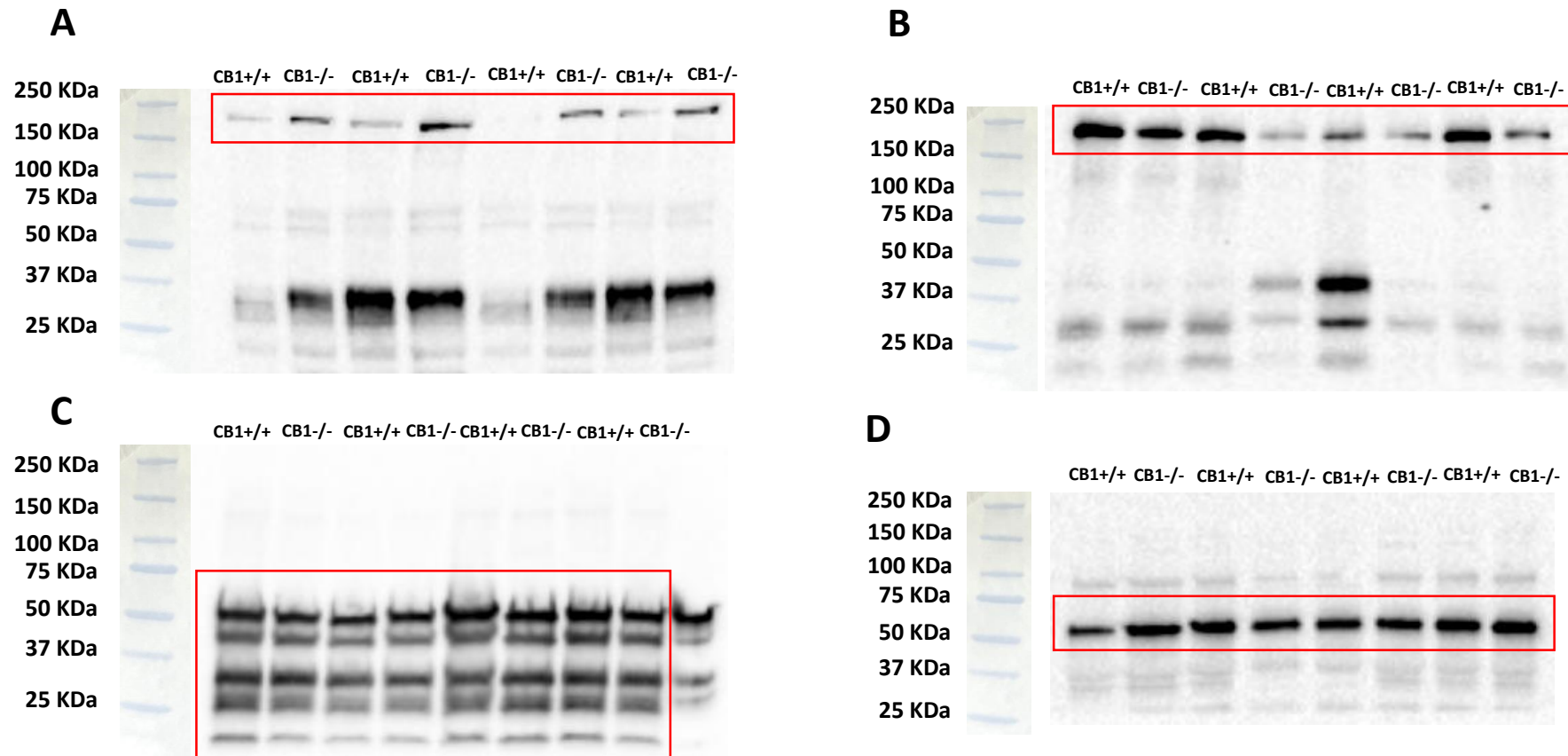


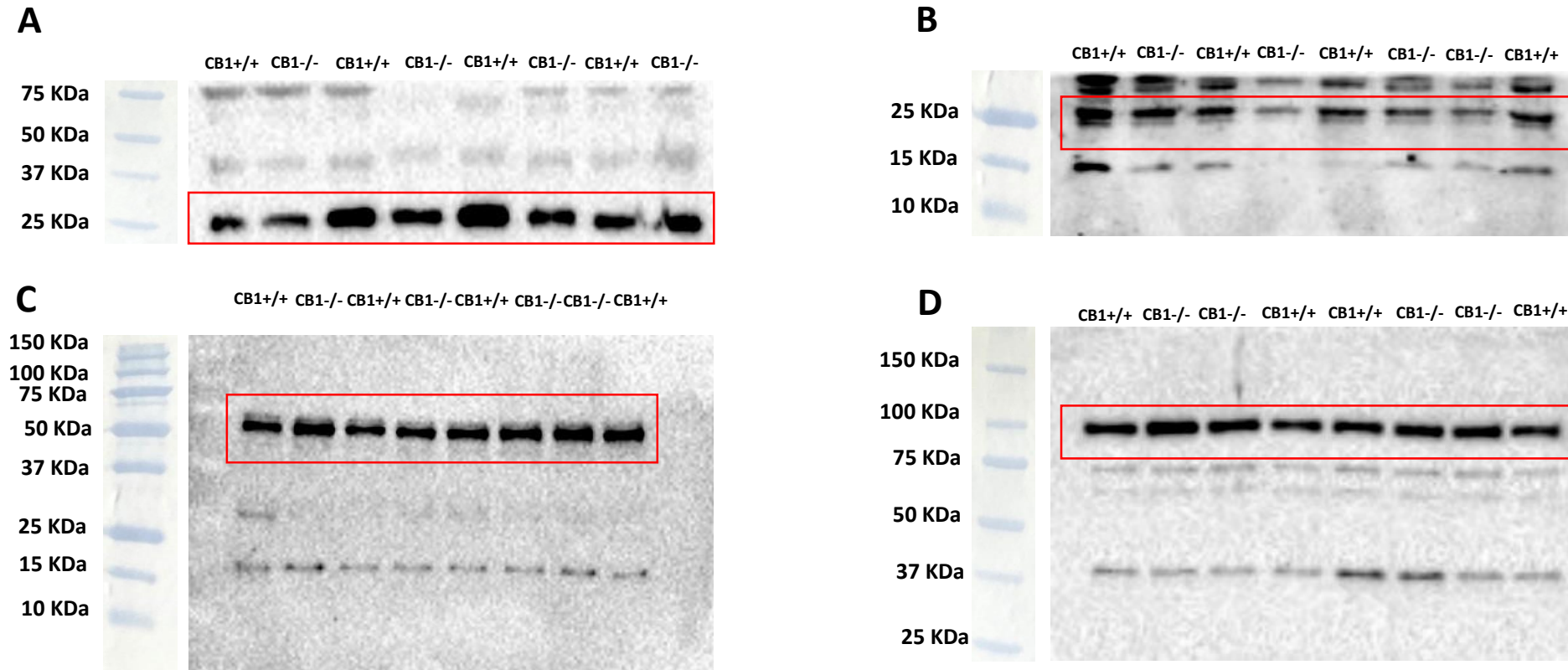
Supplementary material: details of western blot membranes

**Figure S1**



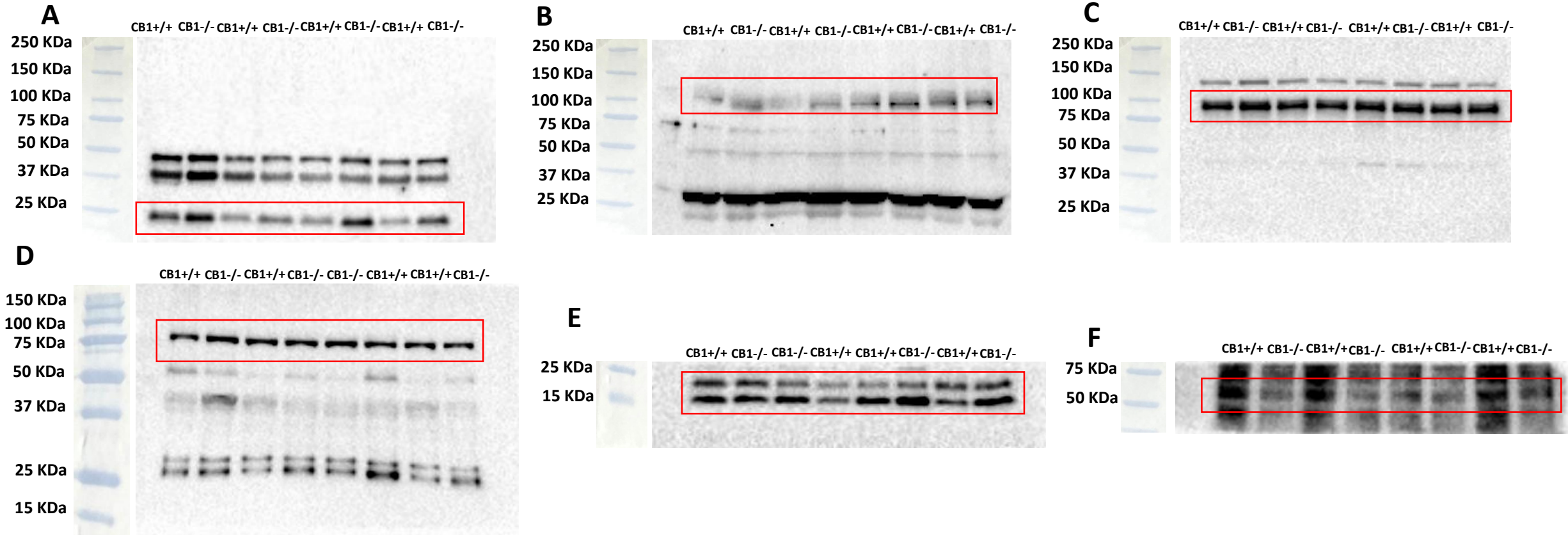
**Figure S1: (A)** Western blot membrane of MHCIIb (~223 KDa) protein detected with anti-Myosin skeletal slow (NOQ7.5.4D) (GTX 11083; 1:1000; GeneTex) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2 µm pore size; Thermo Fisher Scientific). Membranes, incubated with a horseradish peroxidase-conjugated secondary antibody (ab97023; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); **(B)** Western blot membrane of MHCIIb (~200 KDa) protein detected with anti-Skeletal myosin (FAST) (M4276; 1:1000; Sigma Aldrich) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2 µm pore size; Thermo Fisher Scientific). Membranes, incubated with a horseradish peroxidase-conjugated secondary antibody (ab97023; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); **(C)** Western blot membrane of Total Oxphos (15 to 50 KDa) protein detected with Anti Total Oxphos (ab110413; 3 µg/µl; abcam) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2 µm pore size; Thermo Fisher Scientific). Membranes, incubated with a horseradish peroxidase-conjugated secondary antibody (ab97023; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); **(D)** Western blot membrane of Catalase (~60 KDa) protein detected with anti-Catalase (C0979; 0,375 µg/ml; Sigma Aldrich) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2 µm pore size; Thermo Fisher Scientific). Membranes, incubated with a horseradish peroxidase-conjugated secondary antibody (ab97023; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad);

**Figure S2**



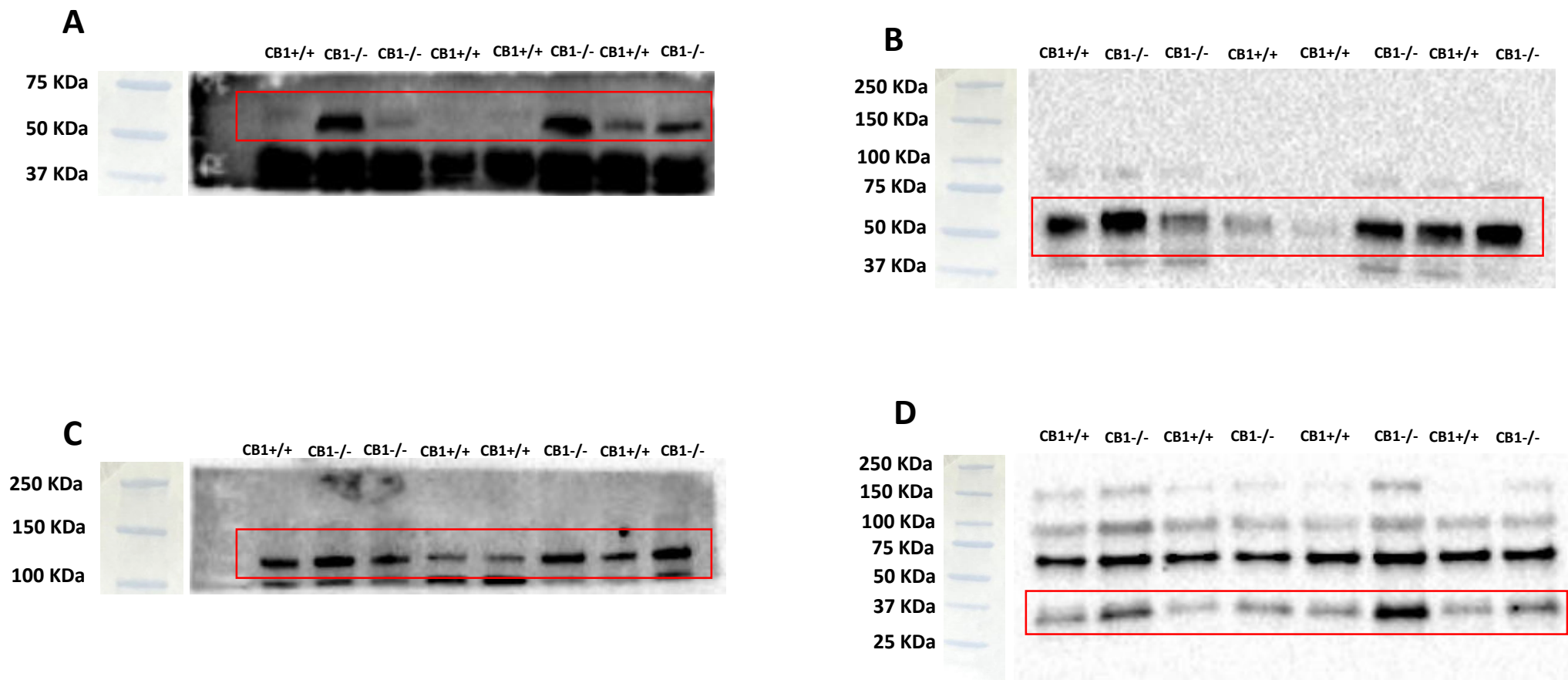
**Figure S2:** (A) Western blot membrane of SOD2 (~25 KDa) protein detected with anti-SOD2 (ab68155; 1:1000; abcam) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2  $\mu$ m pore size; Thermo Fisher Scientific). Membranes, incubated with a horseradish peroxidase-conjugated secondary antibody (ab97051; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); (B) Western blot membrane of GPX1 (~22 KDa) protein detected with anti-GPX1 (GTX03346; 1:1000; GeneTex) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2  $\mu$ m pore size; Thermo Fisher Scientific). Membranes, incubated with a horseradish peroxidase-conjugated secondary antibody (ab97051; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); (C) Western blot membrane of NRF1 (~57 KDa) protein detected with anti-NRF1 (ab34682; 1:1000; abcam) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2  $\mu$ m pore size; Thermo Fisher Scientific). Membranes, incubated with a horseradish peroxidase-conjugated secondary antibody (ab97051; 1:20000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); (D) Western blot membrane of PGC1α (~100 KDa) protein detected with anti-PGC1α (AB3242; 1:1000; Millipore) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2  $\mu$ m pore size; Thermo Fisher Scientific). Membranes, incubated with a horseradish peroxidase-conjugated secondary antibody (ab97051; 1:1000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad);

# Figure S3



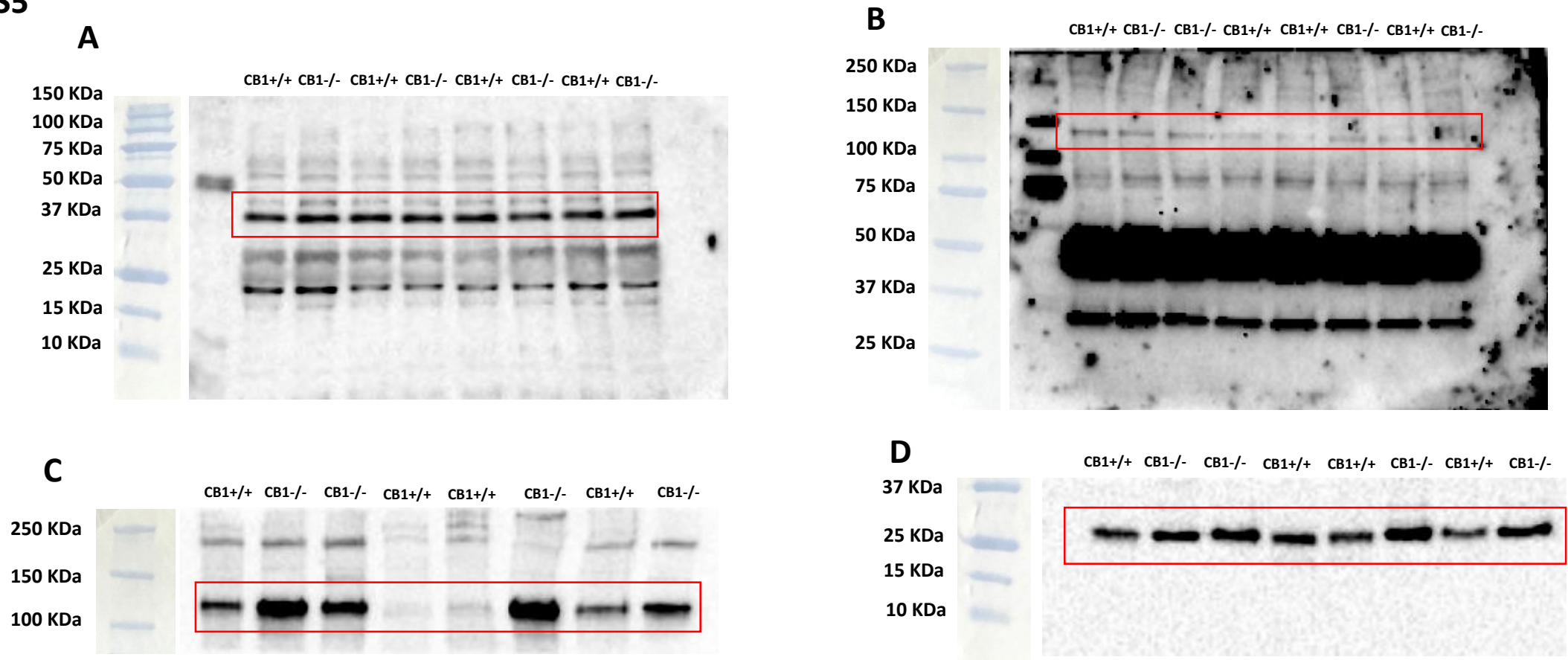
**Figure S3:** (A) Western blot membrane of TFAM (~25 KDa) protein detected with anti- mtTFA (ab131607; 1:1000; abcam) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2  $\mu$ m pore size; Thermo Fisher Scientific). Membranes, incubated with a hoseradish peroxidase-conjugated secondary antibody (ab97051; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); (B) Western blot membrane of OPA1 (~75/112 KDa) protein detected with anti-OPA1 (ab157457; 1:1000; abcam) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2  $\mu$ m pore size; Thermo Fisher Scientific). Membranes, incubated with a hoseradish peroxidase-conjugated secondary antibody (ab97051; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); (C) Western blot membrane of Drp1 (~78/82 KDa) protein detected with anti-Drp1 (5391; 1:1000; Cell Signaling) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2  $\mu$ m pore size; Thermo Fisher Scientific). Membranes, incubated with a hoseradish peroxidase-conjugated secondary antibody (ab97051; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); (D) Western blot membrane of Mfn2 (~86 KDa) protein detected with anti-Mitofusin 2 (ab56889; 1:1000; abcam) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2  $\mu$ m pore size; Thermo Fisher Scientific). Membranes, incubated with a hoseradish peroxidase-conjugated secondary antibody (ab97023; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); (E) Western blot membrane of LC3B (~15 KDa) protein detected with anti-MAP LC3 $\beta$  (sc-376404; 1:1000; Santa Cruz Biotechnology) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2  $\mu$ m pore size; Thermo Fisher Scientific). Membranes, incubated with a hoseradish peroxidase-conjugated secondary antibody (ab97023; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); (F) Western blot membrane of p62 (~62 KDa) protein detected with anti-SQSTM1/p62 (5114; 1:1000; Cell Signaling) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2  $\mu$ m pore size; Thermo Fisher Scientific). Membranes, incubated with a hoseradish peroxidase-conjugated secondary antibody (ab97051; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); (F)

Figure S4



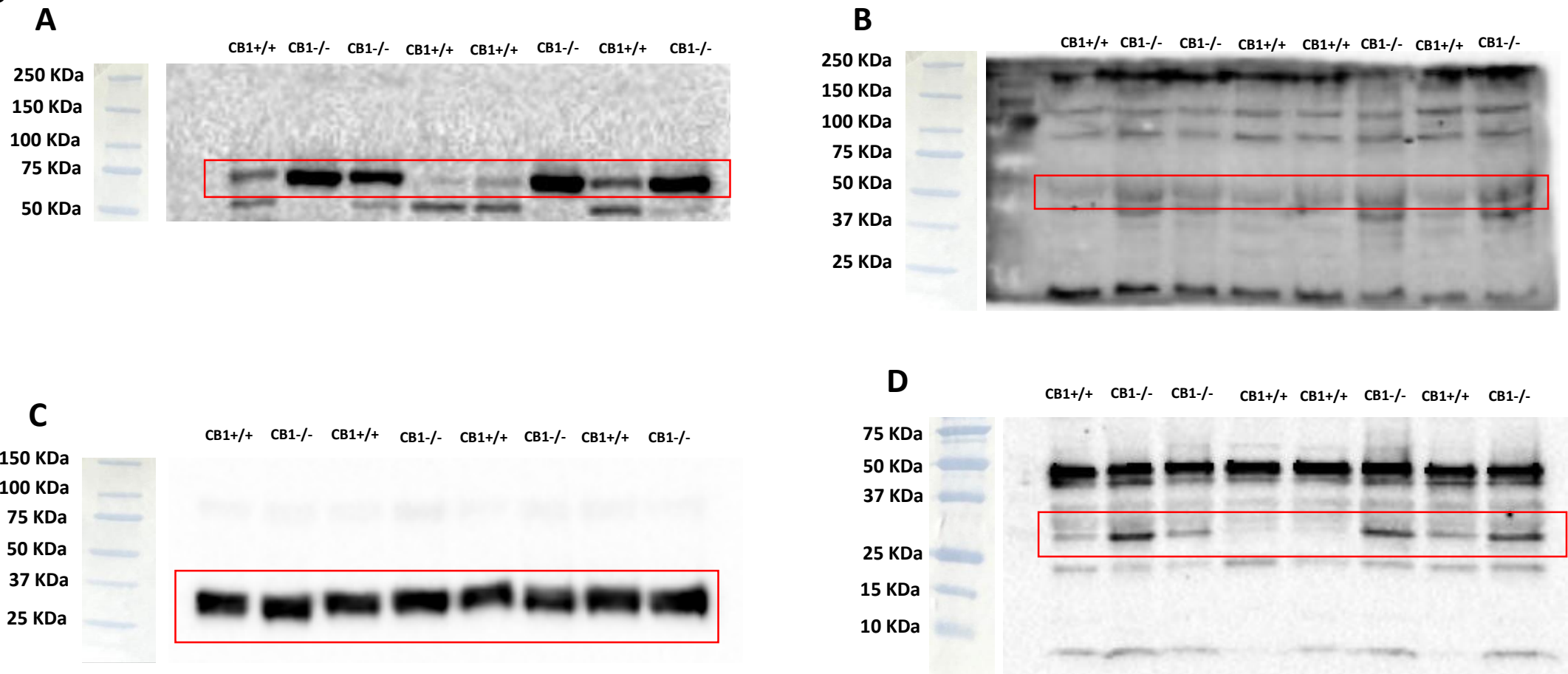
**Figure S4:** (A) Western blot membrane of Parkin (~50 KDa) protein detected with anti-Parkin (4211; 1:1000; Cell Signaling) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2 µm pore size; Thermo Fisher Scientific). Membranes, incubated with a horseradish peroxidase-conjugated secondary antibody (ab97023; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); (B) Western blot membrane of Pink1 (~50 KDa) protein detected with anti-PINK1 (ab186303; 1:1000; abcam) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2 µm pore size; Thermo Fisher Scientific). Membranes, incubated with a horseradish peroxidase-conjugated secondary antibody (ab97023; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); (C) Western blot membrane of Ambra1 (~135/150 KDa) protein detected with anti-Ambra1 (24907; 1:1000; Cell Signaling) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2 µm pore size; Thermo Fisher Scientific). Membranes, incubated with a horseradish peroxidase-conjugated secondary antibody (ab97051; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); (D) Western blot membrane of APE1 (~135/150 KDa) protein detected with anti-APE (13B8E5C2; 1:1000; Novus Biologicals) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2 µm pore size; Thermo Fisher Scientific). Membranes, incubated with a horseradish peroxidase-conjugated secondary antibody (ab97023; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad);

**Figure S5**



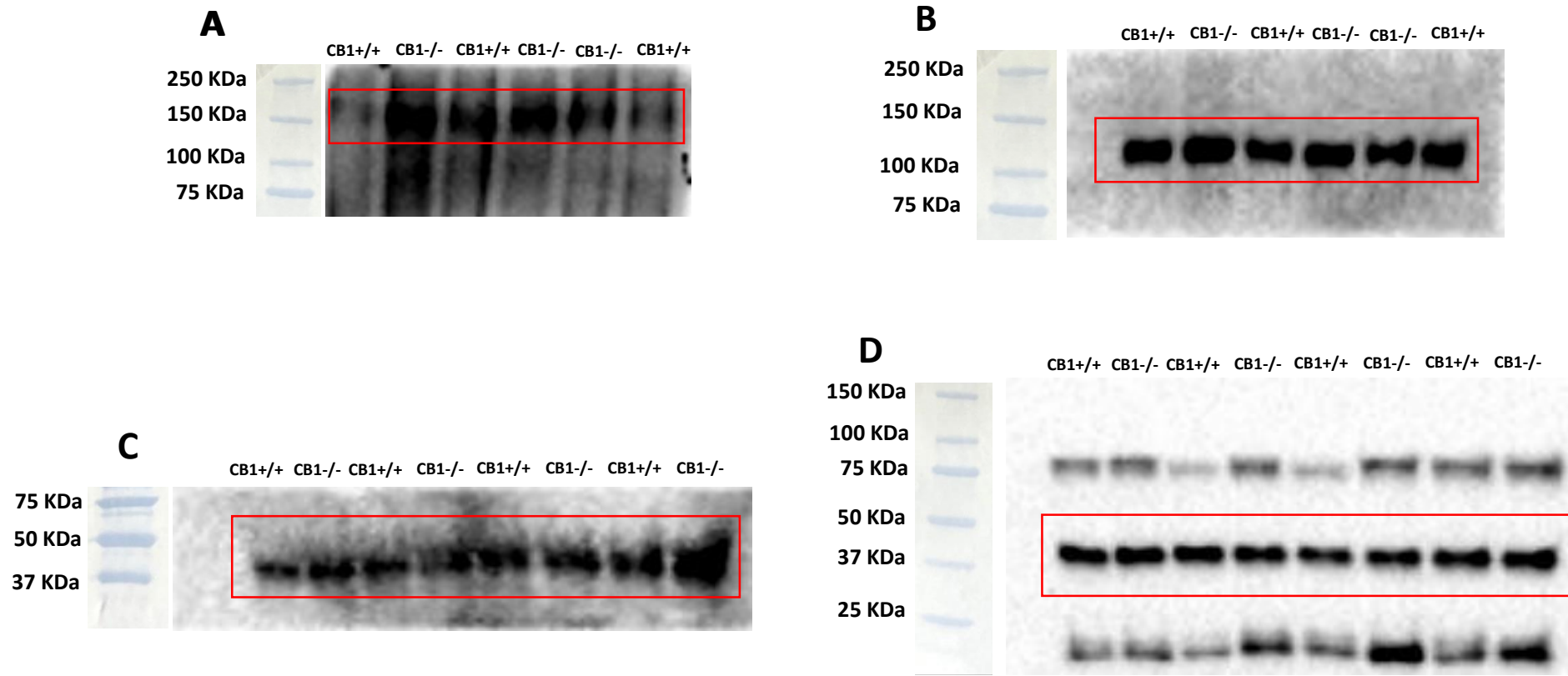
**Figure S5:** (A) Western blot membrane of OGG1 (~39 KDa) protein detected with anti-OGG1 (NB100-106; 1:1000; Novus Biologicals) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2 μm pore size; Thermo Fisher Scientific). Membranes, incubated with a hoseradish peroxidase-conjugated secondary antibody (ab97051; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); (B) Western blot membrane of POL-γ (~140 KDa) protein detected with anti-DNA Pol-γ (sc-5931; 1:1000; Santa Cruz Biotechnology) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2 μm pore size; Thermo Fisher Scientific). Membranes, incubated with a hoseradish peroxidase-conjugated secondary antibody. Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); (C) Western blot membrane of LONP1 (~106 KDa) protein detected with anti-LONP1 (A4293; 1:1000; ABclonal) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2 μm pore size; Thermo Fisher Scientific). Membranes, incubated with a hoseradish peroxidase-conjugated secondary antibody (ab97051; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); (D) Western blot membrane of CLPP (~26 KDa) protein detected with anti-CLPP (A3214; 1:1000; ABclonal) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2 μm pore size; Thermo Fisher Scientific). Membranes, incubated with a hoseradish peroxidase-conjugated secondary antibody (ab97051; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad);

Figure S6



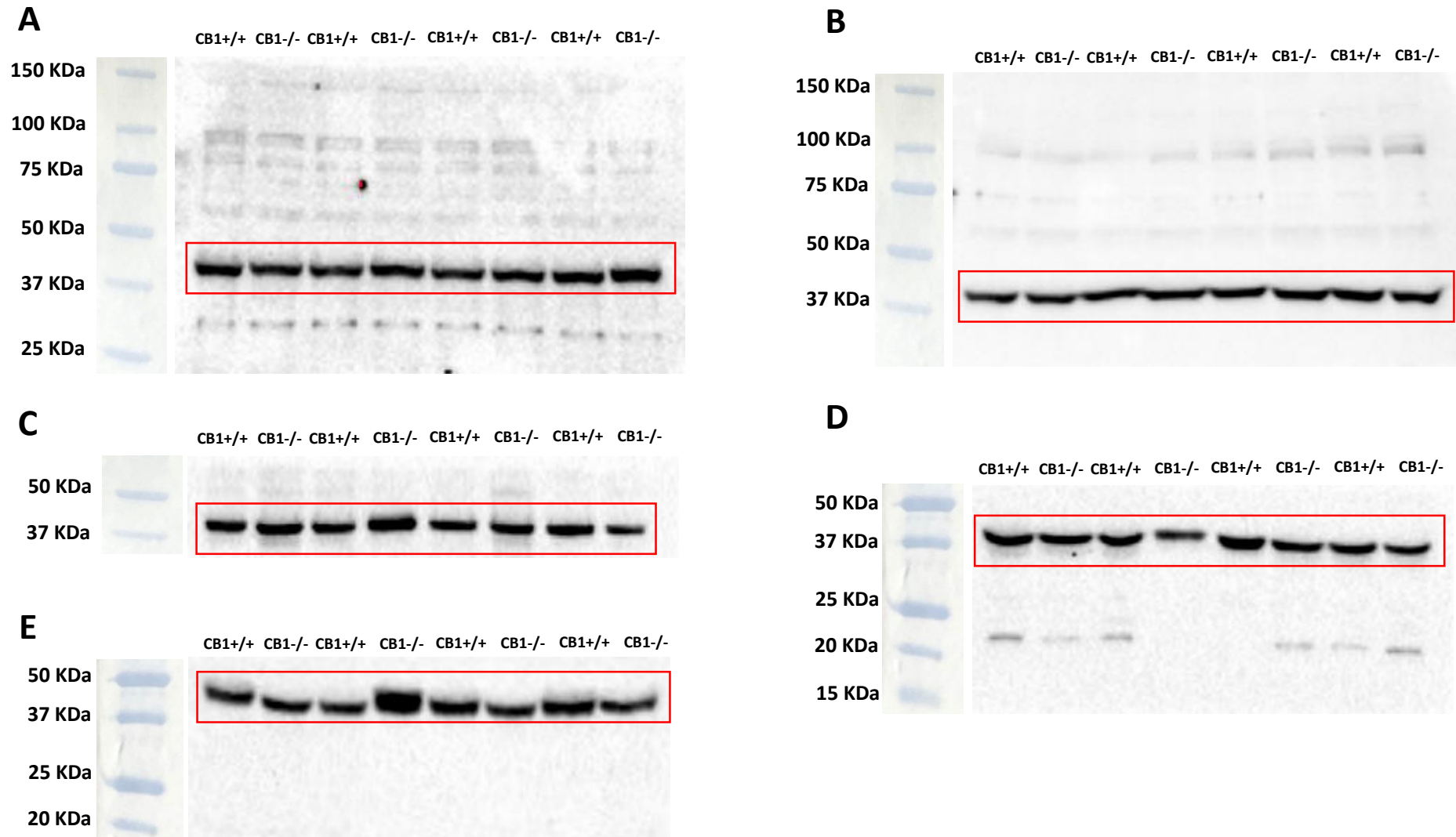
**Figure S6:** (A) Western blot membrane of TRAP1 (~80 KDa) protein detected with anti-TRAP1 (A2748; 1:1000; ABclonal) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2 µm pore size; Thermo Fisher Scientific). Membranes, incubated with a hoseradish peroxidase-conjugated secondary antibody (ab97051; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); (B) Western blot membrane of ATF4 (~50 KDa) protein detected with anti-ATF4 (A18687; 1:1000; ABclonal) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2 µm pore size; Thermo Fisher Scientific). Membranes, incubated with a hoseradish peroxidase-conjugated secondary antibody (ab97051; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); (C) Western blot membrane of ATF5 (~35 KDa) protein detected with anti-ATF5 (A3563; 1:1000; ABclonal) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2 µm pore size; Thermo Fisher Scientific). Membranes, incubated with a hoseradish peroxidase-conjugated secondary antibody (ab97051; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); (D) Western blot membrane of CHOP (~27 KDa) protein detected with anti-DDIT3/CHOP (A0221; 1:1000; ABclonal) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2 µm pore size; Thermo Fisher Scientific). Membranes, incubated with a hoseradish peroxidase-conjugated secondary antibody (ab97051; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad);

**Figure S7**



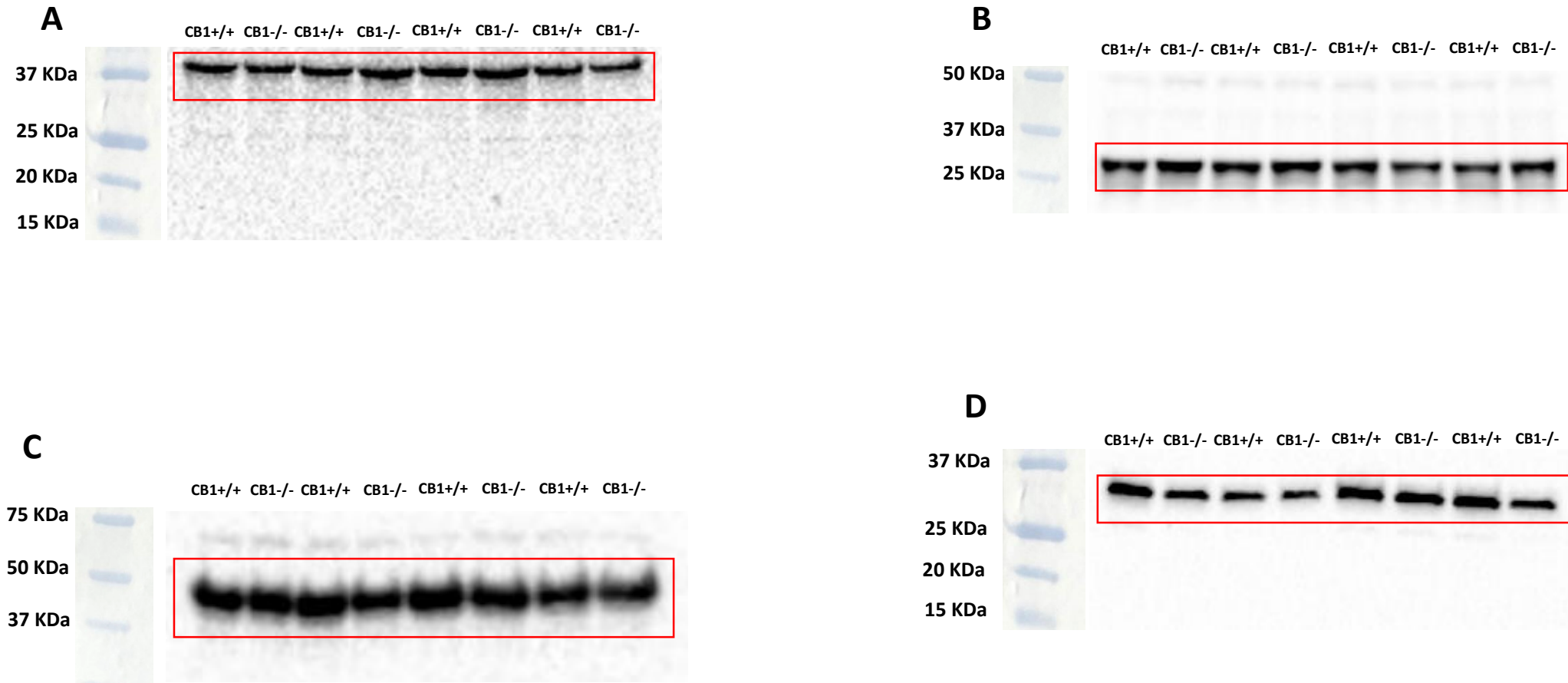
**Figure S7: (A)** Western blot membrane of P-PERK (Thr980) (~ 170 KDa) protein detected with anti- P-PERK (Thr980) (3179; 1:1000; Cell Signaling) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2  $\mu$ m pore size; Thermo Fisher Scientific). Membranes, incubated with a hoseradish peroxidase-conjugated secondary antibody (ab97051; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); **(B)** Western blot membrane of PERK (~ 140 KDa) protein detected with anti-PERK (3192; 1:1000; Cell Signaling) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2  $\mu$ m pore size; Thermo Fisher Scientific). Membranes, incubated with a hoseradish peroxidase-conjugated secondary antibody (ab97051; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); **(C)** Western blot membrane of P-eIF2α (Ser51) (~ 38 KDa) protein detected with anti-P-eIF2α (Ser51) (3398; 1:1000; Cell Signaling) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2  $\mu$ m pore size; Thermo Fisher Scientific). Membranes, incubated with a hoseradish peroxidase-conjugated secondary antibody (ab97051; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); **(D)** Western blot membrane of eIF2α (~ 38 KDa) protein detected with anti-eIF2α (2103; 1:1000; Cell Signaling) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2  $\mu$ m pore size; Thermo Fisher Scientific). Membranes, incubated with a hoseradish peroxidase-conjugated secondary antibody (ab97023; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad);

**Figure S8**



**Figure S8: (A), (B), (C), (D) and (E)** Western blot membrane of B-ACTIN (~ 43 KDa) protein detected with anti- B-ACTIN (bs-0061R; 1:1000; BIOSS ANTIBODIES) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2  $\mu$ m pore size; Thermo Fisher Scientific). Membranes, incubated with a horseradish peroxidase-conjugated secondary antibody (ab97051; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad);

**Figure S9**



**Figure S9: (A), (B) and (C)** Western blot membrane of B-ACTIN (~43 KDa) protein detected with anti- B-ACTIN (bs-0061R; 1:1000; BIOSS ANTIBODIES) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2  $\mu$ m pore size; Thermo Fisher Scientific). Membranes, incubated with a horseradish peroxidase-conjugated secondary antibody (ab97051; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad); **(D)** Western blot membrane of VDAC1 (~31 KDa) protein detected with anti- VDAC1 (GTX114187; 1:1000; GeneTex) antibody. Gel-separated proteins were transferred to nitrocellulose membrane (0.2  $\mu$ m pore size; Thermo Fisher Scientific). Membranes, incubated with a horseradish peroxidase-conjugated secondary antibody (ab97051; 1:4000; abcam). Molecular weight (10 to 250 KDa): Precision Plus Protein™ All Blue Prestained Protein Standards (1610373; Biorad);