SANTA CRUZ BIOTECHNOLOGY, INC.

Calnexin (3H4A7): sc-130059



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 unas-sembled 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.
- Tjoelker, L.W., et al. 1994. Human, mouse and rat Calnexin cDNA cloning: identification of potential calcium-binding motifs and gene localization to human chromosome 5. Biochemistry 33: 3229-3236.

CHROMOSOMAL LOCATION

Genetic locus: CANX (human) mapping to 5q35.3.

SOURCE

Calnexin (3H4A7) is a mouse monoclonal antibody raised against a Calnexin peptide of human origin.

PRODUCT

Each vial contains 200 μg lgG_{2b} kappa light chain in 1.0 ml of PBS with <0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Calnexin (3H4A7) is recommended for detection of Calnexin of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 Calnexin siRNA (h): sc-29233, Calnexin shRNA Plasmid (h): sc-29233-SH and Calnexin shRNA (h) Lentiviral Particles: sc-29233-V.

Molecular Weight of Calnexin: 90 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-431 whole cell lysate: sc-2201 or MCF7 whole cell lysate: sc-2206.

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



Calnexin (3H4A7): sc-130059. Western blot analysis of Calnexin expression in A-431 (**A**), HeLa (**B**), MCF7 (**C**) and A549 (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

- Esmail, S., et al. 2016. N-linked glycosylation is required for vacuolar H⁺-ATPase (V-ATPase) α4 subunit stability, assembly, and cell surface expression. J. Cell. Biochem. 117: 2757-2768.
- 2. Esmail, S., et al. 2017. N-linked glycosylation of α subunit isoforms is critical for vertebrate vacuolar H+-ATPase (V-ATPase) biosynthesis. J. Cell. Biochem. 119: 861-875.
- 3. Esmail, S., et al. 2018. Molecular mechanisms of cutis laxa- and distal renal tubular acidosis-causing mutations in V-ATPase α subunits, ATP6V0A2 and ATP6V0A4. J. Biol. Chem. 293: 2787-2800.
- Hayat, B., et al. 2019. Altered unfolded protein response and proteasome impairment in pseudoexfoliation pathogenesis. Exp. Eye Res. 181: 197-207.

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 for detailed protocols and support products.



See **Calnexin (AF18): sc-23954** for Calnexin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.