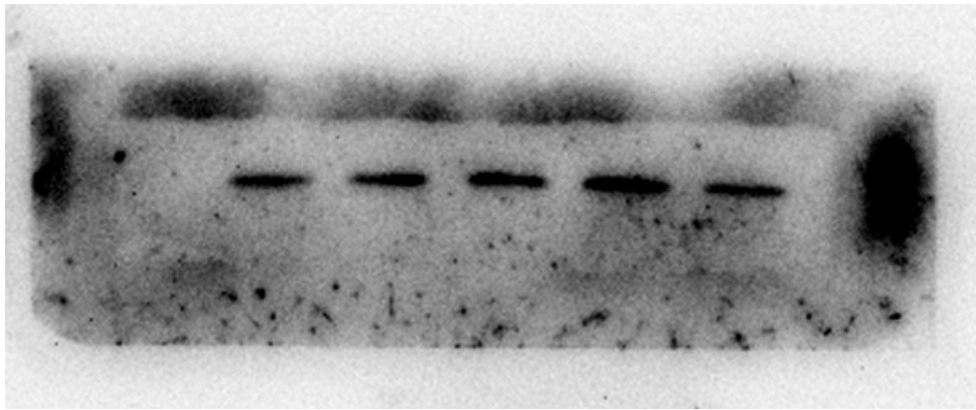
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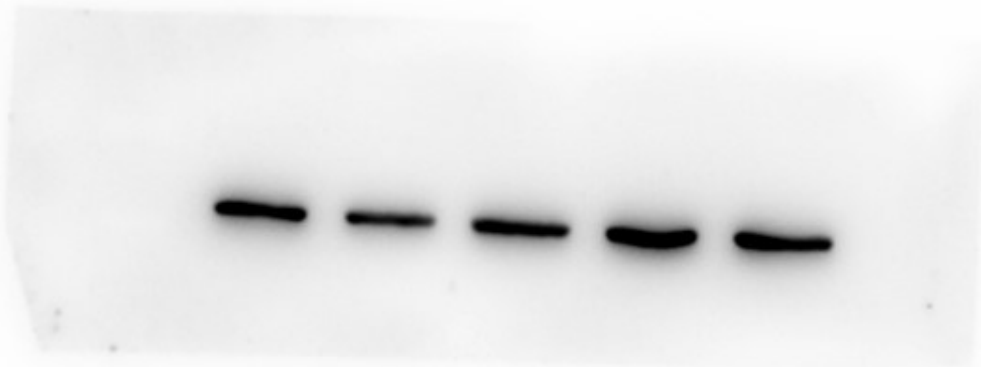
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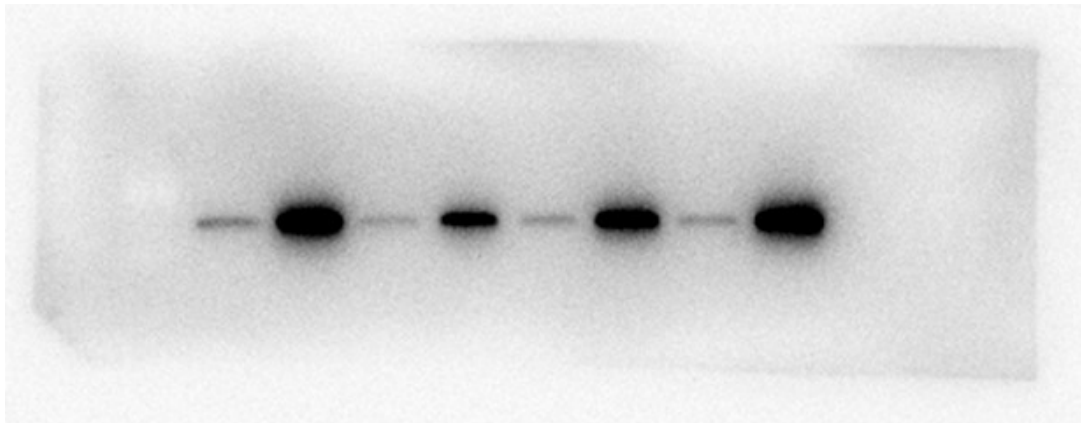


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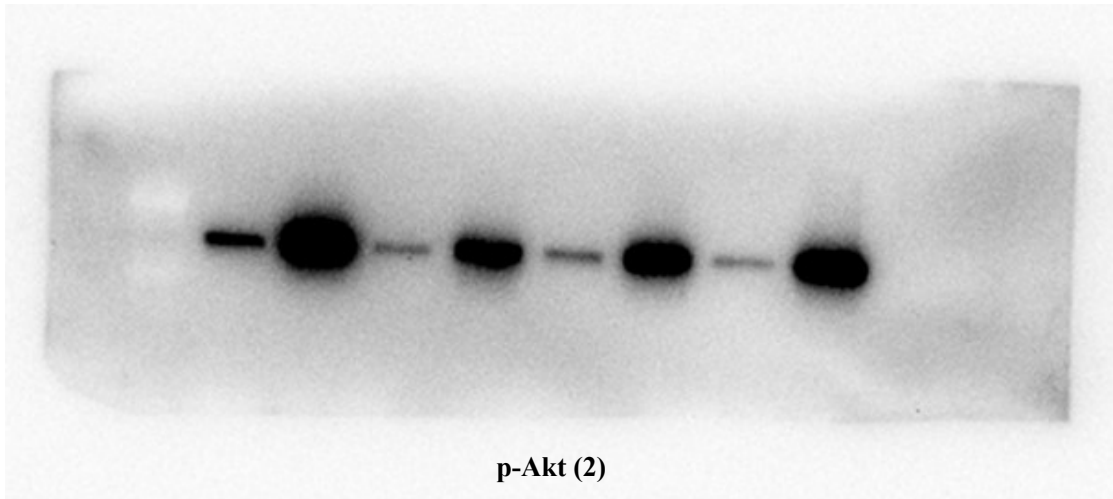


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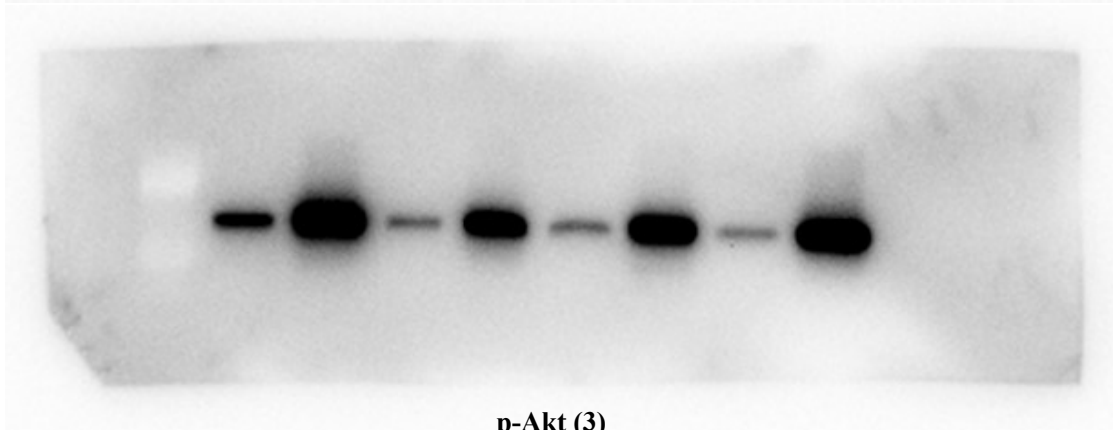
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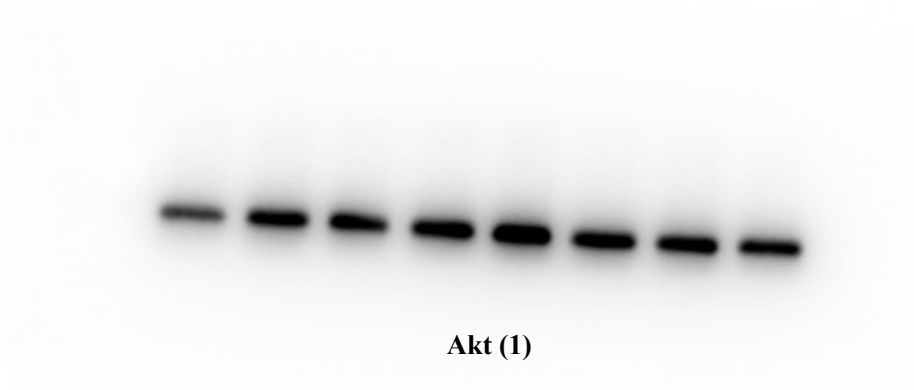
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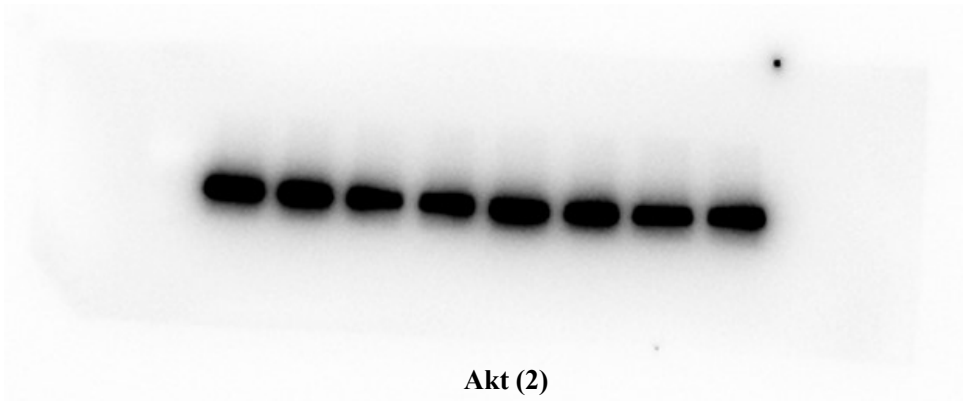
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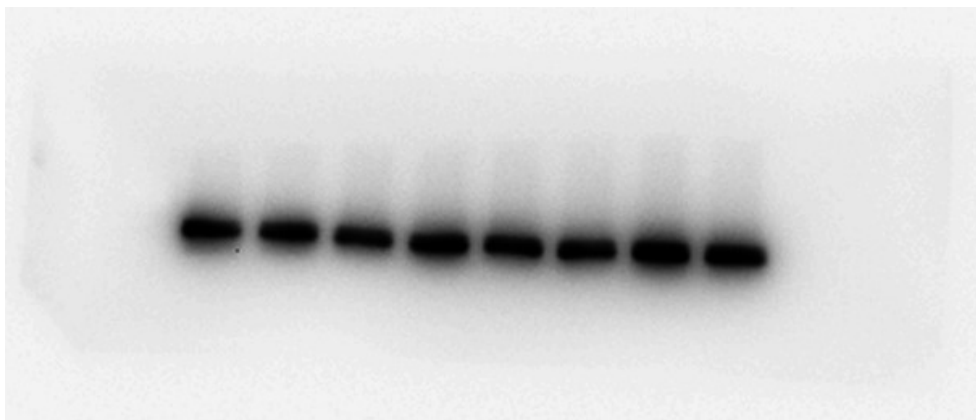
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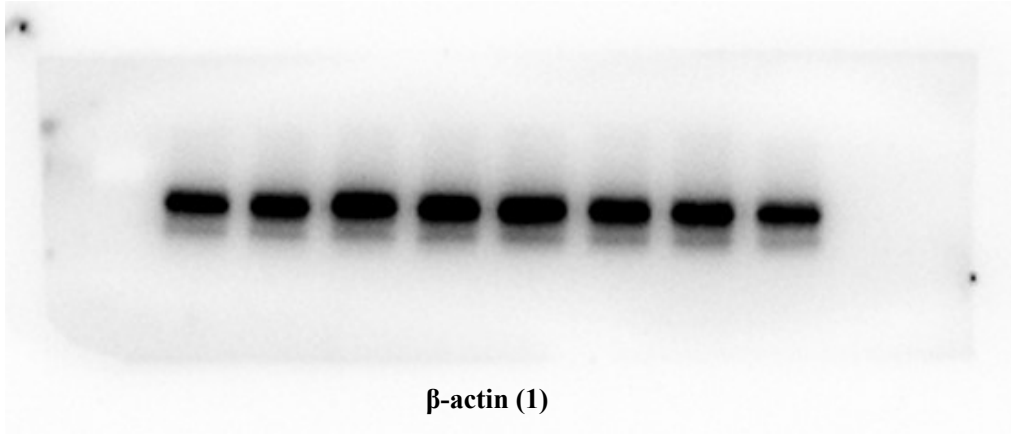
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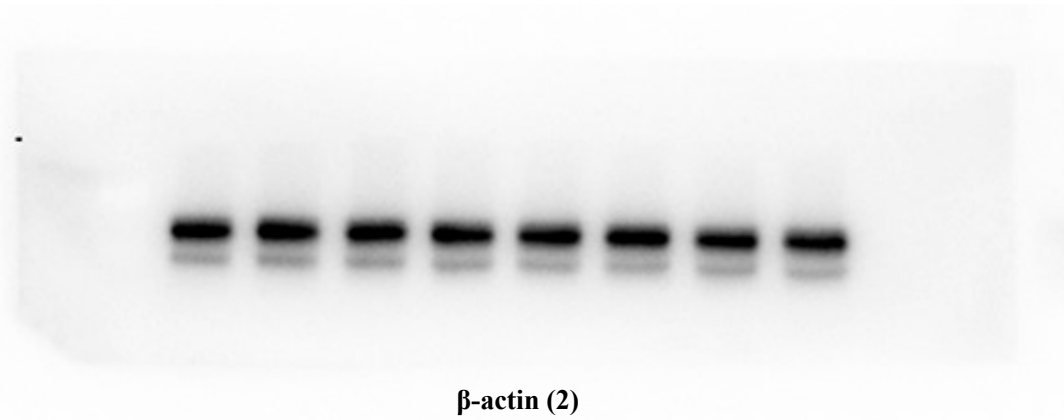
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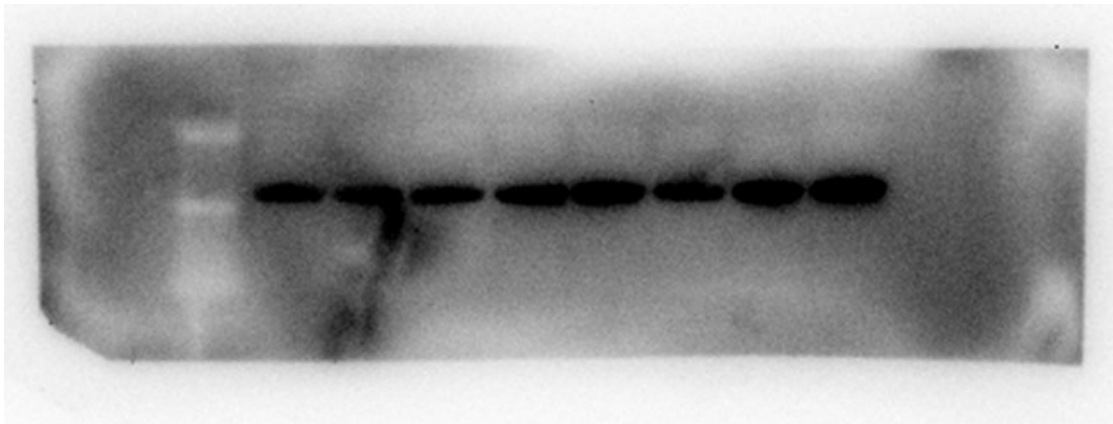
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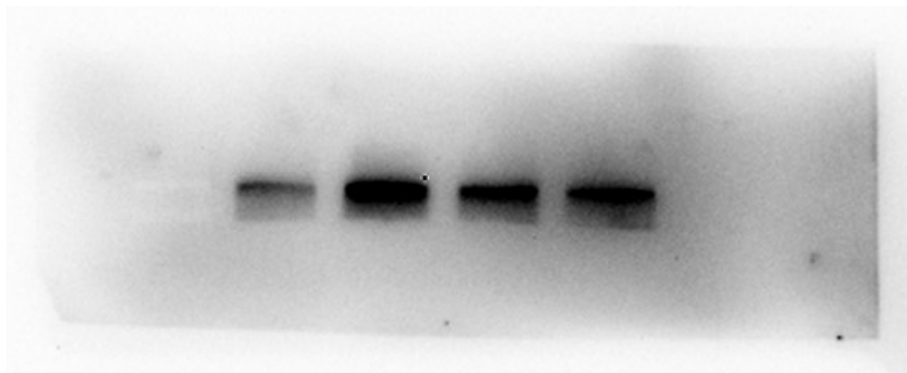


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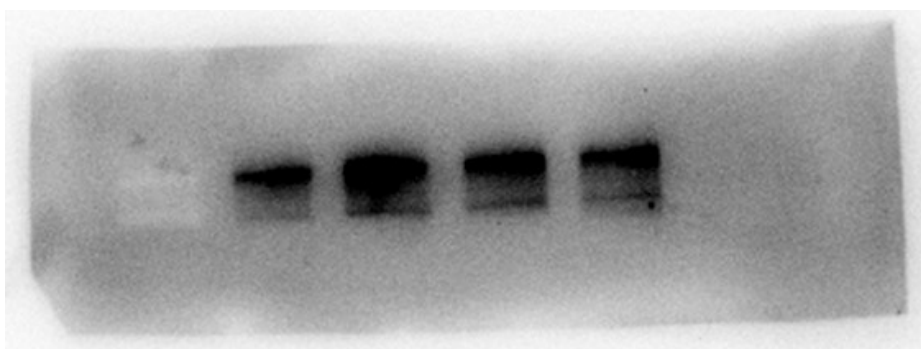


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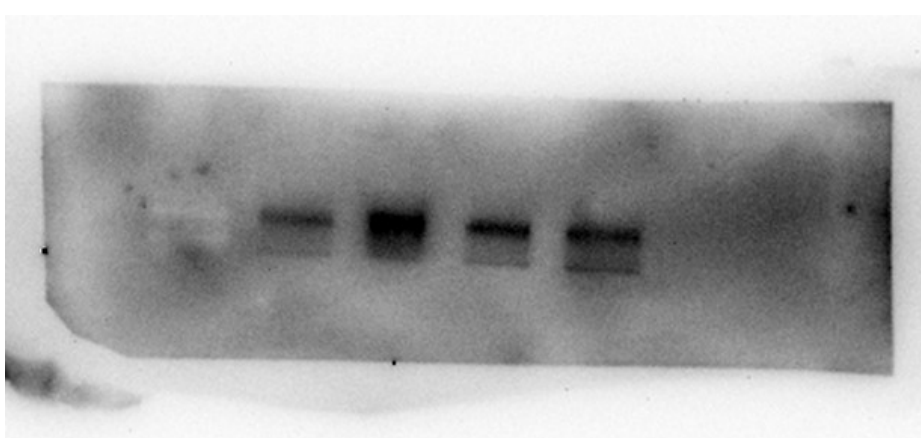
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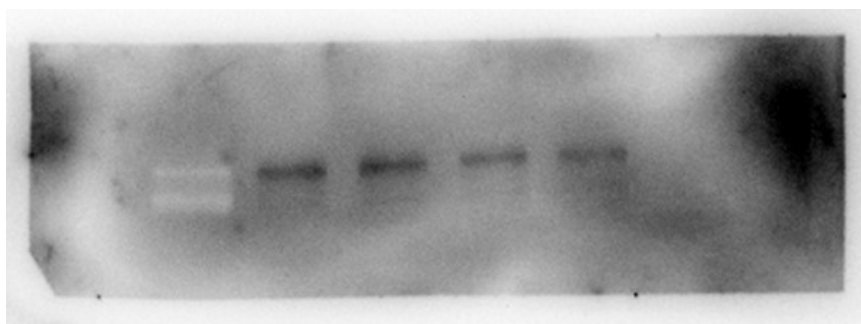
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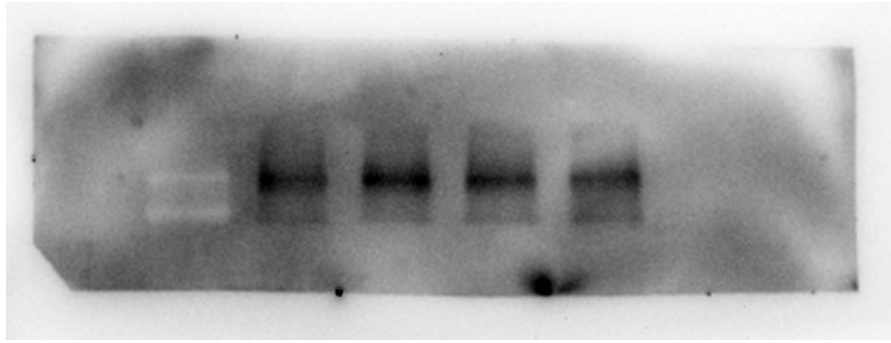
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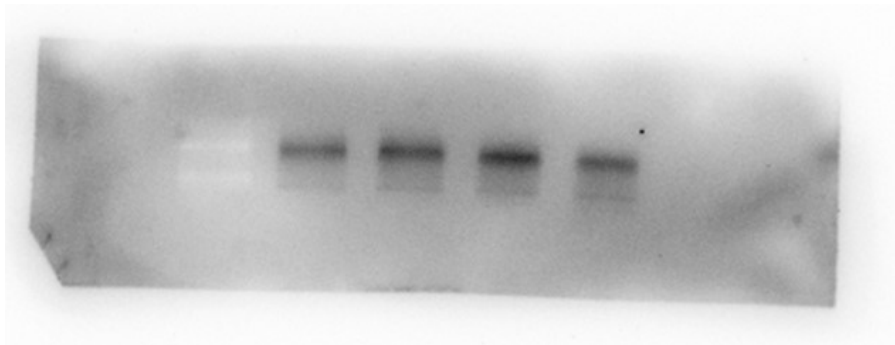
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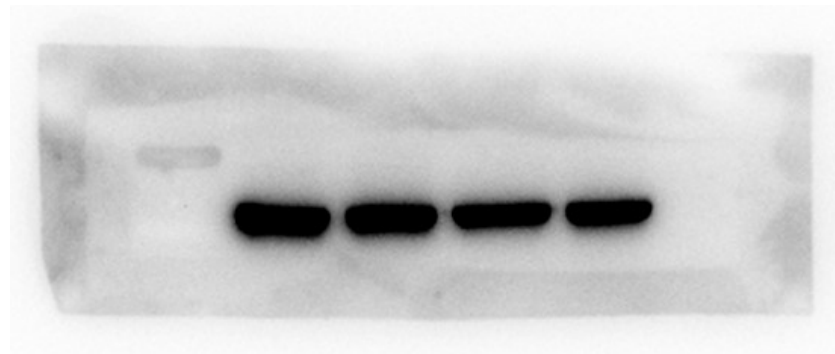
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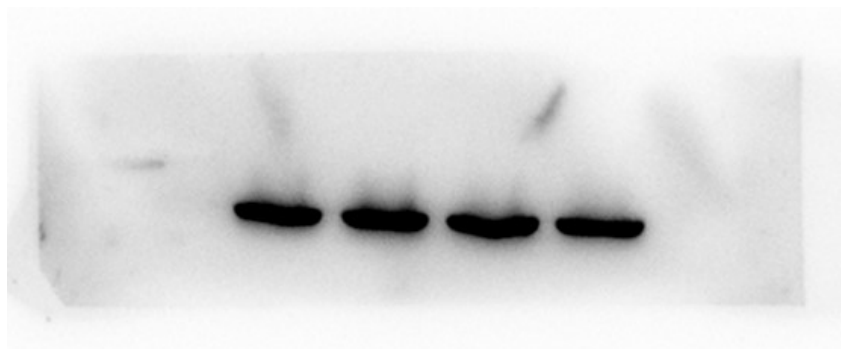
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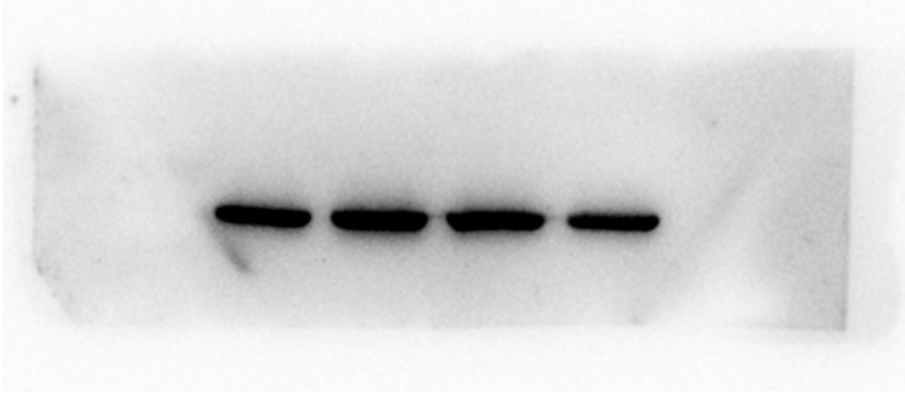
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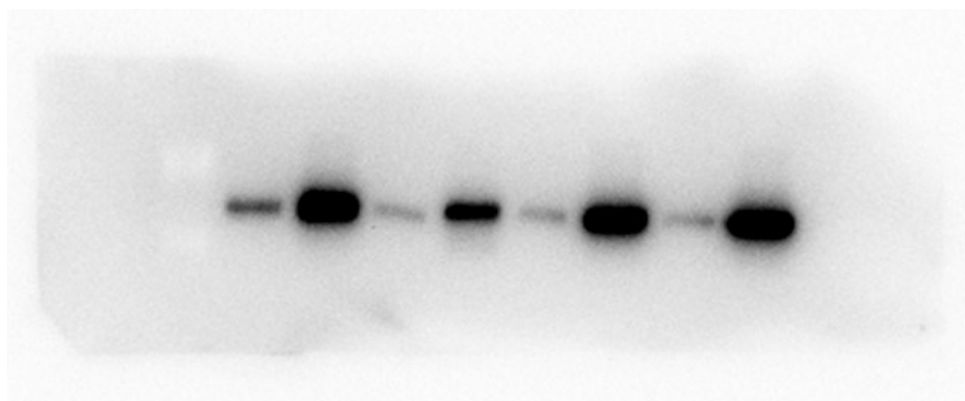


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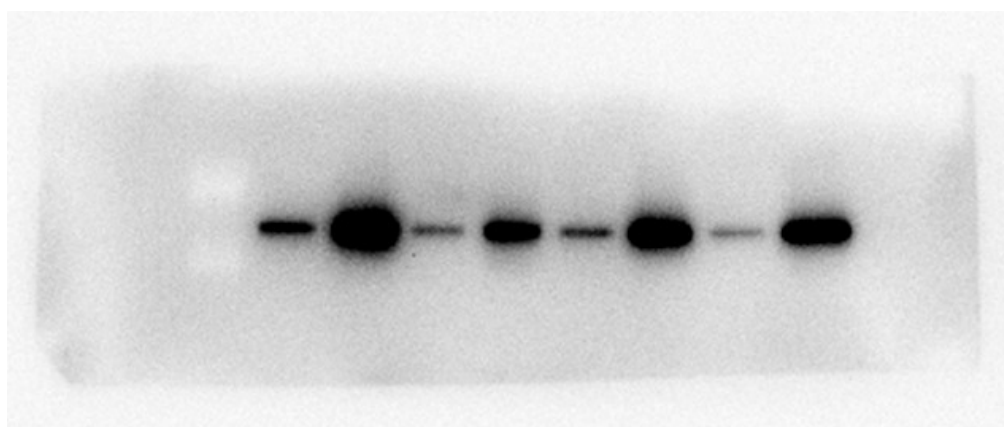


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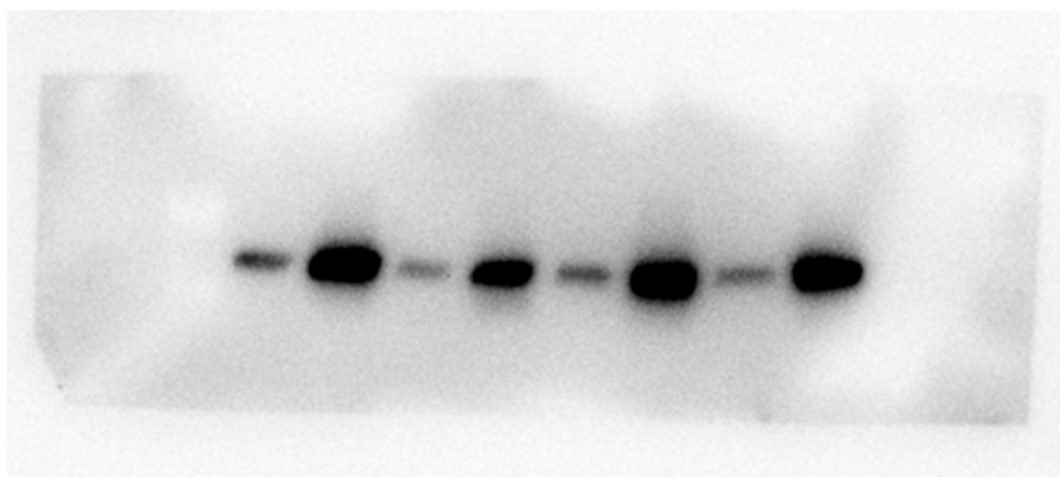
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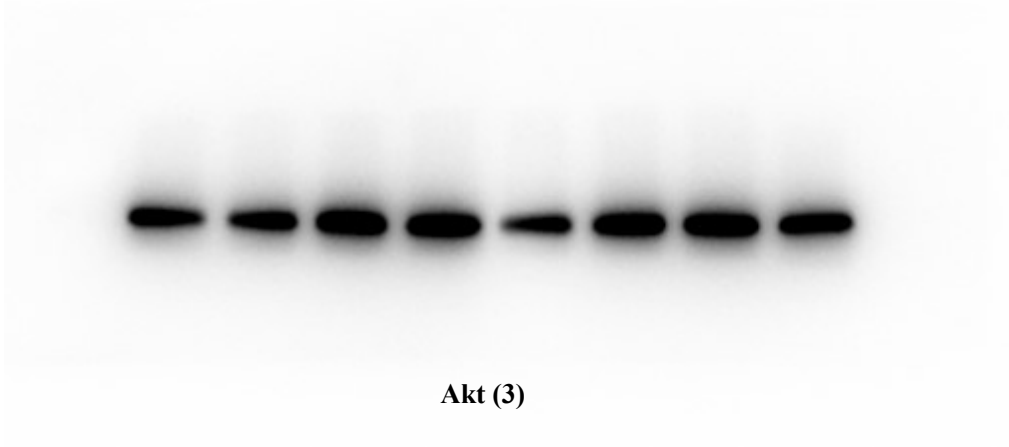
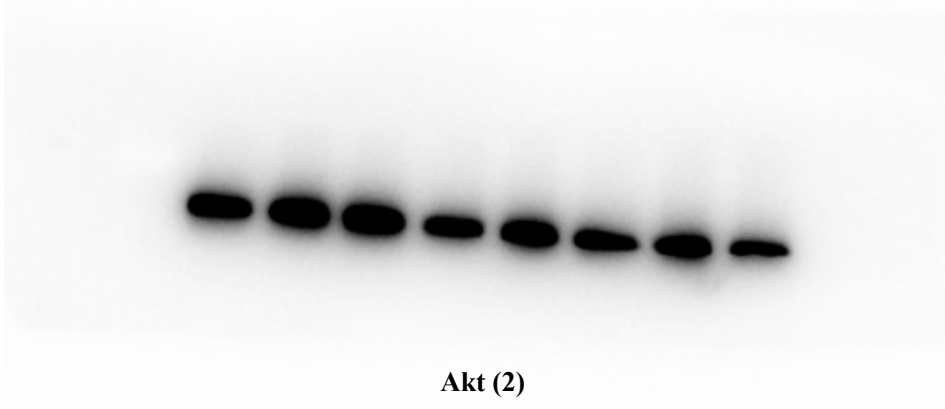
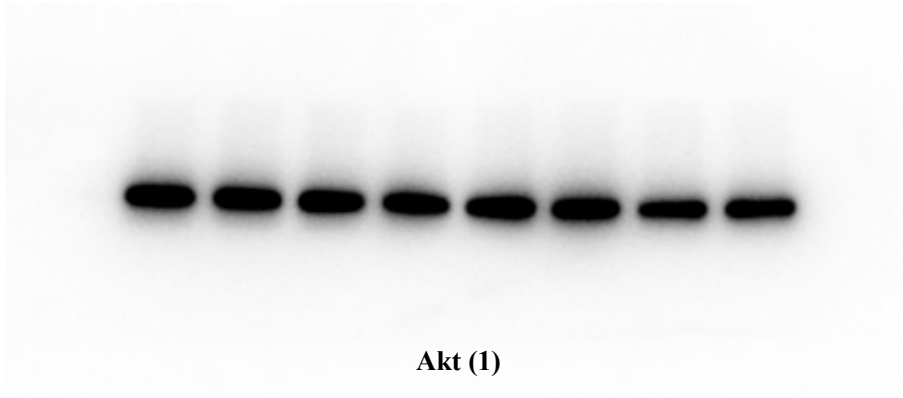
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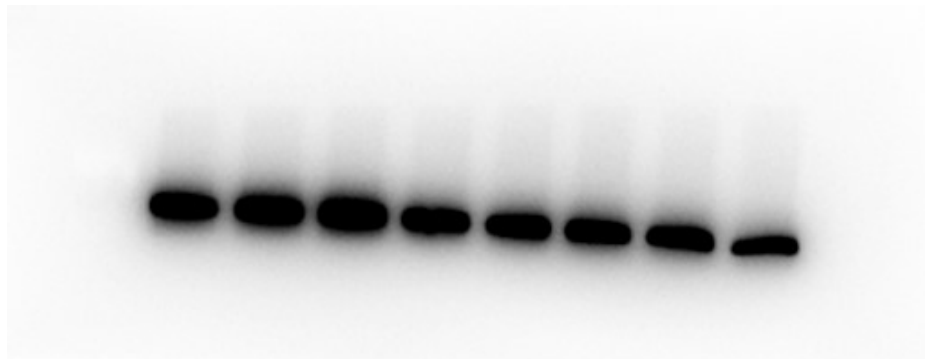


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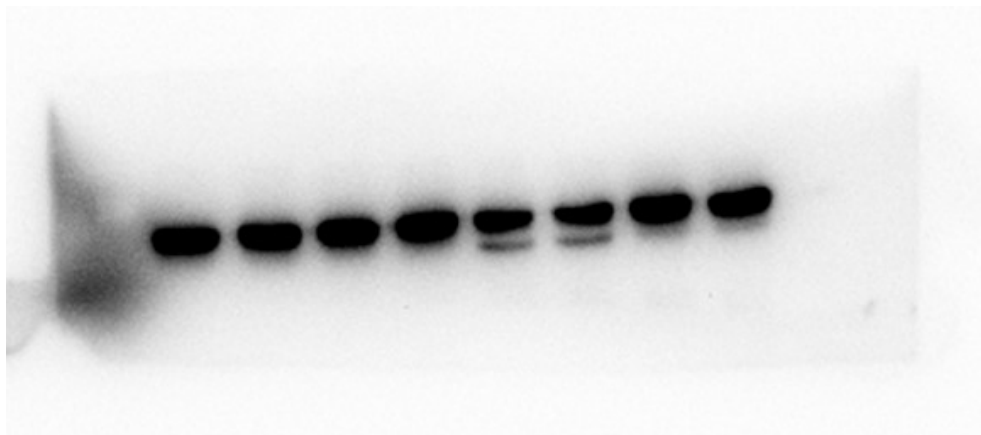


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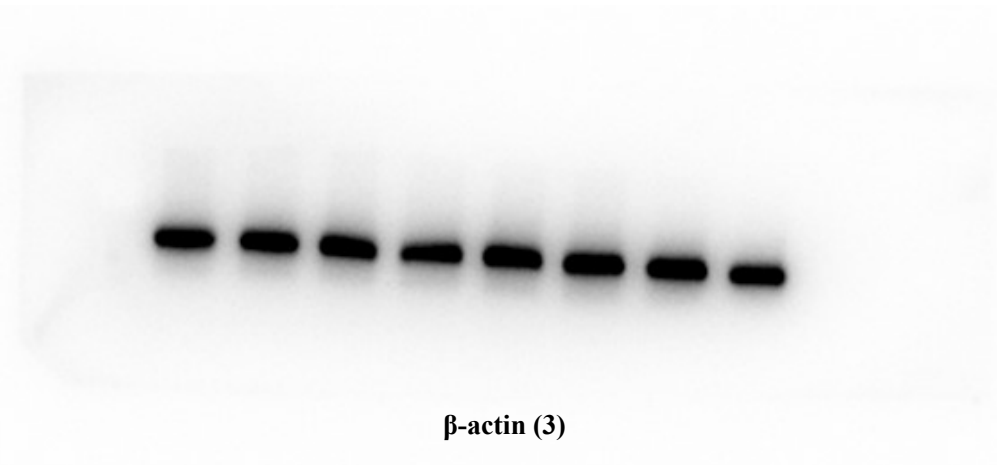




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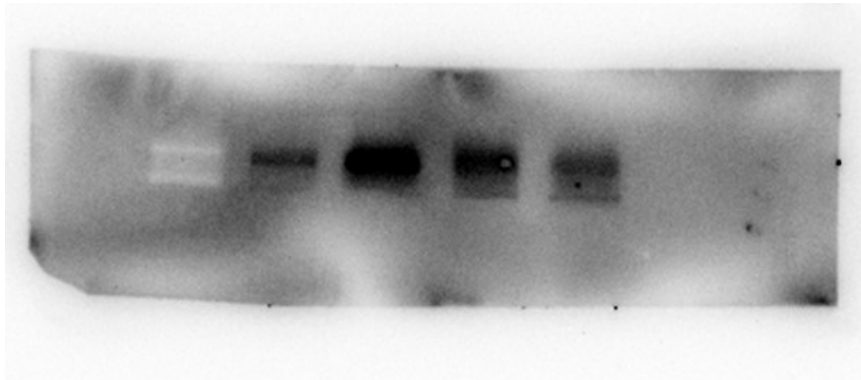


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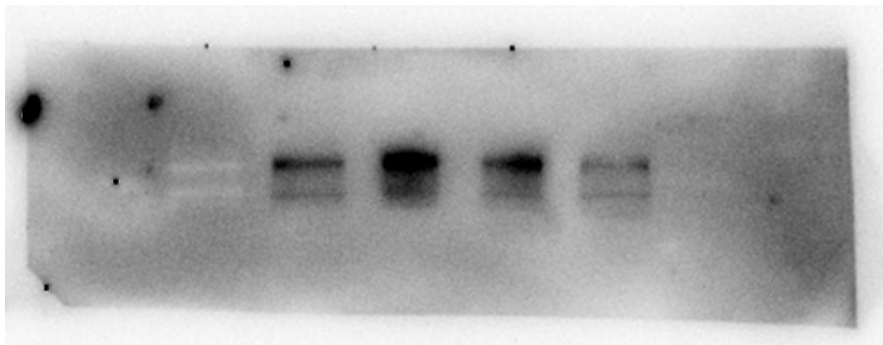


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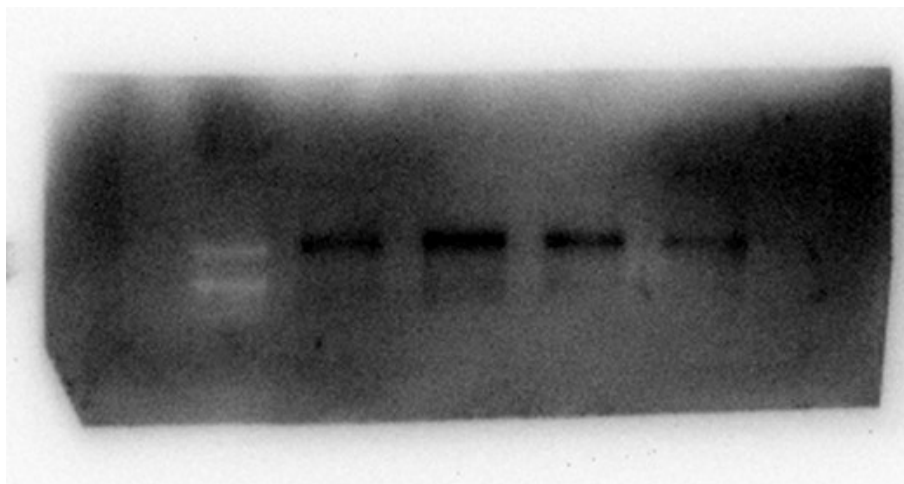
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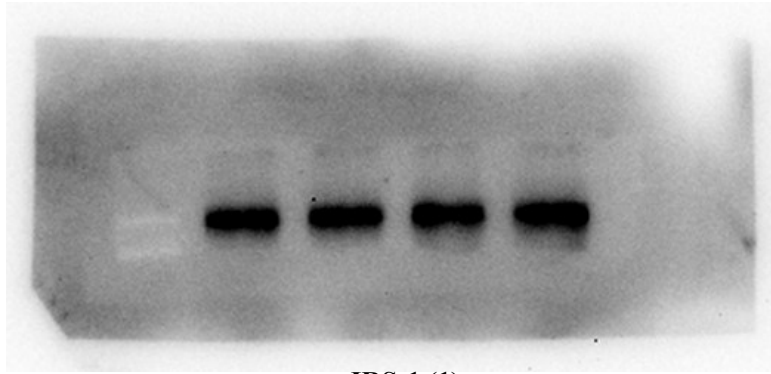
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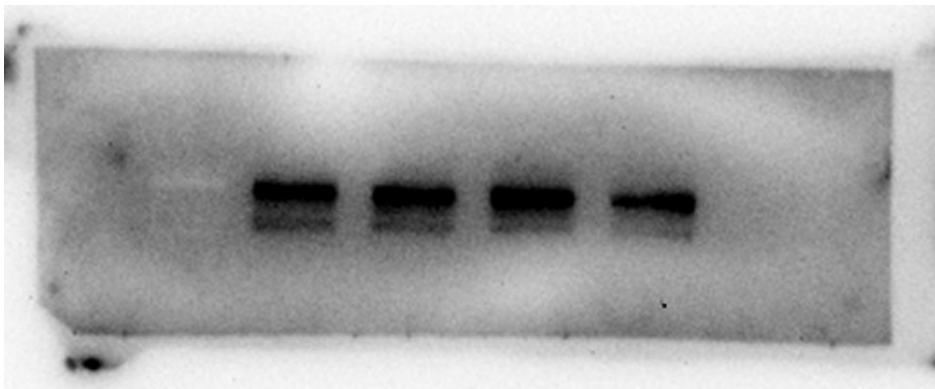
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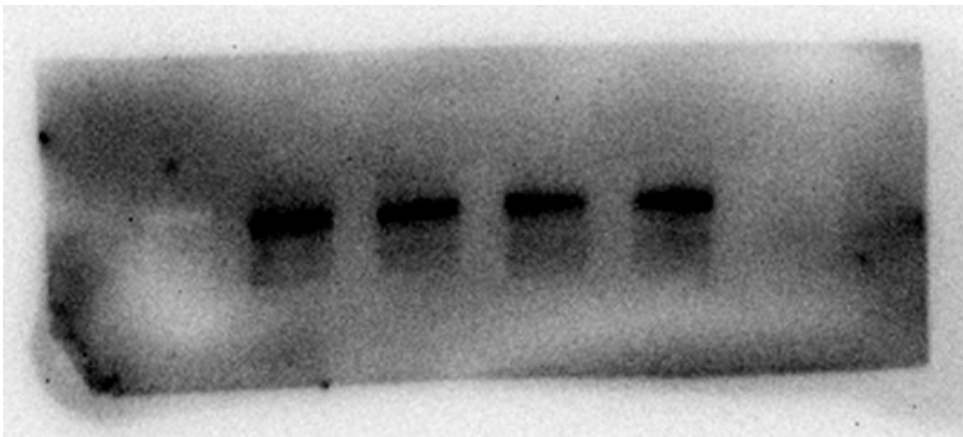
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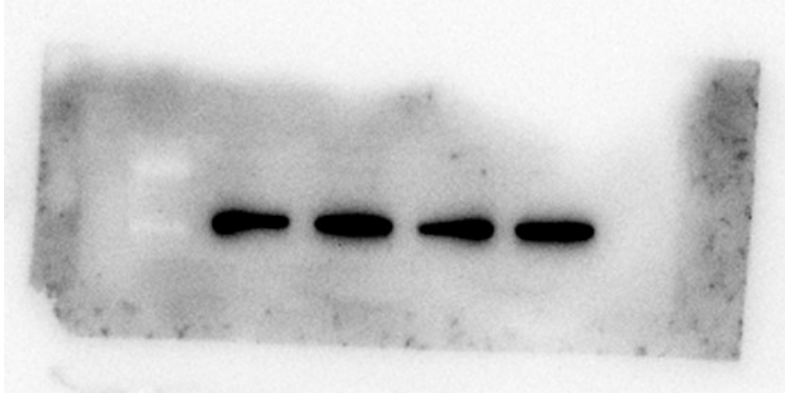
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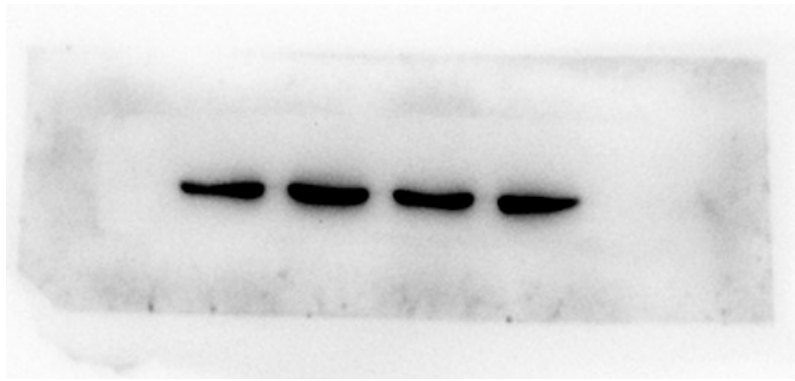
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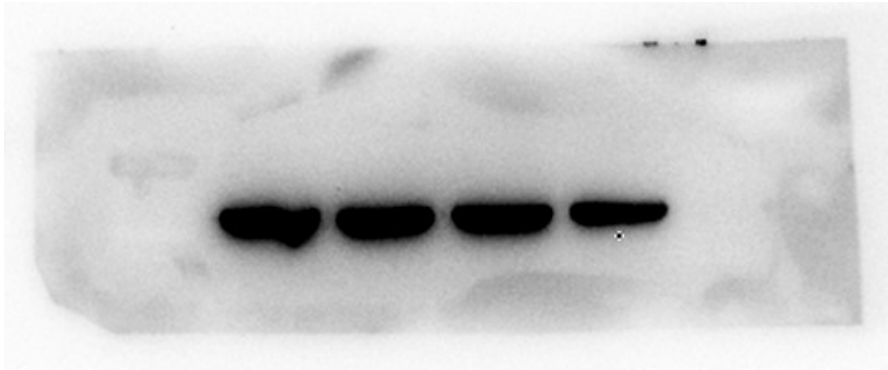
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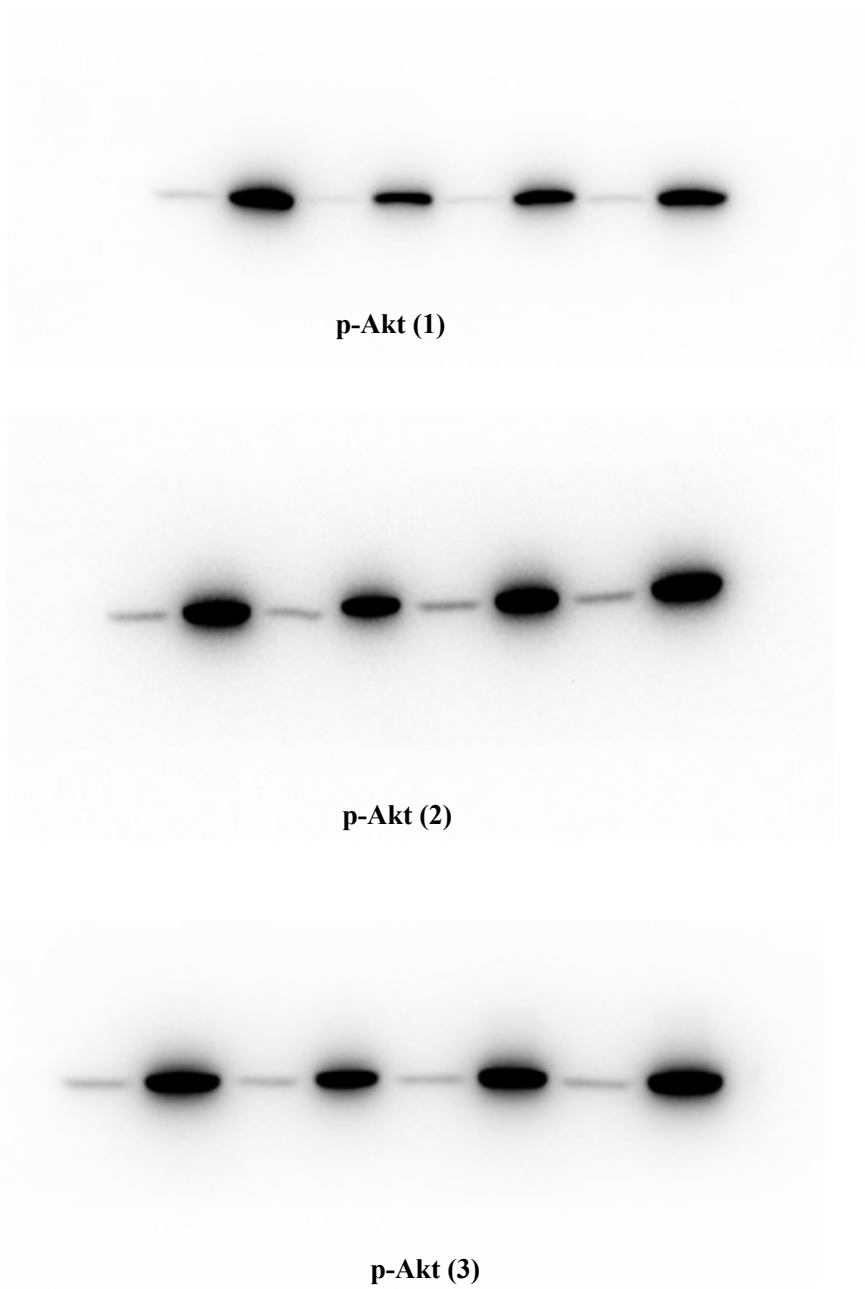


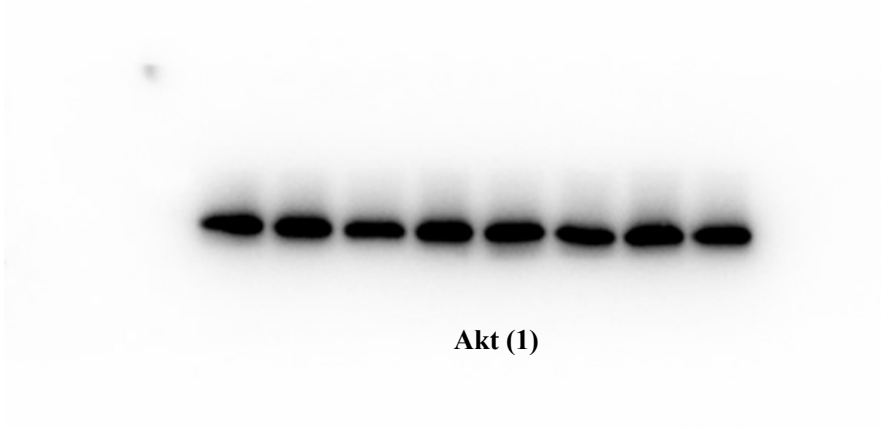
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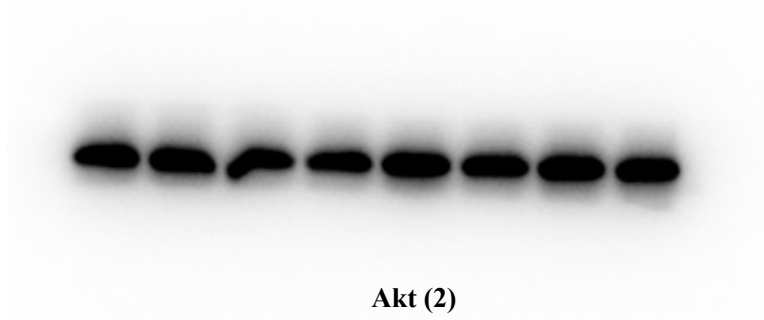
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Supplementary Figure 9.

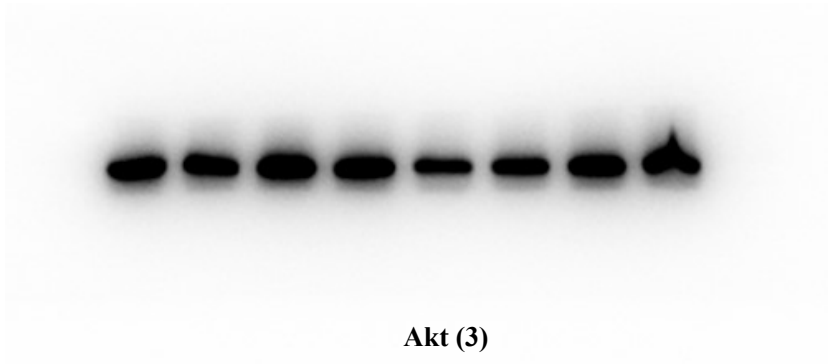




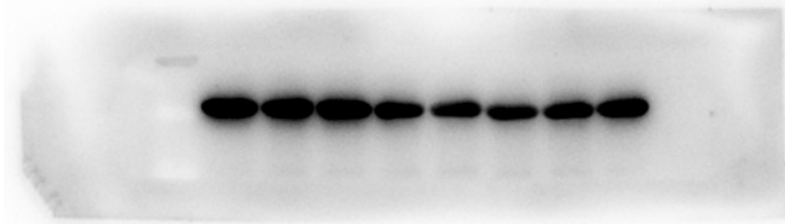
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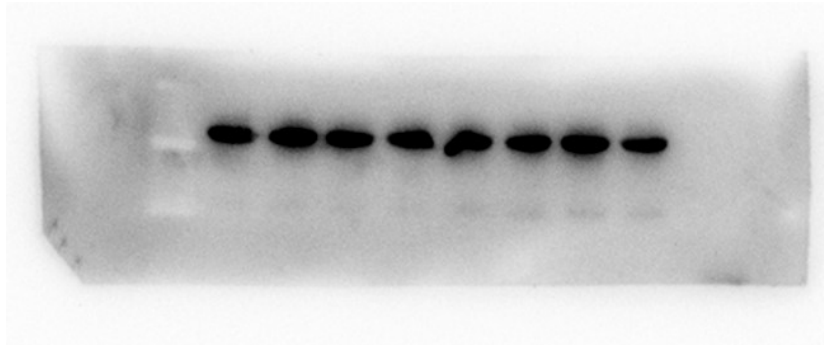
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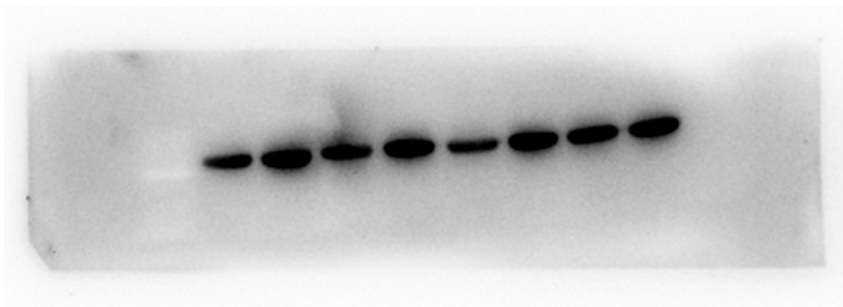
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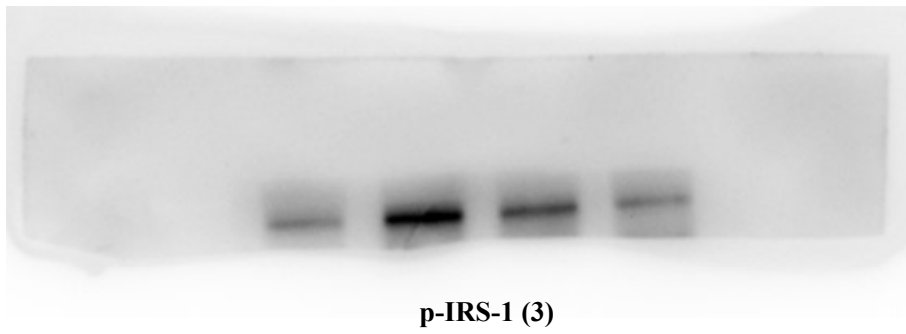
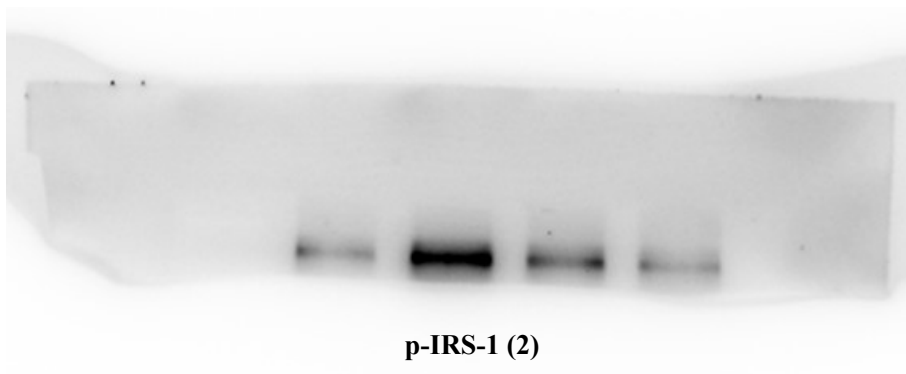
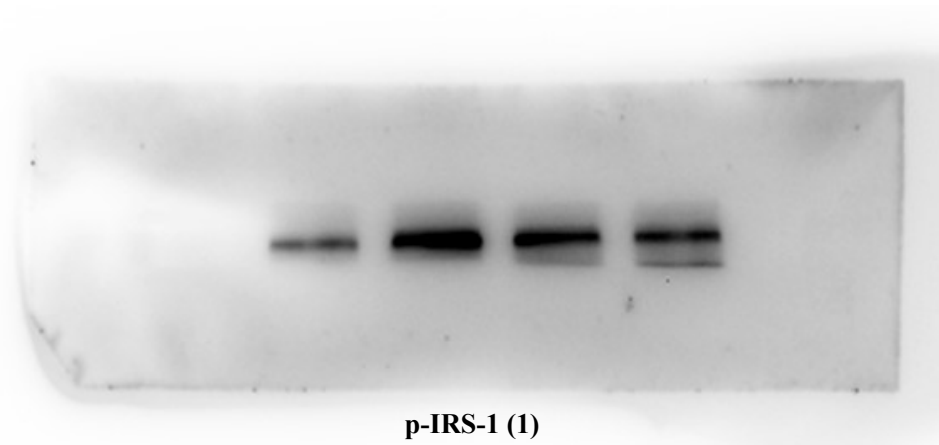


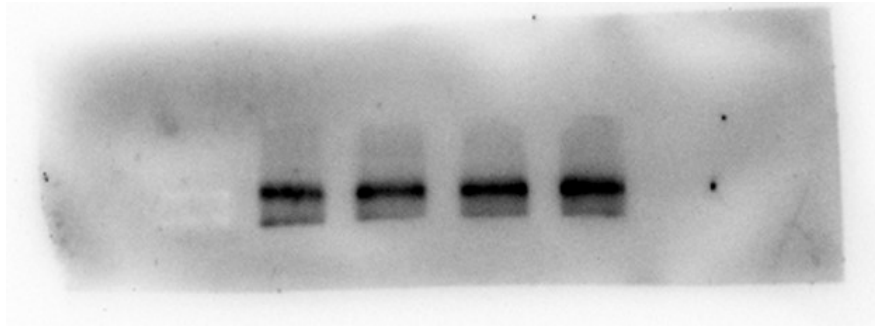
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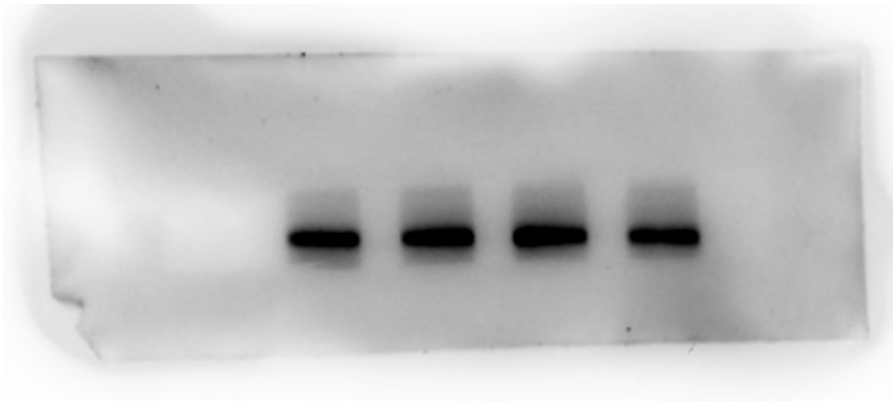
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Supplementary Figure 10.

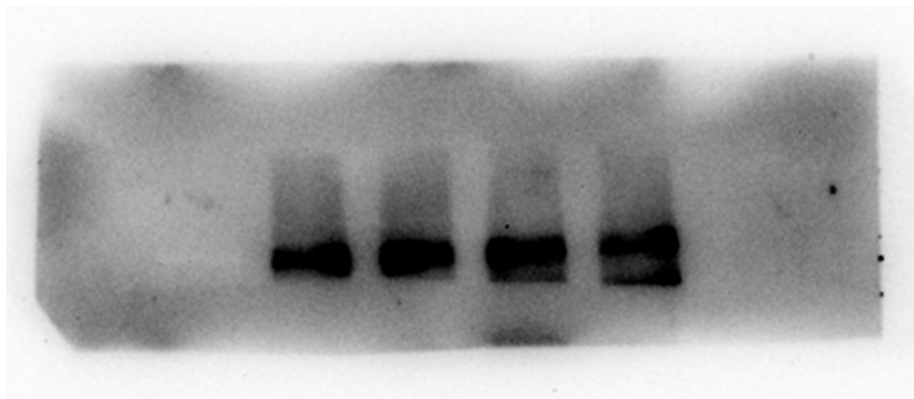




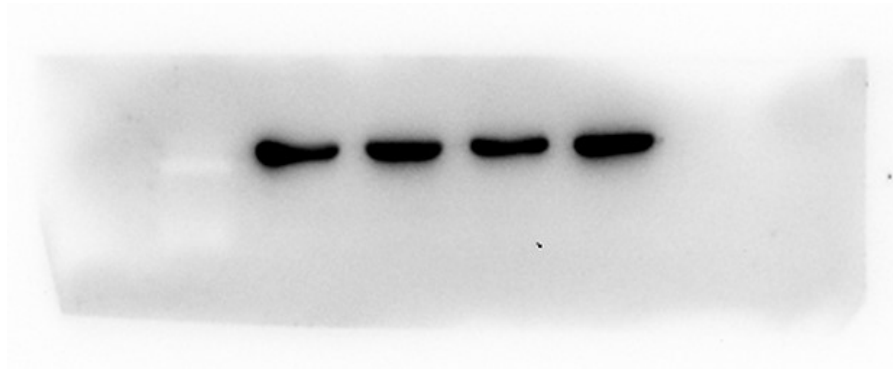
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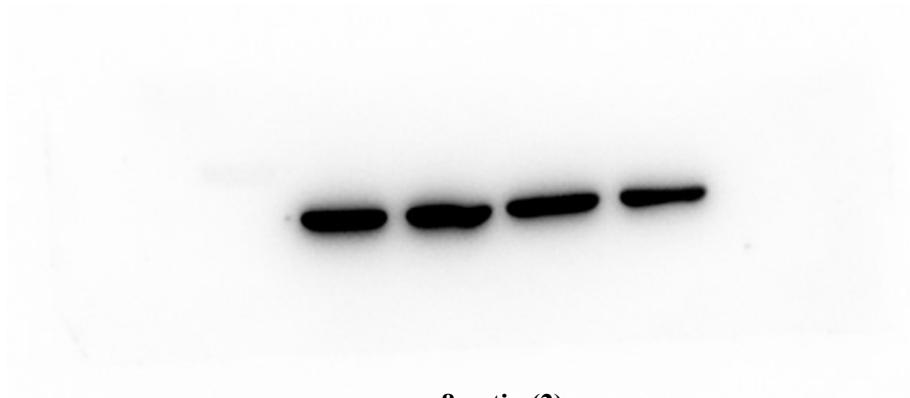
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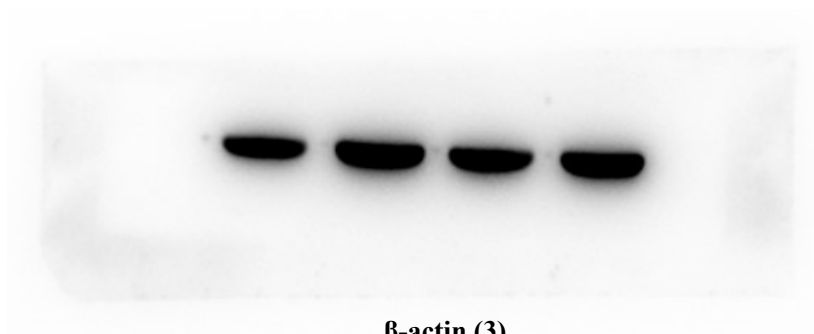
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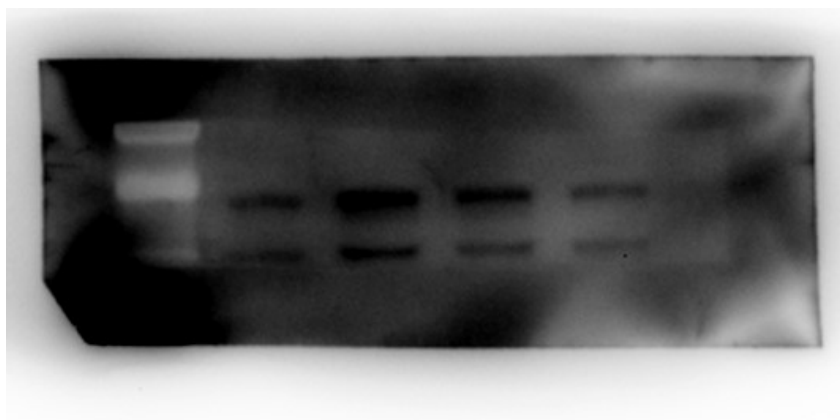


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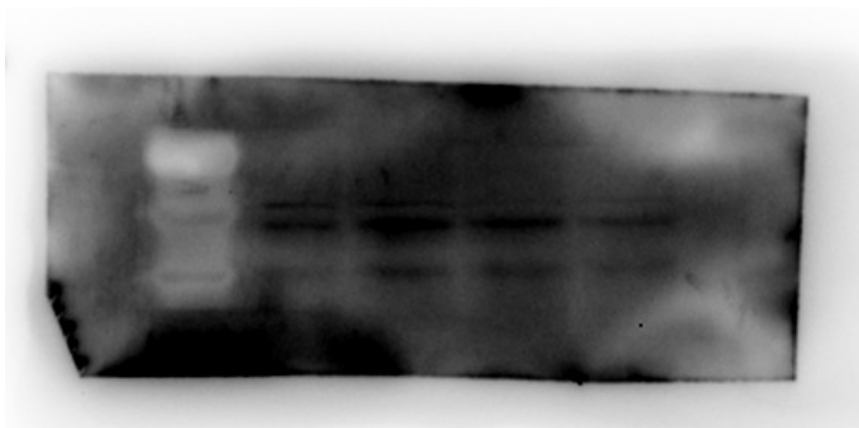
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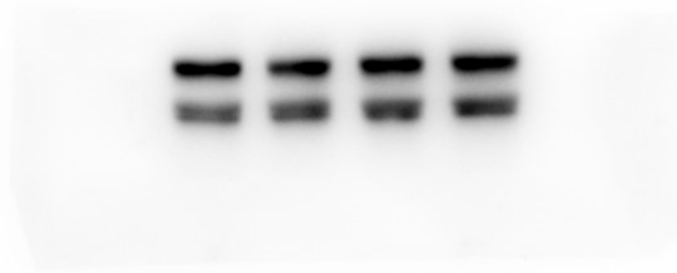
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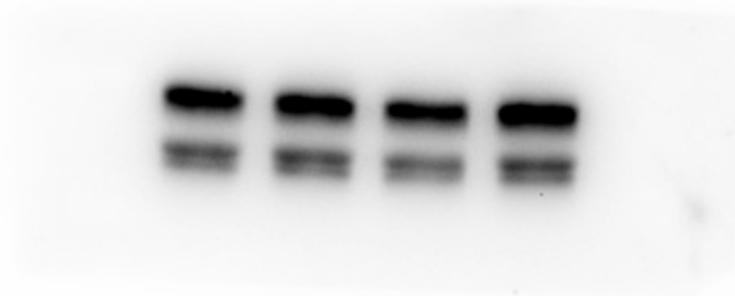
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p-JNK (3)



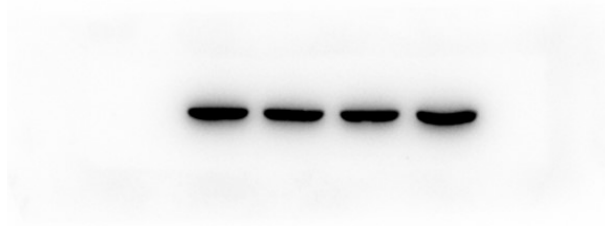
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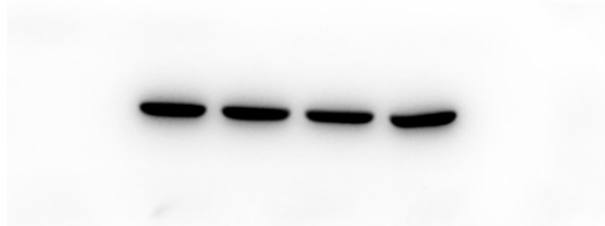
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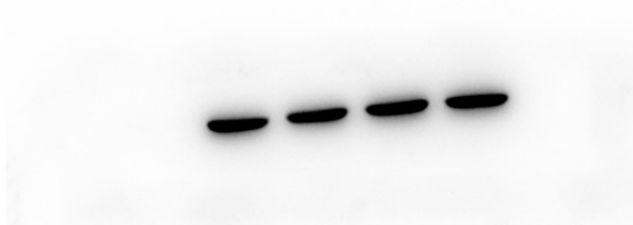
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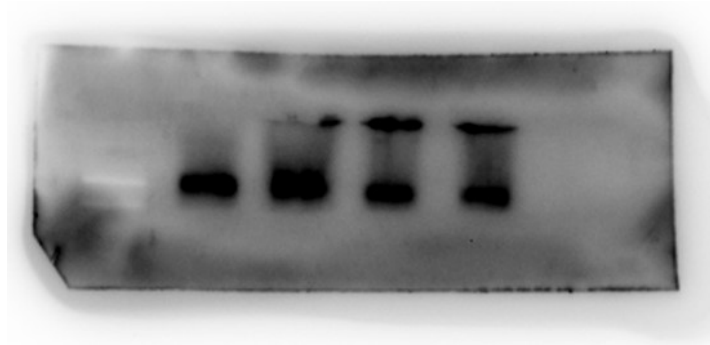


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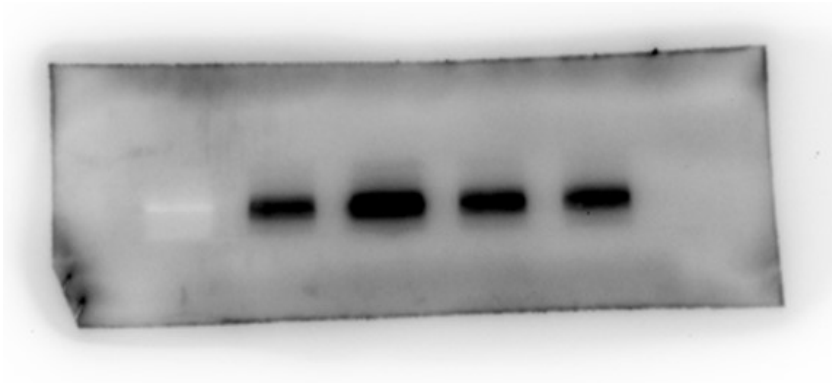


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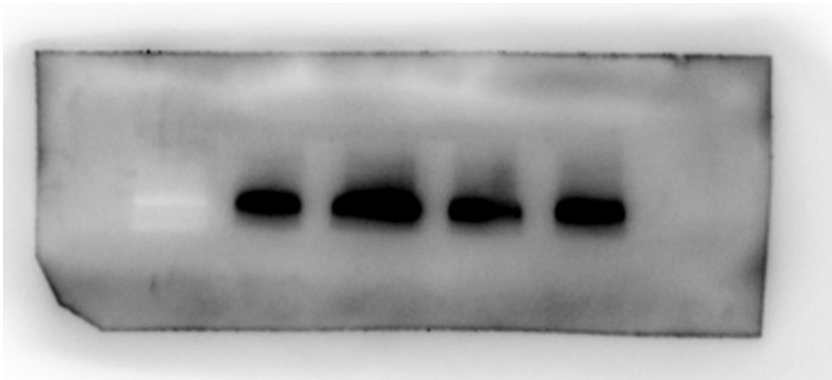
Supplementary Figure 12.



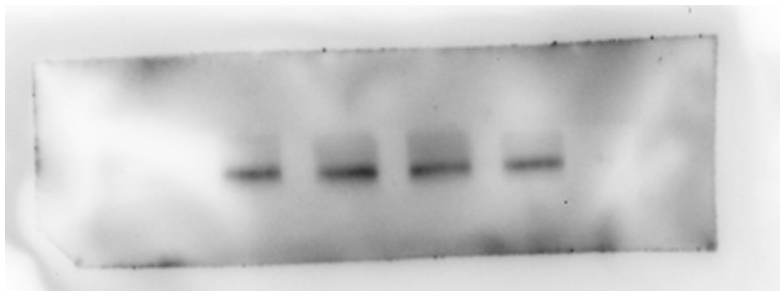
p-IRS-1 (1)



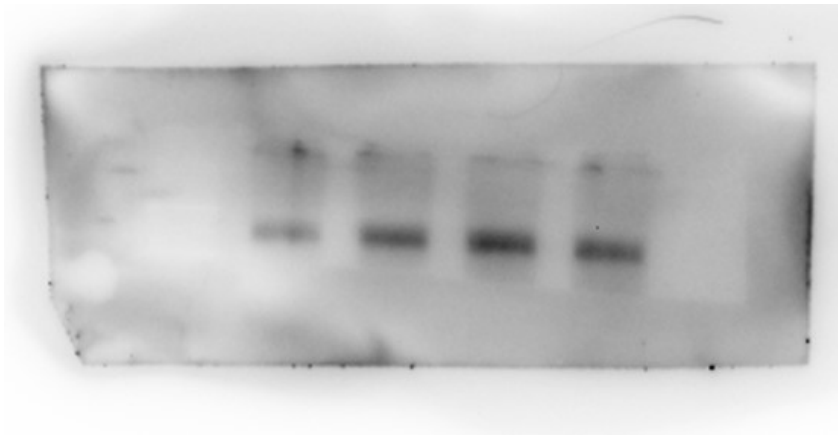
p-IRS-1 (2)



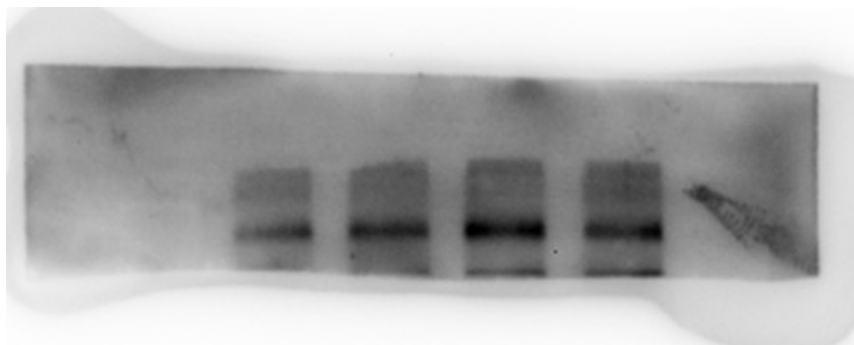
p-IRS-1 (3)



IRS-1 (1)



IRS-1 (2)



IRS-1 (3)



β -actin (1)

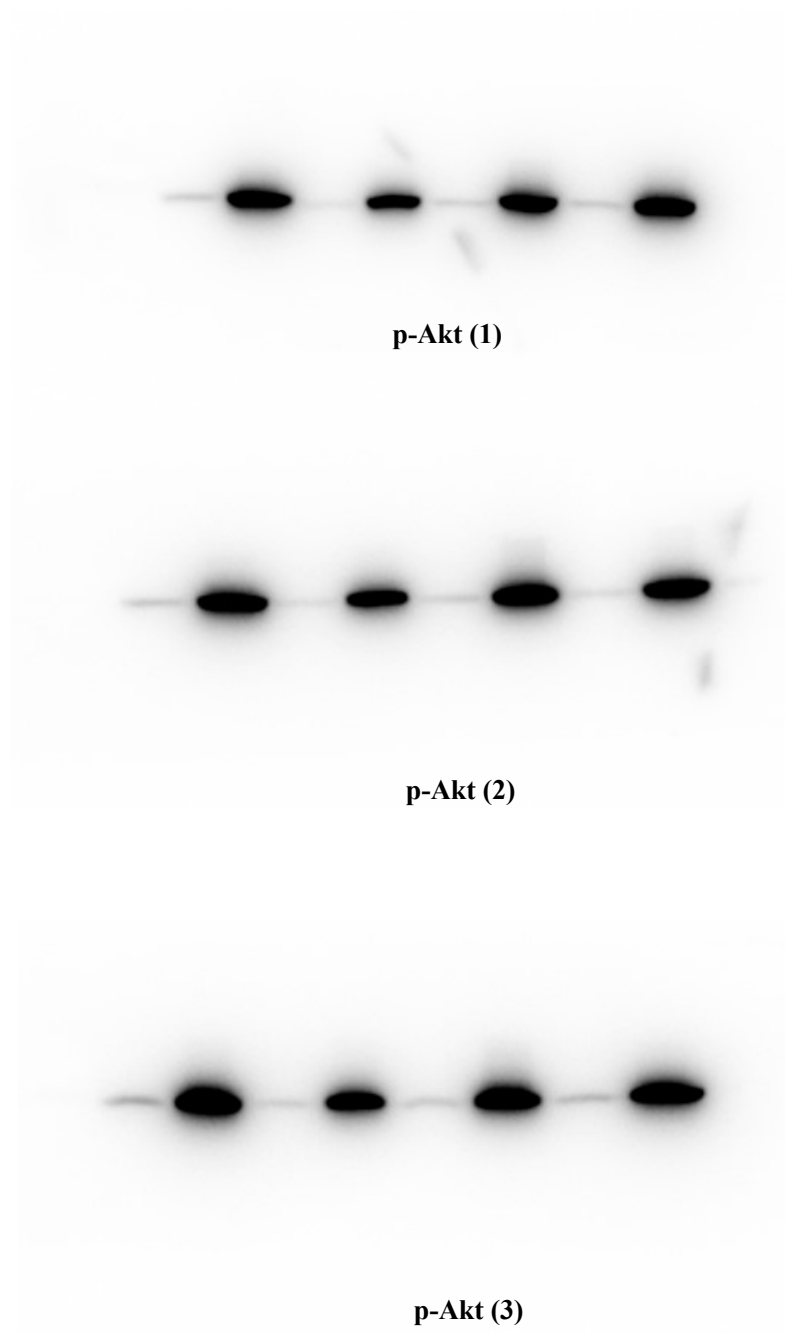


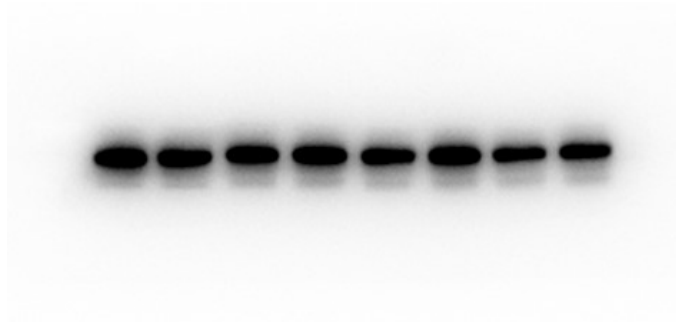
β -actin (2)



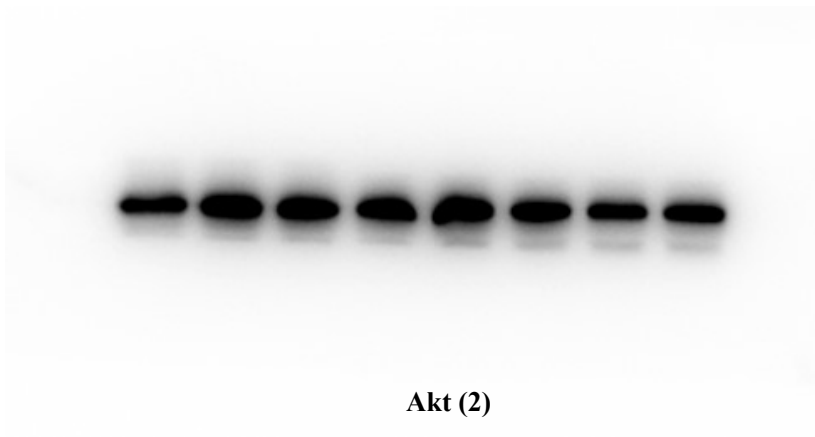
β -actin (3)

Supplementary Figure 13.

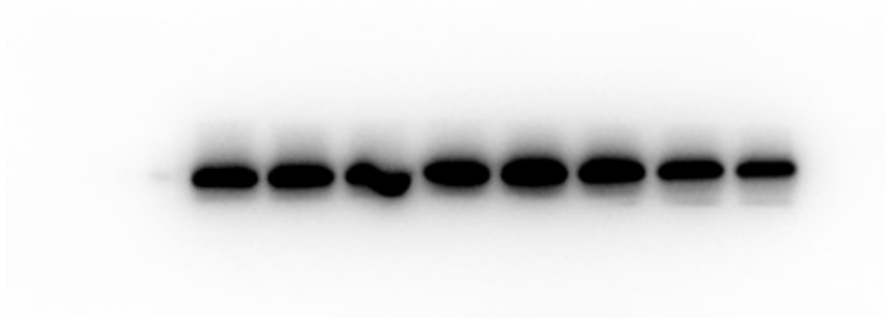




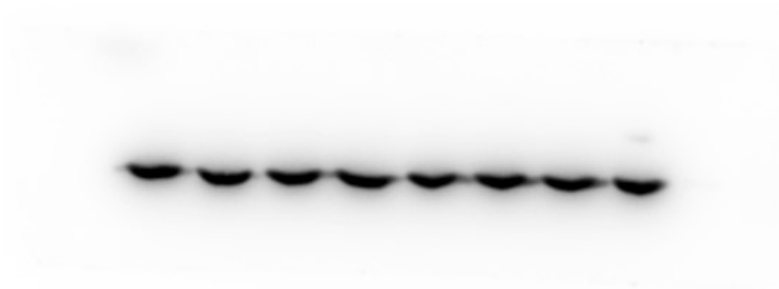
Akt (1)



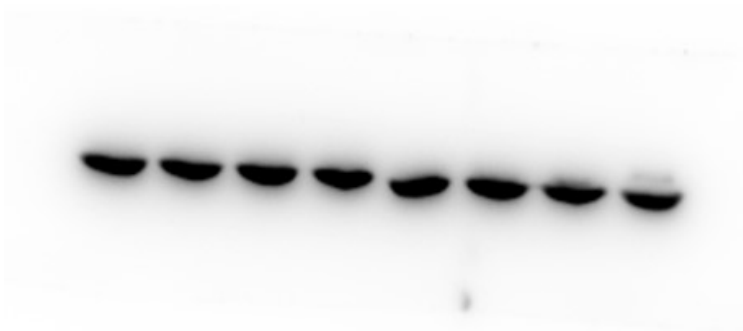
Akt (2)



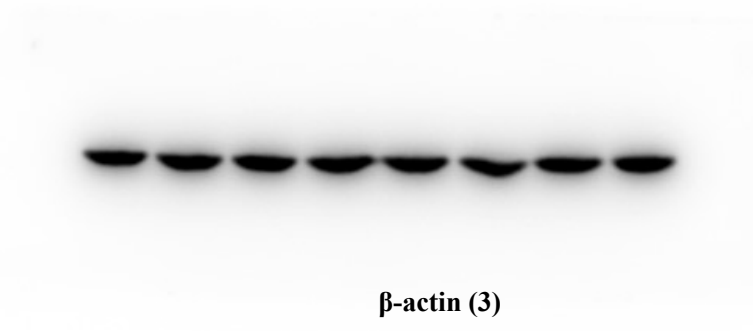
Akt (3)



β -actin (1)

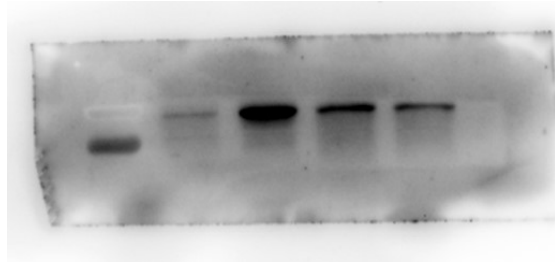


β -actin (2)

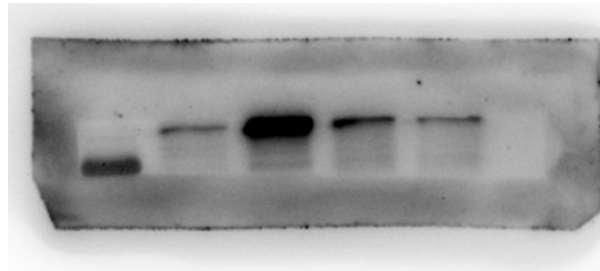


β -actin (3)

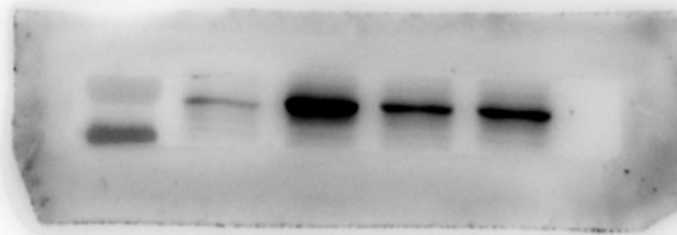
Supplementary Figure 14.



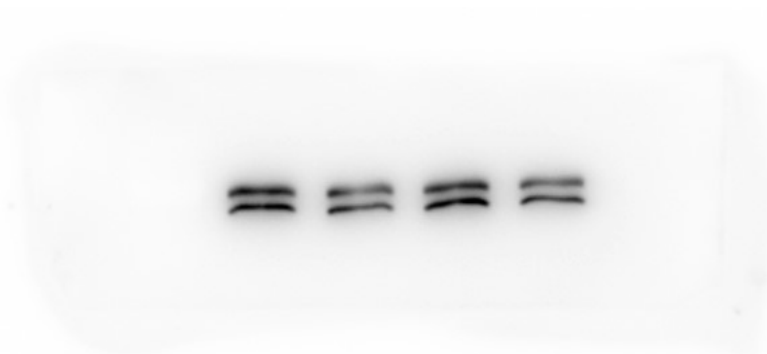
Nuclear NF-κB p65 (1)



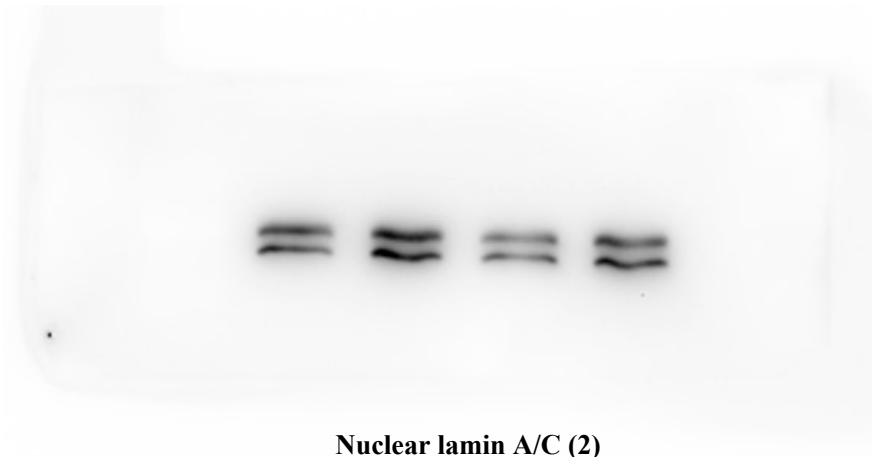
Nuclear NF-κB p65 (2)



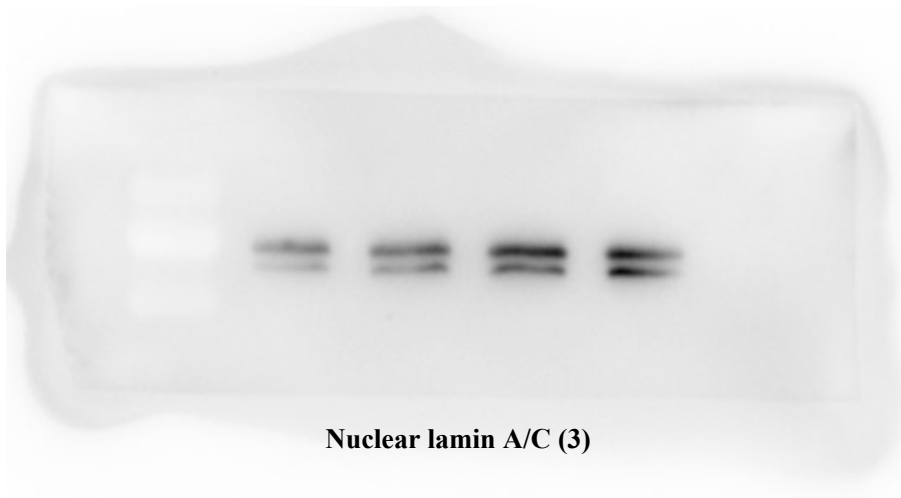
Nuclear NF-κB p65 (3)



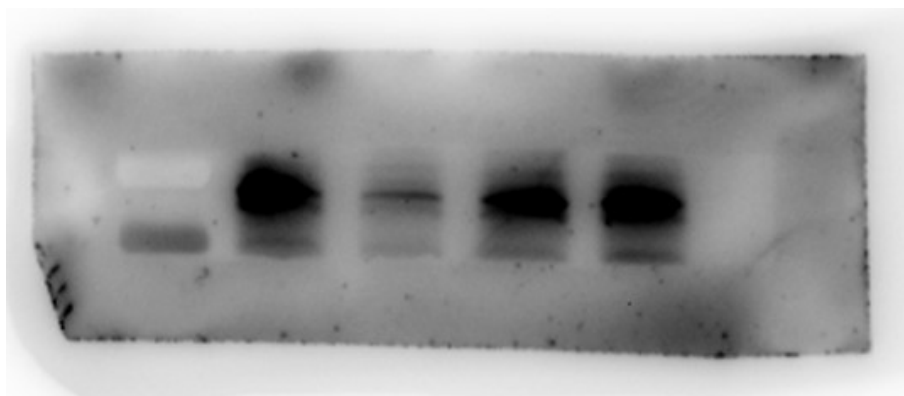
Nuclear lamin A/C (1)



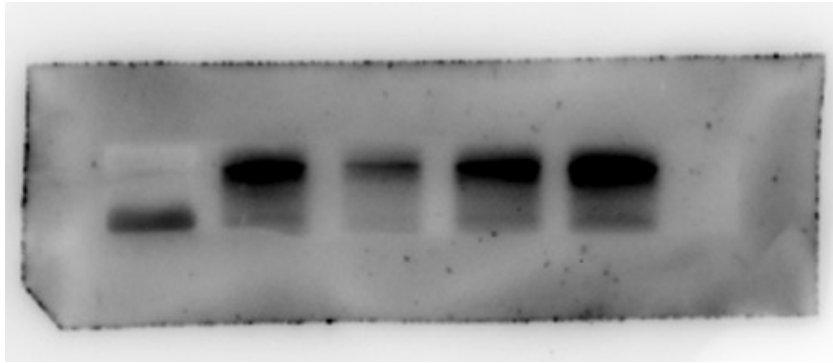
Nuclear lamin A/C (2)



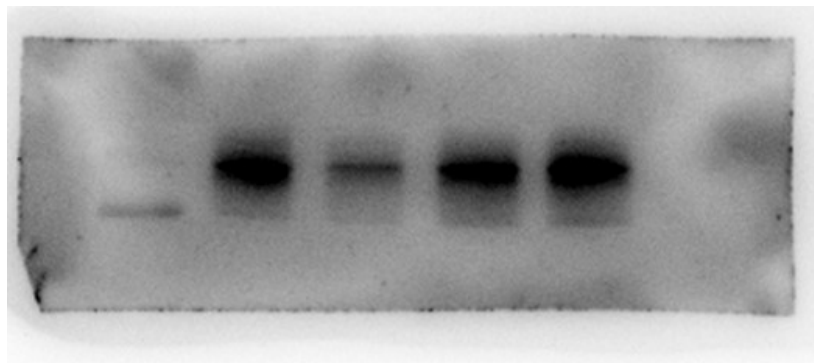
Nuclear lamin A/C (3)



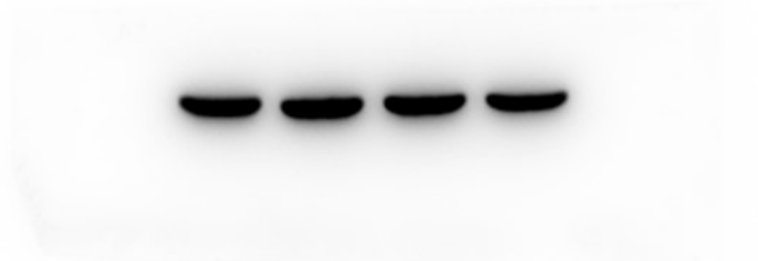
Cytoplasmic NF-κB p65 (1)



Cytoplasmic NF- κ B p65 (2)



Cytoplasmic NF- κ B p65 (3)



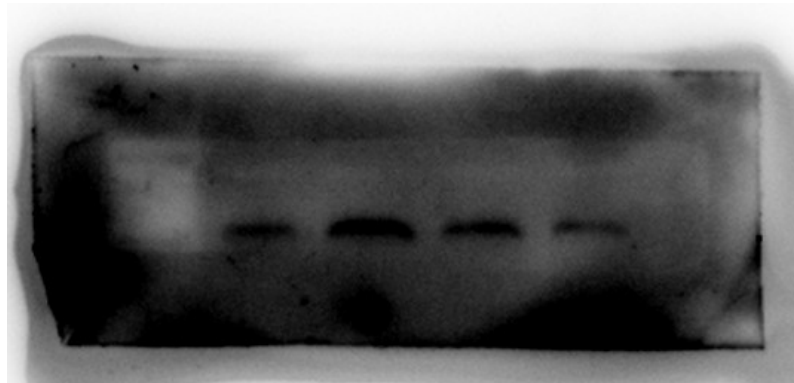
Cytoplasmic β -actin (1)



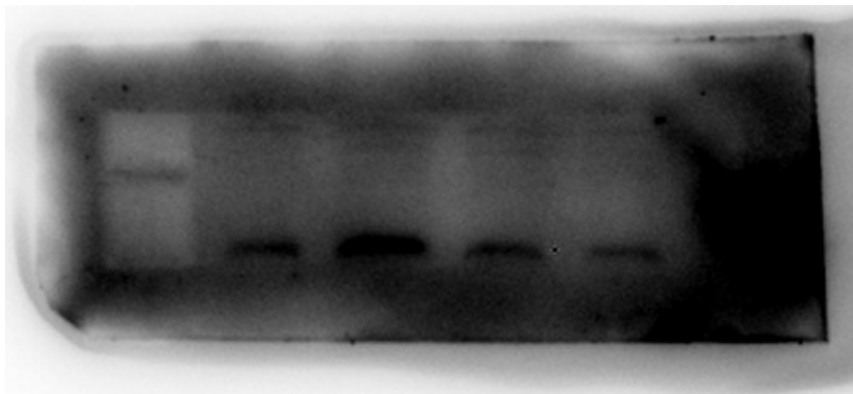
Cytoplasmic β -actin (2)



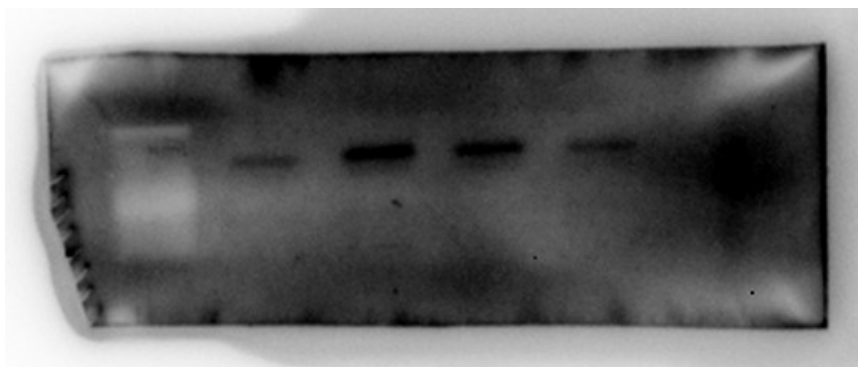
Cytoplasmic β -actin (3)



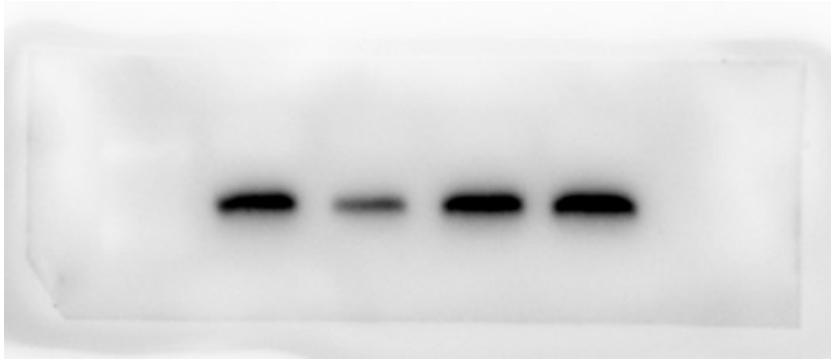
p-I κ B α (1)



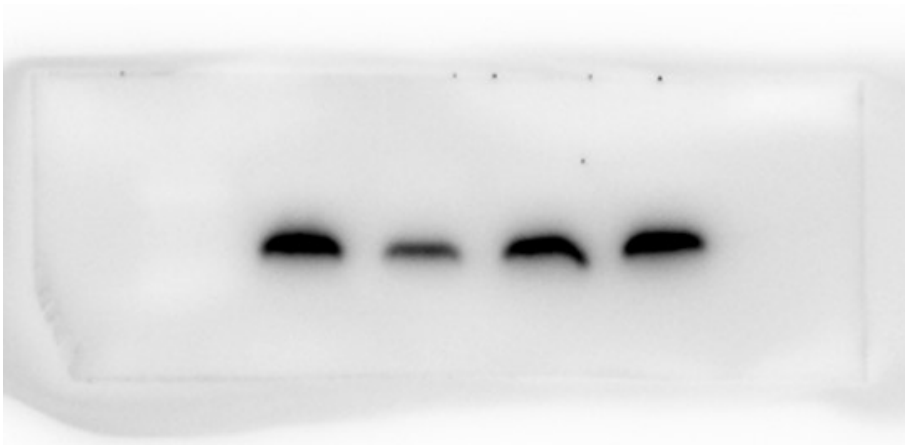
p-I κ B α (2)



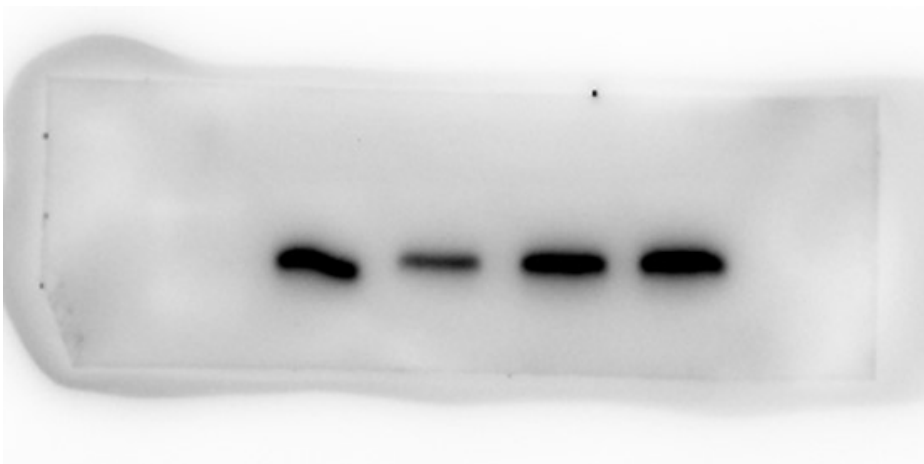
p-I κ B α (3)



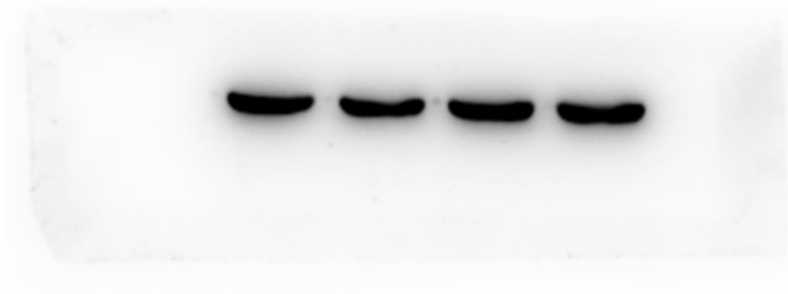
IκBα (1)



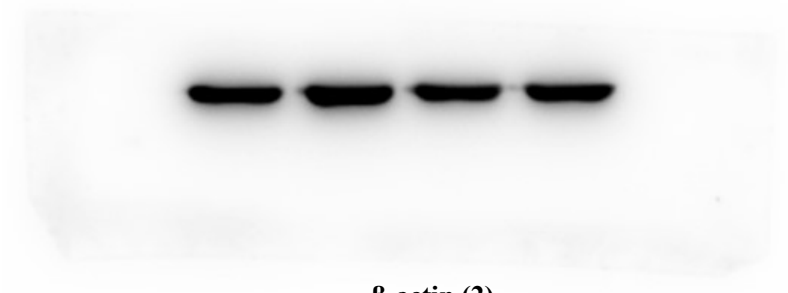
IκBα (2)



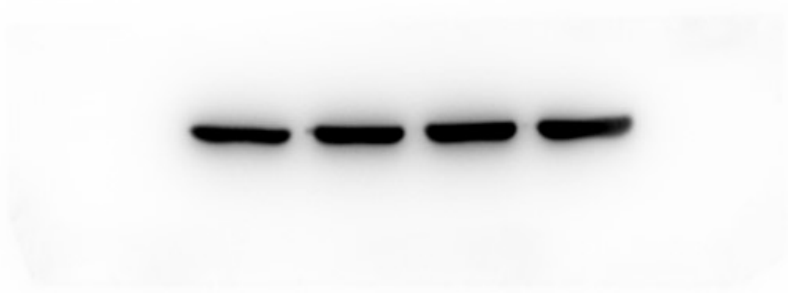
IκBα (3)



β -actin (1)



β -actin (2)



β -actin (3)