

## Anti-Calreticulin / CALR antibody, rabbit polyclonal

73-018 100 ul

**Validation:** Knock-out mouse

**Storage:** Shipped at 4°C. Upon arrival, spin-down and store at 4°C for short period or -20°C for longer period..

**Reactivity:** Mouse and human. Not tested with other species.

**Immunogen:** C-EEDEKEEDEEESPGQAKDEL (C-terminal of mouse CALR protein)

### Applications:

1. Western blotting (1/500~1/1,000 dilution))
2. Immunoprecipitation (1/100)
3. Immunofluorescence staining (1/300~1/1,000 dilution)
4. Immunohistochemistry (1/1,000 dilution)

Other applications have not been tested.

**Form:** Whole rabbit serum added with 0.09% sodium azide.

**Key words:** Calreticulin, CALR, XCRP55, Calregulin, Endoplasmic reticulum resident protein 60 (ERp60), Lectin chaperon, calcium homeostasis

**Background:** Calreticulin (CALR) is calcium-binding chaperone that promotes folding, oligomeric assembly and quality control in the endoplasmic reticulum (ER) via the calreticulin/calnexin cycle. This lectin interacts transiently with almost all of the monoglucosylated glycoproteins that are synthesized in the ER. Interacts with the DNA-binding domain of NR3C1 and mediates its nuclear export. Involved in maternal gene expression regulation. May participate in oocyte maturation via the regulation of calcium homeostasis

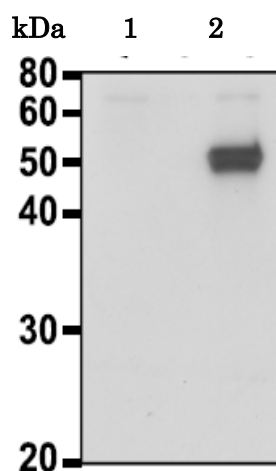
**Data Links:** [uniprot/P14211](https://www.uniprot.org/entry/P14211) Mouse Calreticulin, [uniprot/Q96L12](https://www.uniprot.org/entry/Q96L12) Human Calreticulin

[Gene ID 12317](https://www.ncbi.nlm.nih.gov/gene/12317) Mouse Calr, [Gene ID 811](https://www.ncbi.nlm.nih.gov/gene/811) Human Calr

**Reference:** This antibody was described and used in the following publication.

Ikawa M. et al (2011) Calsperin is a testis-specific chaperone required for sperm fertility. J Biol Chem.18:5639-46.

[pubmed/21131354](https://pubmed.ncbi.nlm.nih.gov/21131354/) Free article. **WB, IP,**

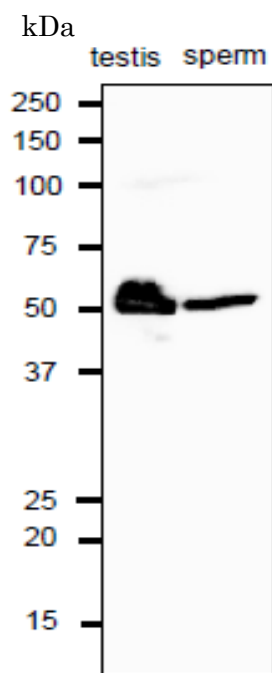


**Fig.1 Identification of CALR protein by western blotting with anti-CALR antibody.**

Embryonic fibroblast cells prepared from *Calr*<sup>-/-</sup> mouse were transfected with a plasmid expressing *Calr*. The cell lysate was analyzed by western blotting with anti-CALR antibody at 1/500 dilution.

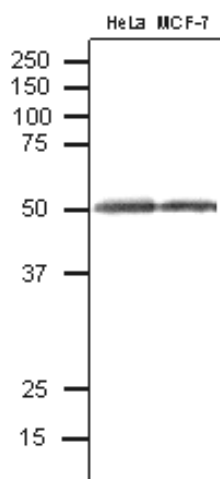
1. Mock-infected cell lysate as a negative control.
2. Cell lysate transfected with a plasmid expressing *Calr*.

The molecular mass is 48 kDa



**Fig.2 Western blot analysis of CALR protein in crude extracts of mouse testis and sperm with anti-CALR antibody.**

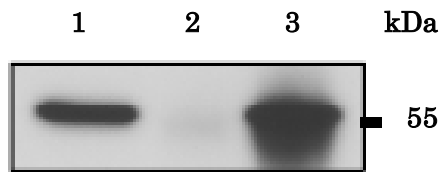
Proteins in the extracts (10  $\mu$ g protein) were separated on 10-20% gradient gel of SDS-PAGE and electro-blotted to a PVDF membrane. The membrane was reacted with anti-CALR antibody at 1/1,000 dilution. As the 2<sup>nd</sup> antibody, anti-rat IgG antibody conjugated with HRP (ab97051) was used at 1/10,000 dilution



**Fig.3 Western blot analysis of CALR protein in crude extracts of human cell lines with anti-CALR antibody.**

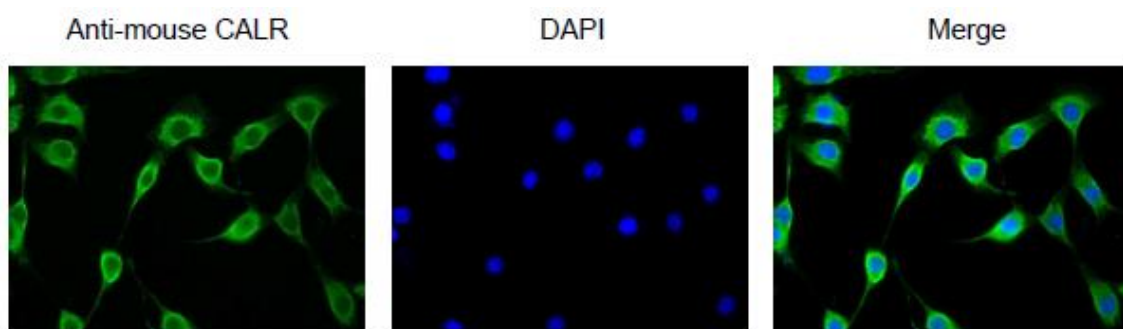
Proteins in the extracts (10  $\mu$ g protein) were separated on 12.5% gel of SDS-PAGE and electro-blotted to a PVDF membrane (wet system). The membrane was reacted with anti-CALR antibody at 1/1,000 dilution. As the 2<sup>nd</sup> antibody, anti-rat IgG antibody conjugated with HRP (ab97051) was used at 1/10,000 dilution

**Fig.4. Immunoprecipitation of CALR protein with anti-CALR antibody.**



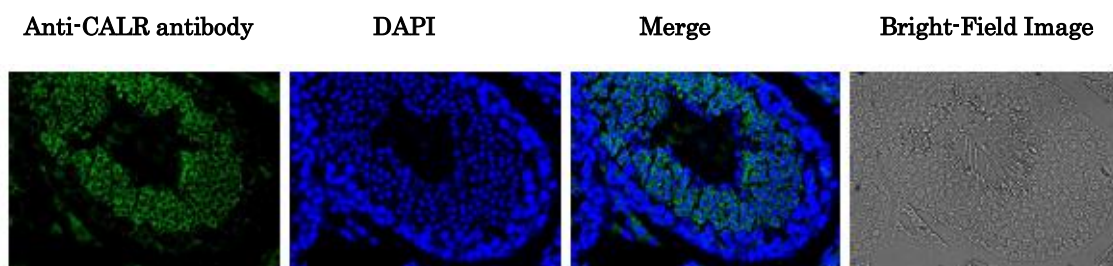
Lysates of wild-type mouse testis were immunoprecipitated with anti-CALR antibody and the precipitates were analyzed by western blotting with the same antibody.

1. Input testis lysate
2. Precipitated with preimmune serum
3. Precipitated with anti-CALR antibody



**Fig.5 Immunofluorescence staining of CALR protein in NIH3T3 cells with anti-CALR antibody.**

NIH3T3 cells were fixed with 4% paraformaldehyde and permeabilized with 0.5% TritonX 100 and reacted with anti-CALR antibody at 1/300 dilution. As the 2<sup>nd</sup> antibody, goat anti-rabbit IgG antibody conjugated with Alexa Fluor 488 (Molecular Probes) was used at 1/1,000 dilution. DNA was stained with DAPI (1 ug/ml) and the merged image was shown on right.



**Fig.6. Immunohistological staining of CALR protein in mouse testis using anti-CALR antibody.**

A section of formalin fixed and paraffin embedded mouse testis was treated with the anti-CALR antibody at 1/1,000 dilution after deparaffinization and antigen retrieval. The 2<sup>nd</sup> antibody, goat anti-rabbit IgG conjugated with Alexa Fluor 488 (Molecular Probes #1166843) was used at 1/1,000 dilution. DNA was stained with DAPI (1.0  $\mu$ g/mL) and the merged image was shown (Merge). The bright-field image of the same region was shown on the right.