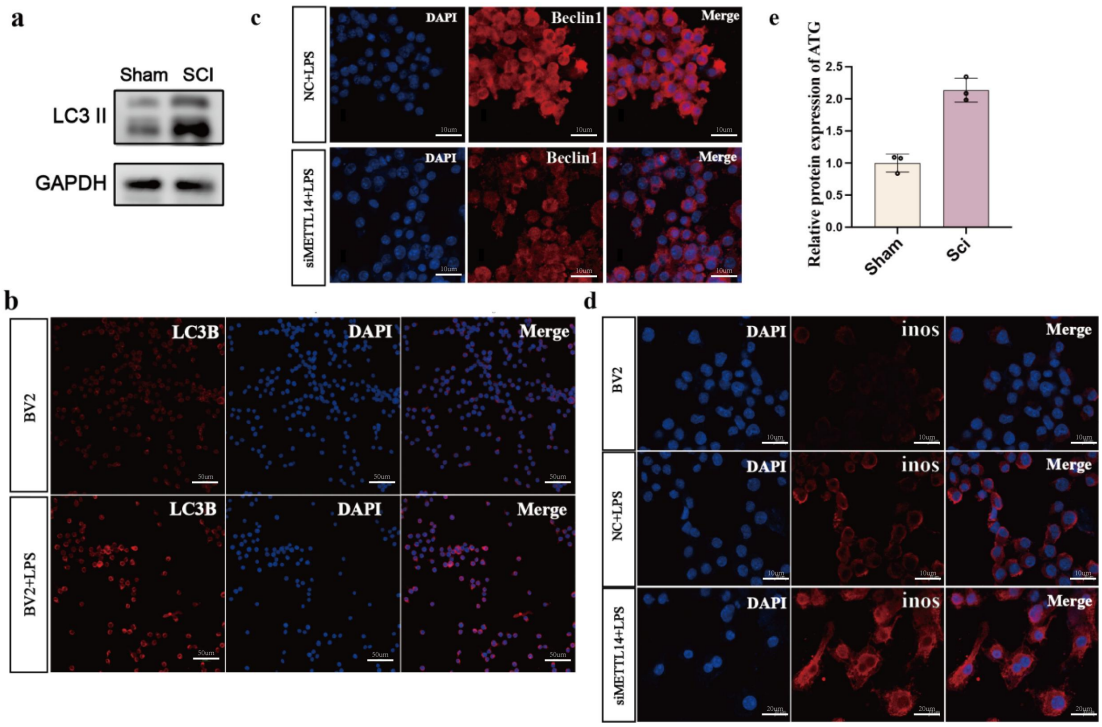
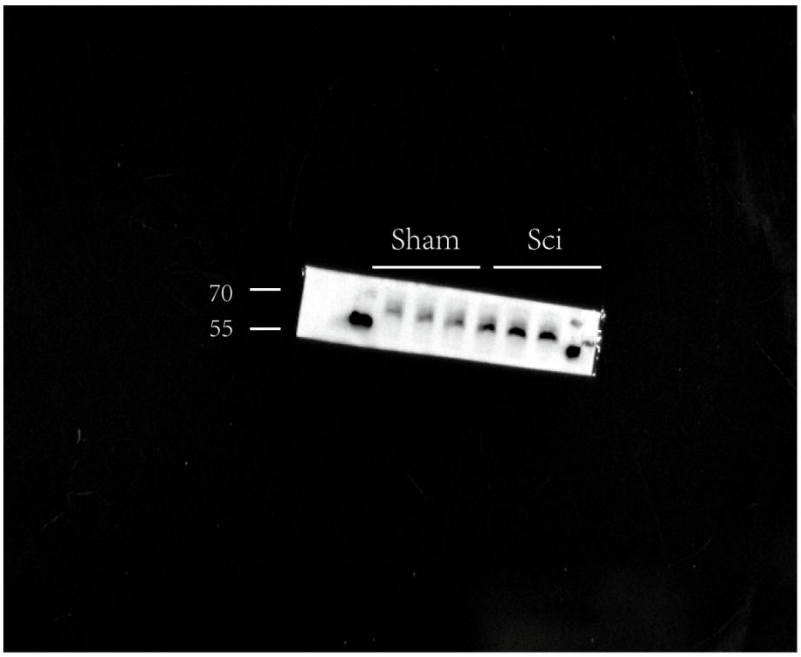


(a) Representative Western blot showing LC3-II protein levels in spinal cord tissue from sham and SCI mice at 2 weeks post-injury, with GAPDH serving as a loading control. (b) Immunofluorescence staining of LC3B in BV2 microglial cells under basal conditions and following LPS stimulation, showing enhanced autophagic activity upon inflammatory activation. Nuclei were counterstained with DAPI.Scale bar=50μm (c) Immunofluorescence staining of Beclin1 in BV2 microglial cells transfected with siMETTL14 or negative control (NC) and stimulated with LPS, showing impaired autophagic activation under METTL14-deficient conditions. Nuclei were counterstained with DAPI.Scale bar =10μm.(d) Immunofluorescence staining of iNOS in BV2 microglial cells transfected with siMETTL14 or negative control (NC) following LPS stimulation, demonstrating enhanced inflammatory responses upon METTL14 knockdown. Nuclei were counterstained with DAPI. Scale bar =10μm.(e) Quantification of ATG13 protein expression in spinal cord tissue from sham and SCI mice at 2 weeks post-injury, with corresponding statistical analysis shown in Supplementary Figure S1e.

figure 2



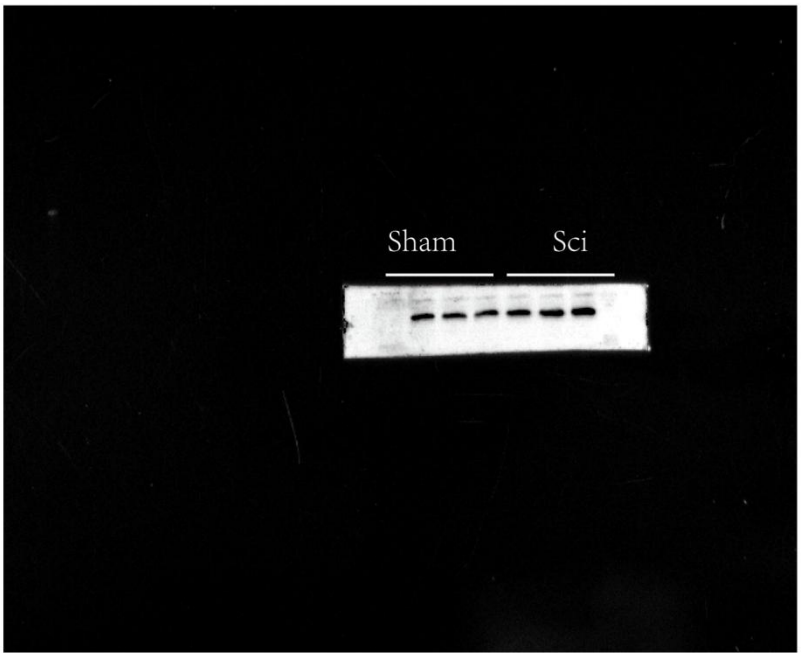
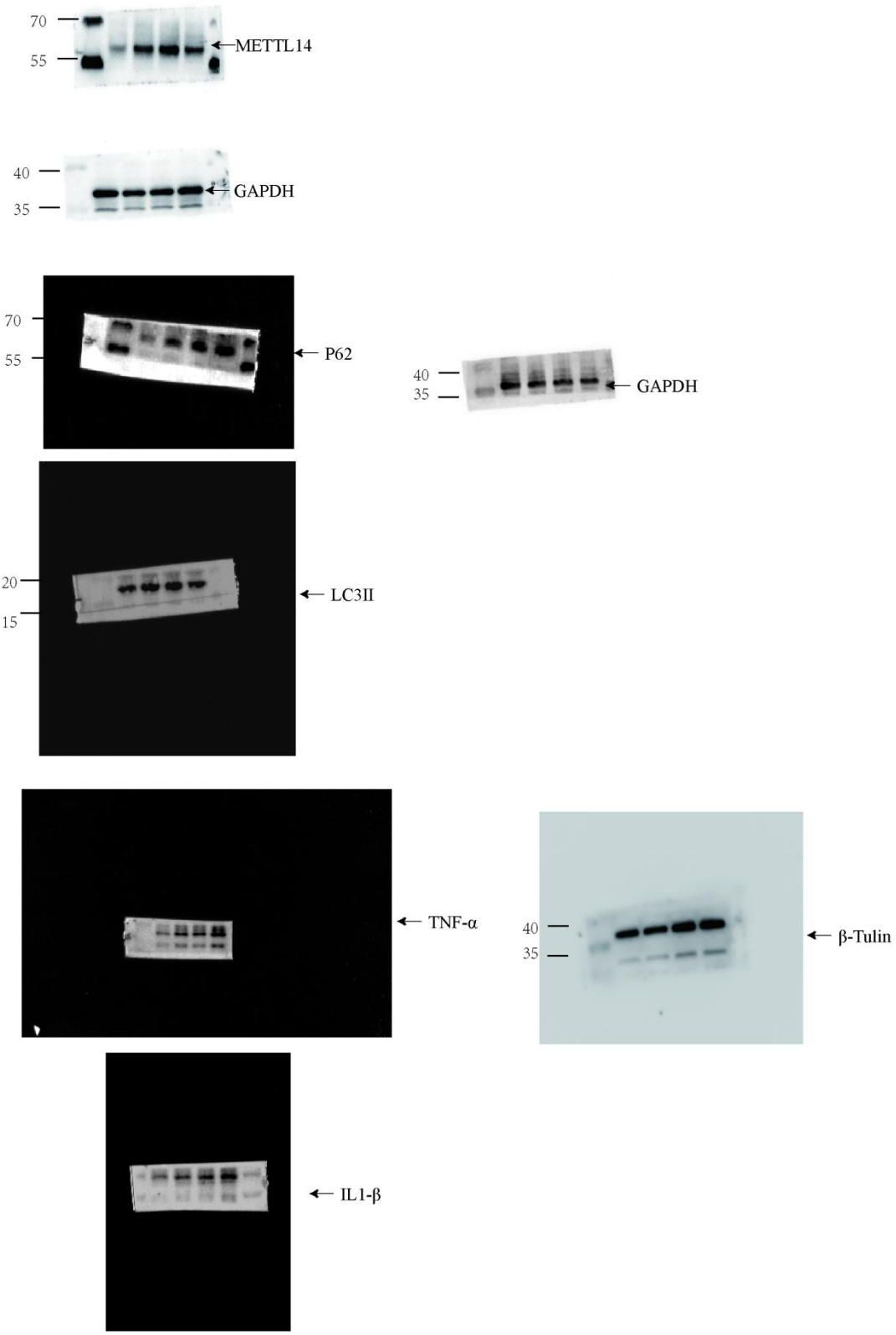


figure 3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40
35
GAPDH
70
55
P62
40
35
GAPDH
20
15
LC3II
TNF-α
40
35
β-Tulin
IL1-β

figure 4

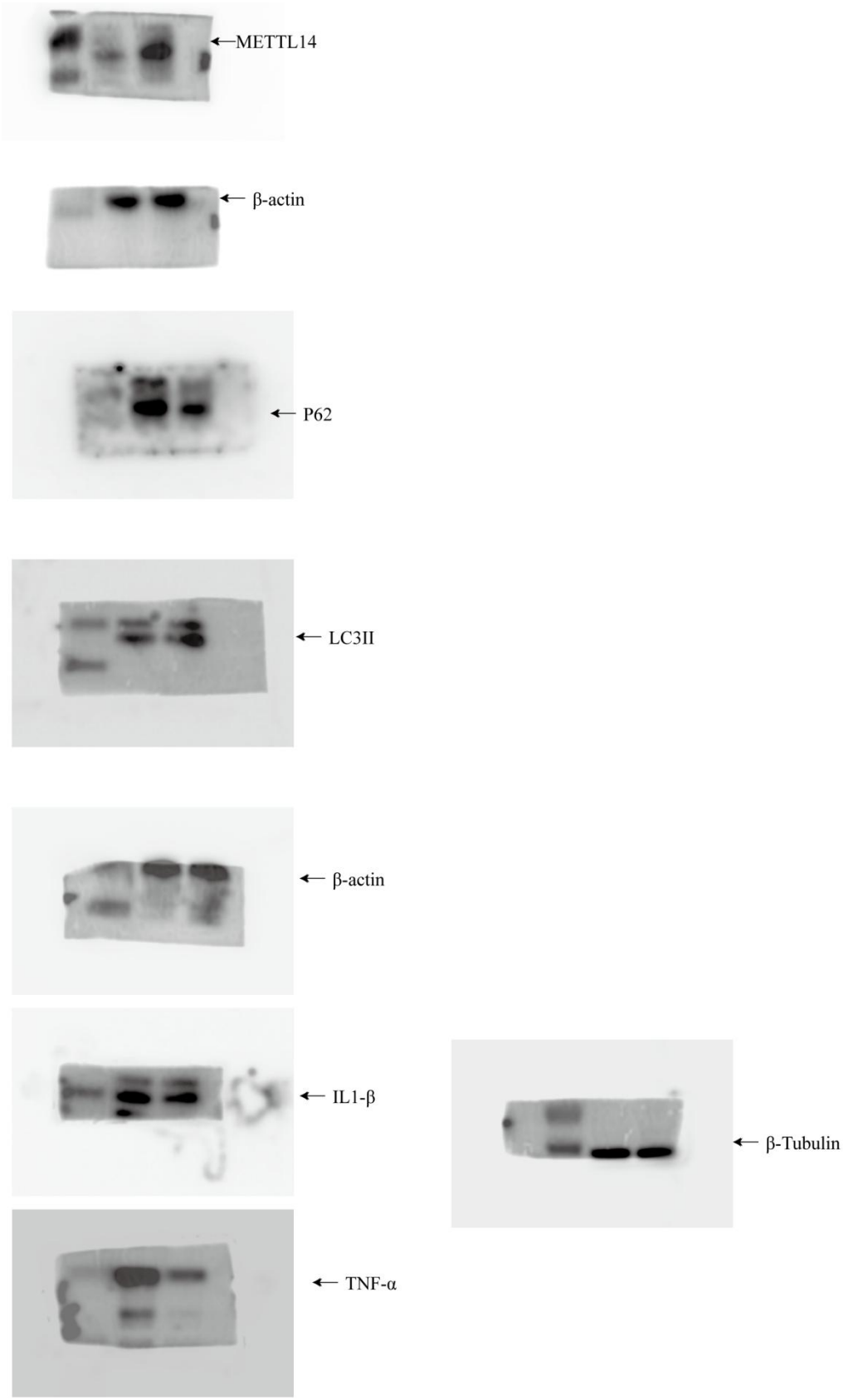
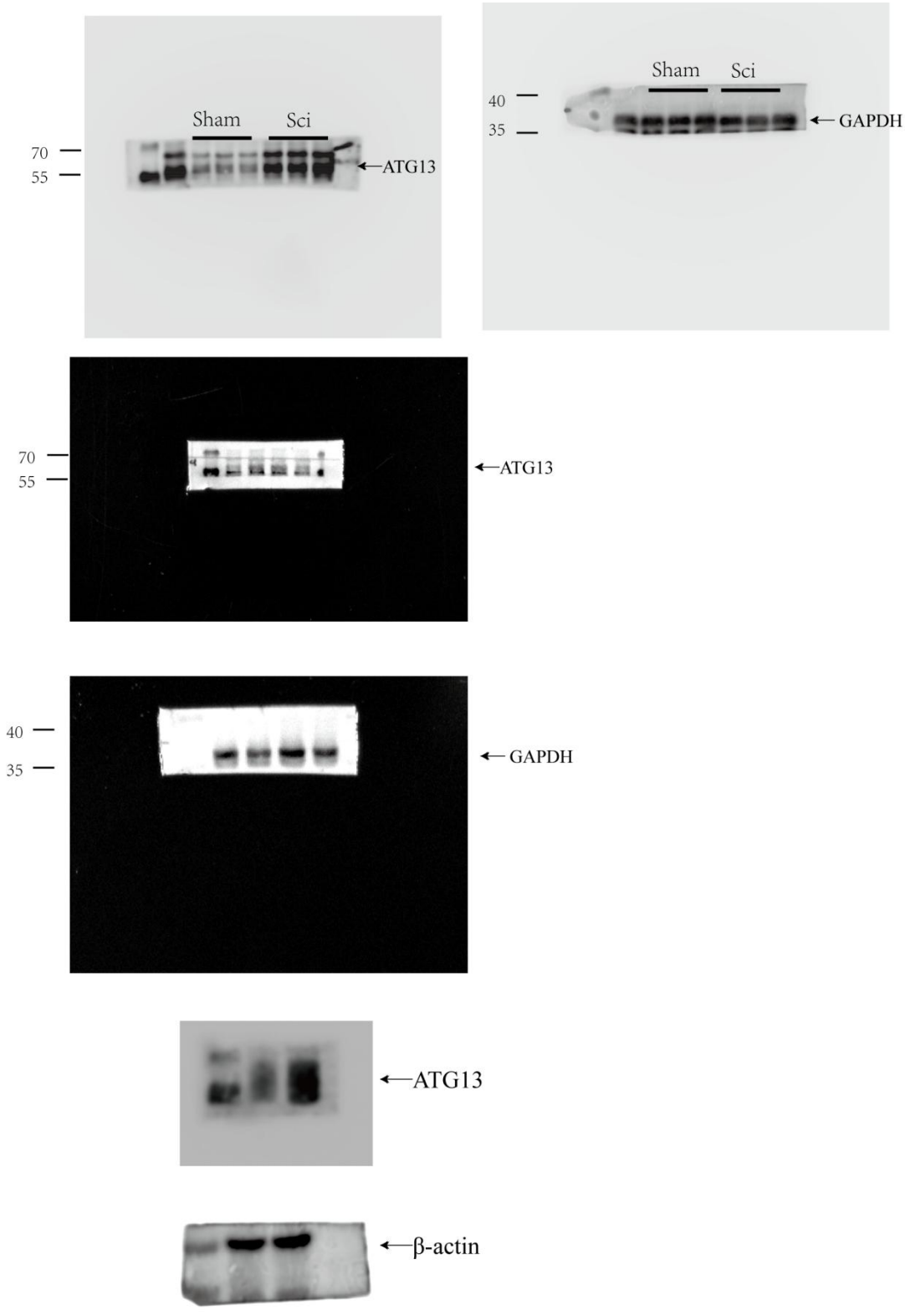


figure 5


Sham
Sci
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ATG13
Sham
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GAPDH
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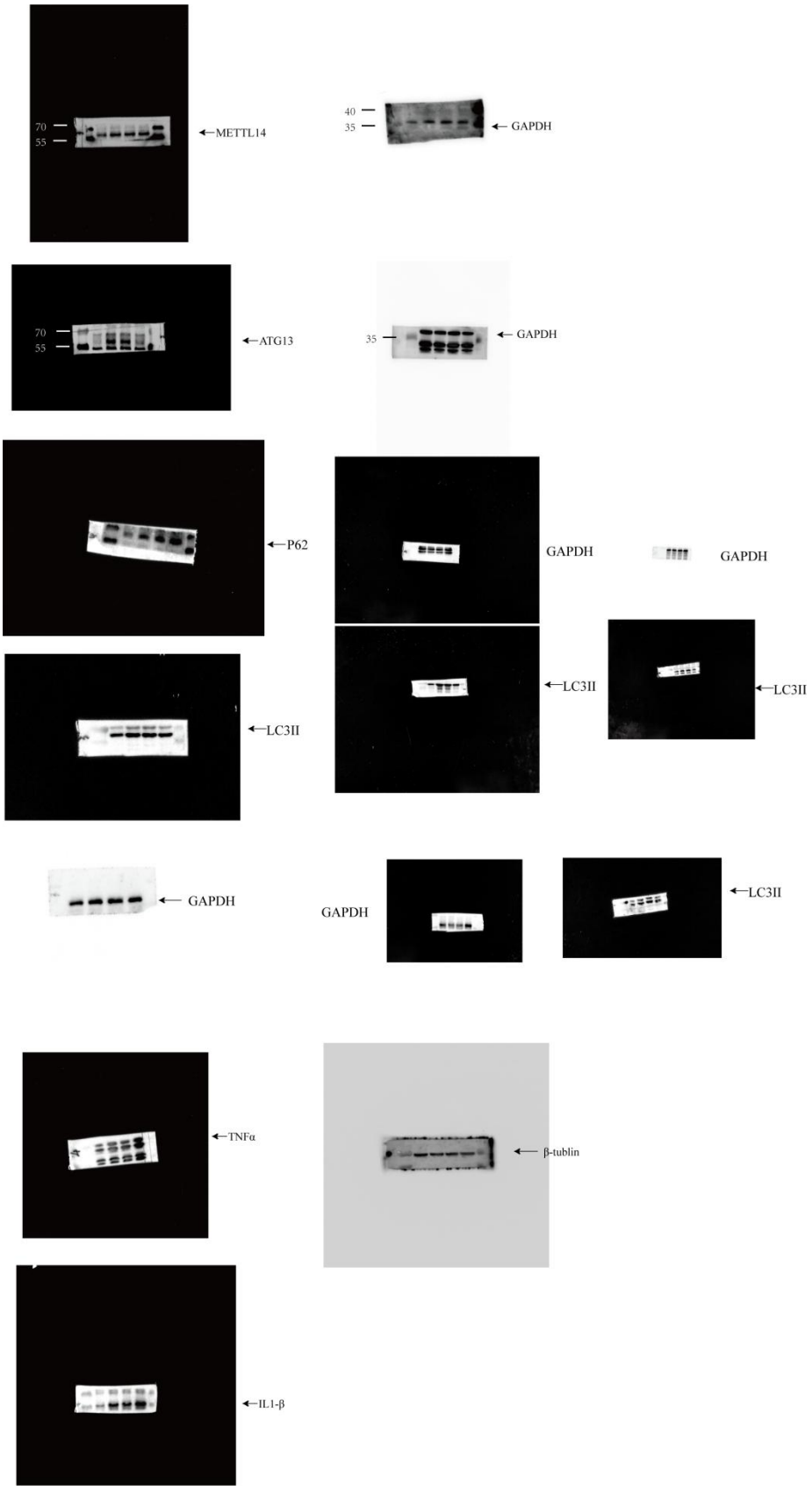
GAPDH
ATG13
β-actin

figure 6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GAPDH
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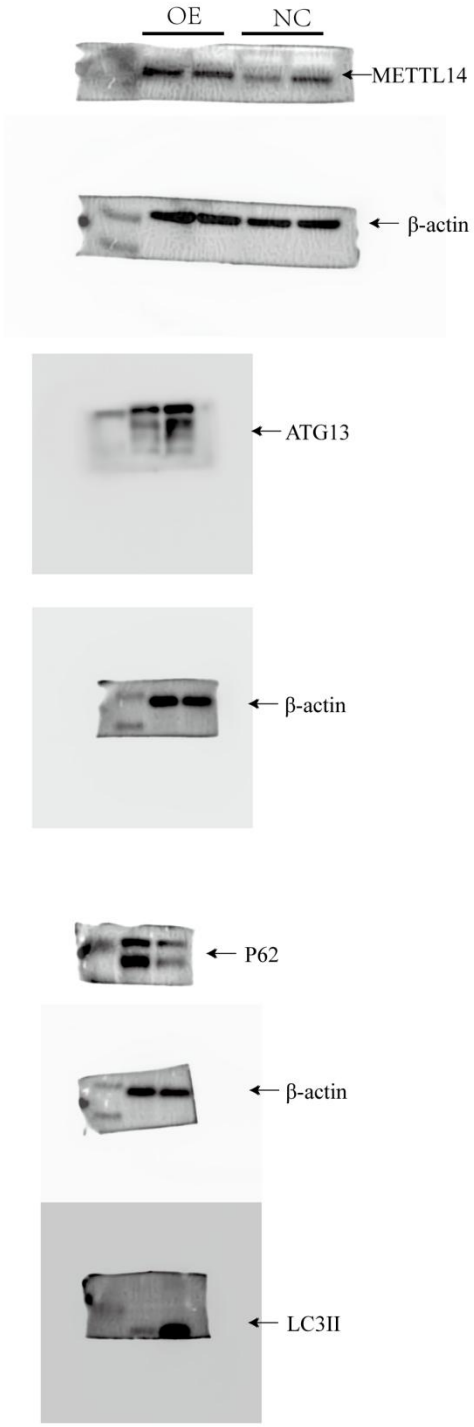
LC3II
LC3II
LC3II
GAPDH
GAPDH
LC3II
TNFα
β-tublin
IL1-β

figure 7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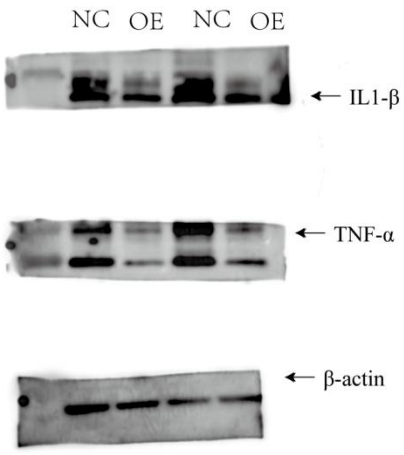
NC
METTL14
β-actin
ATG13
β-actin
P62
β-actin
LC3II


NC
OE
NC
OE
IL1-β
TNF-α
β-actin