

cytohesin-2 (CYT2-21): sc-59451

BACKGROUND

Cytohesin-2, also known as ARNO (ARF nucleotide-binding-site opener), is an ARF-1 guanine nucleotide exchange factor (GEF). ARF (ADP ribosylation factor) proteins, a group within the RAS superfamily, are GTP-binding proteins central to the process of vesicle budding. Cytohesin-2 contains an N-terminal coiled-coil domain, a Sec 7 domain responsible for GDP/GTP exchange activity, and a C-terminal Pleckstrin homology (PH) domain responsible for binding to PIP2. GEF activity of cytohesin-2 is enhanced by binding of the PH domain to phosphatidylinositol 4,5-bisphosphate which recruits cytohesin-2 to membranes. Cytohesin-2 is localized to the plasma membrane in mammalian cells and *in vitro* cytohesin-2 stimulates nucleotide exchange on ARF1 and ARF6.

REFERENCES

1. Kahn, R.A. and Gilman, A.G. 1984. Purification of a protein cofactor required for ADP-ribosylation of the stimulatory regulatory component of adenylate cyclase by cholera toxin. *J. Biol. Chem.* 259: 6228-6234.
2. Moss, J. and Vaughan, M. 1995. Structure and function of ARF proteins: activators of cholera toxin and critical components of intracellular vesicular transport processes. *J. Biol. Chem.* 270: 12327-12330.
3. Chardin, P., Paris, S., Antony, B., Robineau, S., Beraud-Dufour, S., Jackson, C.L. and Chabre, M. 1996. A human exchange factor for ARF contains Sec 7- and Pleckstrin-homology domains. *Nature* 384: 481-484.
4. Paris, S., Beraud-Dufour, S., Robineau, S., Bigay, J., Antony, B., Chabre, M. and Chardin, P. 1997. Role of protein-phospholipid interactions in the activation of ARF1 by the guanine nucleotide exchange factor ARNO. *J. Biol. Chem.* 272: 22221-22226.
5. Franco, M., Boretto, J., Sylviane, R., Monier, S., Goud, B., Chardin, P. and Chavrier, P. 1998. ARNO3, a Sec7-domain guanine nucleotide exchange factor for ADP ribosylation factor 1, is involved in the control of Golgi structure and function. *Proc. Natl. Acad. Sci. USA* 95: 9929-9931.
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CHROMOSOMAL LOCATION

Genetic locus: CYTH2 (human) mapping to 19q13.33; Cyth2 (mouse) mapping to 7 B4.

SOURCE

cytohesin-2 (CYT2-21) is a mouse monoclonal antibody raised against full length cytohesin-2 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

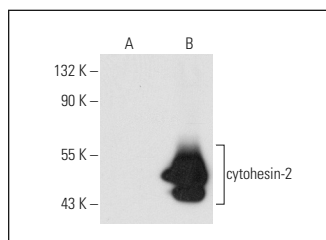
cytohesin-2 (CYT2-21) is recommended for detection of cytohesin-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other members of the cytohesin family.

Suitable for use as control antibody for cytohesin-2 siRNA (h): sc-40468, cytohesin-2 siRNA (m): sc-40469, cytohesin-2 shRNA Plasmid (h): sc-40468-SH, cytohesin-2 shRNA Plasmid (m): sc-40469-SH, cytohesin-2 shRNA (h) Lentiviral Particles: sc-40468-V and cytohesin-2 shRNA (m) Lentiviral Particles: sc-40469-V.

Molecular Weight of cytohesin-2: 47 kDa.

Positive Controls: cytohesin-2 (h): 293T Lysate: sc-176453.

DATA



cytohesin-2 (CYT2-21): sc-59451. Western blot analysis of cytohesin-2 expression in non-transfected: sc-117752 (A) and human cytohesin-2 transfected: sc-176453 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Yamaoka, M., Ando, T., Terabayashi, T., Okamoto, M., Takei, M., Nishioka, M., Kaibuchi, K., Matsunaga, K., Ishizaki, R., Izumi, T., Niki, I., Ishizaki, T. and Kimura, T. 2016. PI3K regulates endocytosis after Insulin secretion by mediating signaling crosstalk between Arf6 and Rab27a. *J. Cell Sci.* 129: 637-649.

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.