SANTA CRUZ BIOTECHNOLOGY, INC.

Calnexin (TO-5): sc-80645

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 endoplamic reticulum and appear to bind many of the same proteins.

CHROMOSOMAL LOCATION

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

SOURCE

Calnexin (TO-5) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to amino acids 529-544 of Calnexin of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Calnexin (TO-5) is available conjugated to agarose (sc-80645 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-80645 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-80645 PE), fluorescein (sc-80645 FITC), Alexa Fluor® 488 (sc-80645 AF488), Alexa Fluor® 546 (sc-80645 AF546), Alexa Fluor® 594 (sc-80645 AF594) or Alexa Fluor® 647 (sc-80645 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-80645 AF680) or Alexa Fluor® 790 (sc-80645 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

Calnexin (TO-5) 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 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 flow cytometry (1 µg per 1 x 10^6 cells).

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: MCF7 whole cell lysate: sc-2206, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

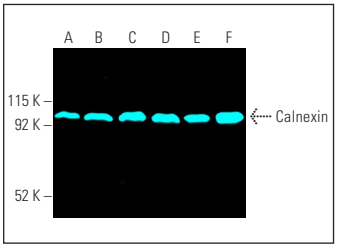
RESEARCH USE

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

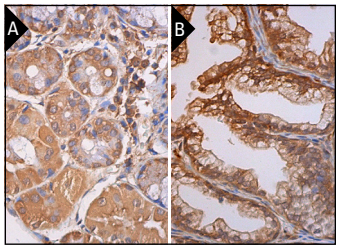
STORAGE

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

DATA



Calnexin (TO-5): sc-80645. Fluorescent western blot analysis of Calnexin expression in HeLa (**A**), SK-BR-3 (**B**), K-562 (**C**), Caco-2 (**D**), MCF7 (**E**) and SCC-4 (**F**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_1 BP-CFL 647: sc-533664.



Calnexin (TO-5): sc-80645. Immunoperoxidase staining of formalin fixed, paraffin-embedded human salivary gland (**A**) and human prostate (**B**) tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Lacerda, C.M., et al. 2009. Differential protein expression between normal, early-stage, and late-stage myxomatous mitral valves from dogs. Proteomics Clin. Appl. 3: 1422-1429.
2. Kinoshita, S.M., et al. 2013. Snapin, positive regulator of stimulation-induced Ca^{2+} release through RyR, is necessary for HIV-1 replication in T cells. PLoS ONE 8: e75297.
3. Li, J.H., et al. 2016. N-linked glycosylation at Asn152 on CD147 affects protein folding and stability: promoting tumour metastasis in hepatocellular carcinoma. Sci. Rep. 6: 35210.
4. Kavanagh, E.L., et al. 2017. Protein and chemotherapy profiling of extracellular vesicles harvested from therapeutic induced senescent triple negative breast cancer cells. Oncogenesis 6: e388.
5. Maring, J.A., et al. 2019. Cardiac progenitor cell-derived extracellular vesicles reduce infarct size and associate with increased cardiovascular cell proliferation. J. Cardiovasc. Transl. Res. 12: 5-17.
6. Kaya, Y., et al. 2020. Speedy/RINGO protein interacts with ERK/MAPK and PI3K/Akt pathways in SH-SY5Y neuroblastoma cells. Mol. Cell. Biochem. 473: 133-141.
7. Zhao, A.G., et al. 2022. Comparative analysis of extracellular vesicles isolated from human mesenchymal stem cells by different isolation methods and visualisation of their uptake. Exp. Cell Res. 414: 113097.
8. Bajo-Santos, C., et al. 2023. Extracellular vesicles isolation from large volume samples using a polydimethylsiloxane-free microfluidic device. Int. J. Mol. Sci. 24: 7971.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.