

Dynein IC1/2, cytosolic (H-300): sc-66866

BACKGROUND

Dyneins are multisubunit, high molecular weight ATPases that interact with microtubules to generate force by converting the chemical energy of ATP into the mechanical energy of movement. Cytoplasmic or axonemal Dynein heavy, intermediate, light and light-intermediate chains are all components of minus end-directed motors; the complex transports cellular cargos towards the central region of the cell. Axonemal Dynein motors contain one to three non-identical heavy chains and cause a sliding of microtubules in the axonemes of cilia and flagella in a mechanism necessary for cilia to beat and propel the cell. Cytoplasmic Dynein is an approximately 12 subunit complex of 2 heavy chains, 2 intermediate chains to anchor Dynein to its cargo, 4 smaller intermediate chains and several light chains. It performs functions necessary for cell survival such as organelle transport and centrosome assembly. The carboxy terminus of Dynein is important for microtubule-dependent motility and is highly conserved, while the amino-terminal regions are more variable. Several proteins regulate Dynein activity, including dynactin, LIS1 and NudEL(NudE-like).

REFERENCES

1. Mallik, R., et al. 2004. Cytoplasmic Dynein functions as a gear in response to load. *Nature* 427: 649-652.
2. Malikov, V., et al. 2004. Cytoplasmic Dynein nucleates microtubules to organize them into radial arrays *in vivo*. *Mol. Biol. Cell* 15: 2742-2749.
3. Asai, D.J., et al. 2004. The Dynein heavy chain family. *J. Eukaryot. Microbiol.* 51: 23-29.
4. Seetharam, R.N., et al. 2005. High speed sliding of axonemal microtubules produced by outer arm Dynein. *Cell Motil. Cytoskeleton* 60: 96-103.
5. He, Y., et al. 2005. Role of cytoplasmic Dynein in the axonal transport of microtubules and neurofilaments. *J. Cell Biol.* 168: 697-703.
6. Pfister, K.K., et al. 2005. Cytoplasmic Dynein nomenclature. *J. Cell Biol.* 171: 411-413.
7. McGrath, J.L. 2005. Dynein motility: four heads are better than two. *Curr. Biol.* 15: R970-R972.

CHROMOSOMAL LOCATION

Genetic locus: DYNC111 (human) mapping to 7q21.3, DYNC112 (human) mapping to 2q31.1; Dync1i1 (mouse) mapping to 6 A1, Dync1i2 (mouse) mapping to 2 C2.

SOURCE

Dynein IC1/2, cytosolic (H-300) is a rabbit polyclonal antibody raised against amino acids 339-638 mapping at the C-terminus of Dynein IC1, cytosolic of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Dynein IC1/2, cytosolic (H-300) is recommended for detection of Dynein IC1, cytosolic and Dynein IC2, cytosolic 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), 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).

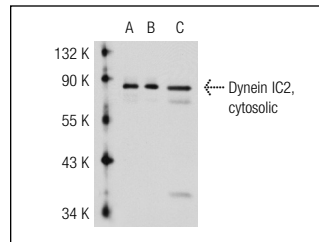
Dynein IC1/2, cytosolic (H-300) is also recommended for detection of Dynein IC1, cytosolic and Dynein IC2, cytosolic in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of Dynein IC1: 74 kDa.

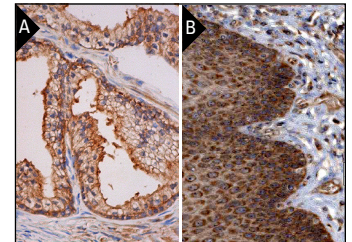
Molecular Weight of Dynein IC2: 72 kDa.

Positive Controls: T98G cell lysate: sc-2294, HeLa whole cell lysate: sc-2200 or Dynein IC1/2, cytosolic (h): 293T Lysate: sc-111526.

DATA



Dynein IC1/2, cytosolic (H-300): sc-66866. Western blot analysis of Dynein IC2, cytosolic expression in non-transfected 293T: sc-117752 (A), human Dynein IC2, cytosolic transfected 293T: sc-111526 (B) and HeLa (C) whole cell lysates.



Dynein IC1/2, cytosolic (H-300): sc-66866. Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing cytoplasmic and membrane staining of glandular cells. (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells at high magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

STORAGE

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

RESEARCH USE

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

MONOS
Satisfaction
Guaranteed

Try **Dynein IC1/2, cytosolic (74-1): sc-13524** or **Dynein IC1, cytosolic (G-1): sc-515227**, our highly recommended monoclonal alternatives to Dynein IC1/2, cytosolic (H-300). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Dynein IC1/2, cytosolic (74-1): sc-13524**.