SANTA CRUZ BIOTECHNOLOGY, INC.

Calnexin (E-10): sc-46669

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

CHROMOSOMAL LOCATION

Genetic locus: CANX (human) mapping to 5q35.3; Canx (mouse) mapping to 11 B1.3.

SOURCE

Calnexin (E-10) is a mouse monoclonal antibody raised against amino acids 1-70 of Calnexin of human origin.

PRODUCT

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

Calnexin (E-10) is available conjugated to agarose (sc-46669 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-46669 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-46669 PE), fluorescein (sc-46669 FITC), Alexa Fluor® 488 (sc-46669 AF488), Alexa Fluor® 546 (sc-46669 AF546), Alexa Fluor® 594 (sc-46669 AF594) or Alexa Fluor® 647 (sc-46669 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-46669 AF680) or Alexa Fluor® 790 (sc-46669 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 (E-10) is recommended for detection of Calnexin of mouse, rat and human origin by Western Blotting (starting dilution 1:1000, dilution range 1:1000-1:10000), 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 Calnexin siRNA (h): sc-29233, Calnexin siRNA (m): sc-29884, Calnexin shRNA Plasmid (h): sc-29233-SH, Calnexin shRNA Plasmid (m): sc-29884-SH, Calnexin shRNA (h) Lentiviral Particles: sc-29233-V and Calnexin shRNA (m) Lentiviral Particles: sc-29884-V.

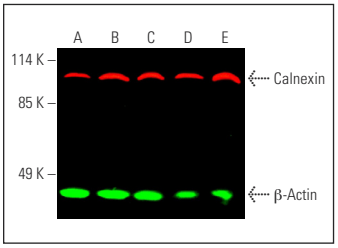
Molecular Weight of Calnexin: 90 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, HeLa whole cell lysate: sc-2200 or JAR cell lysate: sc-2276.

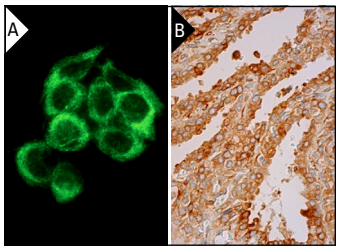
STORAGE

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

DATA



Simultaneous direct near-infrared western blot analysis of Calnexin expression, detected with Calnexin (E-10) Alexa Fluor® 790: sc-46669 AF790 and β-Actin expression, detected with β-Actin (C4) Alexa Fluor® 680: sc-47778 AF680 in NCI-H1299 (**A**), A549 (**B**), MCF7 (**C**), HeLa (**D**) and JAR (**E**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.



Calnexin (E-10): sc-46669. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human seminal vesicle tissue showing cytoplasmic and nuclear envelope staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Sato, H., et al. 2009. Altered expression of glycoproteins on the cell surface of Jurkat cells during etoposide-induced apoptosis: shedding and intracellular translocation of glycoproteins. Biochim. Biophys. Acta 1790: 1198-1205.
2. Leca, J., et al. 2016. Cancer-associated fibroblast-derived annexin A6+ extracellular vesicles support pancreatic cancer aggressiveness. J. Clin. Invest. 126: 4140-4156.
3. Li, F., et al. 2017. Clathrin-dependent uptake of paraquat into SH-SY5Y cells and its internalization into different subcellular compartments. Neurotox. Res. 32: 204-217.
4. García-Domínguez, D.J., et al. 2018. The combination of epigenetic drugs SAHA and HCI-2509 synergistically inhibits EWS-FLI1 and tumor growth in Ewing sarcoma. Oncotarget 9: 31397-31410.
5. Xian, Y., et al. 2019. Exenatide mitigates inflammation and hypoxia along with improved angiogenesis in obese fat tissue. J. Endocrinol. 242: 79-89.
6. Liang, J.R., et al. 2020. A genome-wide ER-phagy screen highlights key roles of mitochondrial metabolism and ER-resident UFMylation. Cell 180: 1160-1177.e20.
7. Lyu, T.S., et al. 2021. The characterization of exosomes from fibrosarcoma cell and the useful usage of dynamic light scattering (DLS) for their evaluation. PLoS ONE 16: e0231994.
8. Ishimura, R., et al. 2022. The UFM1 system regulates ER-phagy through the ufmylation of CYB5R3. Nat. Commun. 13: 7857.
9. Mut, M., et al. 2023. Extracellular-vesicle-based cancer panels diagnose glioblastomas with high sensitivity and specificity. Cancers 15: 3782.

RESEARCH USE

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