

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

BACKGROUND

Cytohesin-1 and cytohesin-2, also known as ARNO (ARF nucleotide-binding-site opener), are ARF1 guanine nucleotide exchange factors (GEFs). ARF (ADP Ribosylation factor) proteins, a group within the RAS superfamily, are GTP-binding proteins central to the process of vesicle budding. Cytohesin-1 and cytohesin-2 both contain an N-terminal coiled-coil domain, a Sec 7 domain responsible for GDP/GTP exchange activity and a C-terminal Pleckstrin homology (PH) domain. 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-1 catalyzes *in vitro* nucleotide exchange on ARF1 and ARF3, but it has no effect on ARF6. Cytohesin-2 is localized to the plasma membrane in mammalian cells and *in vitro* cytohesin-2 stimulates nucleotide exchange on ARF1 and ARF6.

REFERENCES

- Liu, L. and Pohajdak, B. 1992. Cloning and sequencing of a human cDNA from cytolytic NK/T cells with homology to yeast Sec7. *Biochim. Biophys. Acta* 1132: 75-78.
- Kolanus, W., et al. 1996. $\alpha\text{L}\beta_2$ Integrin/LFA-1 binding to ICAM-1 induced by cytohesin-1, a cytoplasmic regulatory molecule. *Cell* 86: 233-242.
- Meacci, E., et al. 1997. Cytohesin-1, a cytosolic guanine nucleotide-exchange protein for ADP-ribosylation factor. *Proc. Natl. Acad. Sci. USA* 94: 1745-1748.

CHROMOSOMAL LOCATION

Genetic locus: CYTH1 (human) mapping to 17q25.3, CYTH2 (human) mapping to 19q13.33; Cyth1 (mouse) mapping to 11 E2, Cyth2 (mouse) mapping to 7 B4.

SOURCE

cytohesin-1/2 (D-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 360-392 at the C-terminus of cytohesin-2 of human origin.

PRODUCT

Each vial contains 200 μg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

cytohesin-1/2 (D-11) is available conjugated to agarose (sc-166542 AC), 500 μg /0.25 ml agarose in 1 ml, for IP; to HRP (sc-166542 HRP), 200 μg /ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166542 PE), fluorescein (sc-166542 FITC), Alexa Fluor[®] 488 (sc-166542 AF488), Alexa Fluor[®] 546 (sc-166542 AF546), Alexa Fluor[®] 594 (sc-166542 AF594) or Alexa Fluor[®] 647 (sc-166542 AF647), 200 μg /ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-166542 AF680) or Alexa Fluor[®] 790 (sc-166542 AF790), 200 μg /ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166542 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

cytohesin-1/2 (D-11) is recommended for detection of cytohesin-1 and cytohesin-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

cytohesin-1/2 (D-11) is also recommended for detection of cytohesin-1 and cytohesin-2 in additional species, including equine, canine, bovine and porcine.

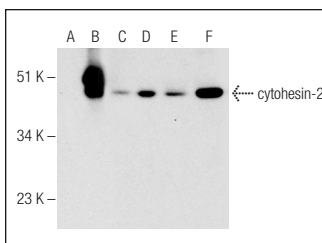
Molecular Weight of cytohesin-1/2: 50 kDa.

Positive Controls: cytohesin-1 (h): 293T Lysate: sc-116153, COLO 320DM cell lysate: sc-2226 or Caco-2 cell lysate: sc-2262.

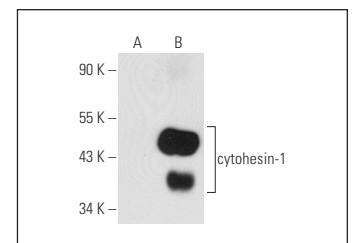
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



cytohesin-1/2 (D-11): sc-166542. Western blot analysis of cytohesin-2 expression in non-transfected 293T: sc-117752 (A), human cytohesin-2 transfected 293T: sc-176453 (B), COLO 320DM (C), Caco-2 (D) and Daoy (E) whole cell lysates and mouse brain tissue extract (F).



cytohesin-1/2 (D-11): sc-166542. Western blot analysis of cytohesin-1 expression in non-transfected: sc-117752 (A) and human cytohesin-1 transfected: sc-116153 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Guo, X., et al. 2022. PM2.5 induces pulmonary microvascular injury in COPD via METTL16-mediated m⁶A modification. *Environ. Pollut.* 303: 119115.

STORAGE

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

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