SANTA CRUZ BIOTECHNOLOGY, INC.

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

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., Antonny, 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., Antonny, 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.
6. Frank, S., Upender, S., Hansen, S. H. and Casanova, J. E. 1998. ARNO is a guanine nucleotide exchange factor for ADP-ribosylation Factor 6. J. Biol. Chem. 273: 23-27.

CHROMOSOMAL LOCATION

Genetic locus: CYTH2 (human) mapping to 19q13.33.

PRODUCT

cytohesin-2 (h): 293T Lysate represents a lysate of human cytohesin-2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

cytohesin-2 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive cytohesin-2 antibodies. Recommended use: 10-20 µl per lane.

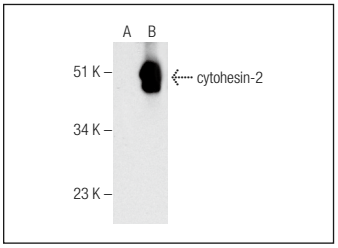
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

cytohesin-1/2 (D-11): sc-166542 is recommended as a positive control antibody for Western Blot analysis of enhanced human cytohesin-2 expression in cytohesin-2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

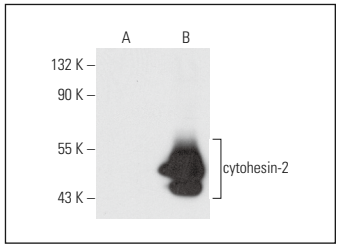
RECOMMENDED SUPPORT REAGENTS

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.

DATA



cytohesin-1/2 (D-11): sc-166542. 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.



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.

RESEARCH USE

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