

# Calregulin (1G6A7): sc-101436

## 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.

## REFERENCES

- Smith, M.J. and Koch, G.L. 1989. Multiple zones in the sequence of calreticulin (CRP55, Calregulin, HACBP), a major calcium binding ER/SR protein. *EMBO J.* 8: 3581-3586.
- David, V., et al. 1993. Interaction with newly synthesized and retained proteins in the endoplasmic reticulum suggests a chaperone function for human integral membrane protein IP90 (Calnexin). *J. Biol. Chem.* 268: 9585-9592.

## CHROMOSOMAL LOCATION

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

## SOURCE

Calregulin (1G6A7) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to amino acids 405-417 of Calregulin of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Calregulin (1G6A7) is recommended for detection of Calregulin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] 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 shRNA Plasmid (h): sc-29234-SH, Calregulin shRNA Plasmid (m): sc-29895-SH, Calregulin shRNA (h) Lentiviral Particles: sc-29234-V and Calregulin shRNA (m) Lentiviral Particles: sc-29895-V.

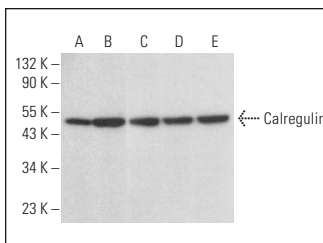
Molecular Weight of Calregulin: 55 kDa.

Positive Controls: COLO 205 whole cell lysate: sc-364177, HeLa whole cell lysate: sc-2200 or IMR-32 cell lysate: sc-2409.

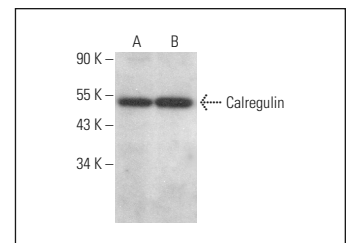
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



Calregulin (1G6A7): sc-101436. Western blot analysis of Calregulin expression in HeLa (A), IMR-32 (B), Neuro-2A (C), c4 (D) and Y79 (E) whole cell lysates.



Calregulin (1G6A7): sc-101436. Western blot analysis of Calregulin expression in COLO 205 (A) and MIA PaCa-2 (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Haefliger, S., et al. 2011. Protein disulfide isomerase blocks CEBPA translation and is up-regulated during the unfolded protein response in AML. *Blood* 117: 5931-5940.
- Wang, R., et al. 2019. Shuxuening injection protects against myocardial ischemia-reperfusion injury through reducing oxidative stress, inflammation and thrombosis. *Ann. Transl. Med.* 7: 562.
- Hao, J., et al. 2019. Surfactant protein A induces the pathogenesis of renal fibrosis through binding to calreticulin. *Exp. Ther. Med.* 17: 459-464.
- Piccialli, I., et al. 2021. The antioxidant activity of limonene counteracts neurotoxicity triggered by Aβ<sub>1-42</sub> oligomers in primary cortical neurons. *Antioxidants* 10: 937.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.



See **Calregulin (F-4): sc-373863** for Calregulin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.