

Calregulin (A-9): sc-166837

BACKGROUND

Calnexin and calregulin (also called calreticulin) are calcium-binding proteins that are localized to the endoplasmic reticulum, Calnexin to the membrane and calregulin to the lumen. Calnexin is a type I membrane protein that interacts with newly synthesized glycoproteins in the endoplasmic reticulum. It may play a role in assisting with protein assembly and in retaining unassembled protein subunits in the endoplasmic reticulum. Calregulin has both low- and high-affinity calcium-binding sites. Neither Calnexin nor calregulin contains the calcium-binding "E-F hand" motif found in calmodulins. Calnexin and calregulin are important for the maturation of glycoproteins in the endoplasmic reticulum and appear to bind many of the same proteins.

CHROMOSOMAL LOCATION

Genetic locus: CALR (human) mapping to 19p13.2; Calr (mouse) mapping to 8 C3.

SOURCE

Calregulin (A-9) is a mouse monoclonal antibody raised against amino acids 248-417 of Calregulin of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Calregulin (A-9) is available conjugated to agarose (sc-166837 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166837 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166837 PE), fluorescein (sc-166837 FITC), Alexa Fluor® 488 (sc-166837 AF488), Alexa Fluor® 546 (sc-166837 AF546), Alexa Fluor® 594 (sc-166837 AF594) or Alexa Fluor® 647 (sc-166837 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166837 AF680) or Alexa Fluor® 790 (sc-166837 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Calregulin (A-9) is recommended for detection of Calregulin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Calregulin siRNA (h): sc-29234, Calregulin siRNA (m): sc-29895, Calregulin siRNA (r): sc-63293, Calregulin shRNA Plasmid (h): sc-29234-SH, Calregulin shRNA Plasmid (m): sc-29895-SH, Calregulin shRNA Plasmid (r): sc-63293-SH, Calregulin shRNA (h) Lentiviral Particles: sc-29234-V, Calregulin shRNA (m) Lentiviral Particles: sc-29895-V and Calregulin shRNA (r) Lentiviral Particles: sc-63293-V.

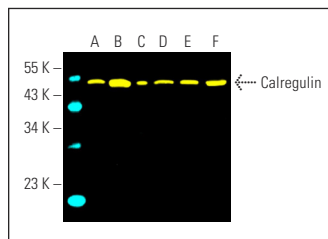
Molecular Weight of Calregulin: 55 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, HL-60 whole cell lysate: sc-2209 or A-431 whole cell lysate: sc-2201.

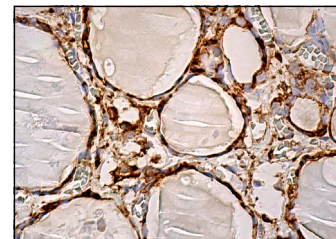
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Calregulin (A-9) Alexa Fluor® 488: sc-166837 AF488. Direct fluorescent western blot analysis of Calregulin expression in MCF7 (A), HL-60 (B), A-431 (C), Jurkat (D), HeLa (E) and AN3 CA (F) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker™ MW Tag-Alexa Fluor® 647: sc-516791.



Calregulin (A-9): sc-166837. Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Chen, J., et al. 2013. Chaperone properties of Pdia3 participate in rapid membrane actions of 1 α ,25-dihydroxyvitamin D₃. *Mol. Endocrinol.* 27: 1065-1077.
- Wathanasurorot, A., et al. 2014. Hijacking of host calreticulin is required for the white spot syndrome virus replication cycle. *J. Virol.* 88: 8116-8128.
- Wang, K., et al. 2017. Combination of CALR and PDIA3 is a potential prognostic biomarker for non-small cell lung cancer. *Oncotarget* 8: 96945-96957.
- Brennan, L.A., et al. 2018. BNIP3L/NIX is required for elimination of mitochondria, endoplasmic reticulum and Golgi apparatus during eye lens organelle-free zone formation. *Exp. Eye Res.* 174: 173-184.
- Anczurowski, M., et al. 2019. Chaperones of the class I peptide-loading complex facilitate the constitutive presentation of endogenous antigens on HLA-DP^{B4GGPM87}. *J. Autoimmun.* 102: 114-125.
- Molenaar, B., et al. 2021. Single-cell transcriptomics following ischemic injury identifies a role for B2M in cardiac repair. *Commun. Biol.* 4: 146.
- Gheys, R., et al. 2022. Suppression of PI3K signaling is linked to autophagy activation and the spatiotemporal induction of the lens organelle free zone. *Exp. Cell Res.* 412: 113043.
- Rahimi, N., et al. 2023. Calreticulin regulates SARS-CoV-2 spike protein turnover and modulates SARS-CoV-2 infectivity. *Cells* 12: 2694
- Oswalia, J., et al. 2024. Altered autophagic flux in GNE mutant cells of Indian origin: potential drug target for GNE myopathy. *Exp. Cell Res.* 440: 114118.

RESEARCH USE

For research use only, not for use in diagnostic procedures.