

Dynein HC (C-18)-R: sc-7526-R

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. Li, J., et al. 2005. NudEL targets Dynein to microtubule ends through LIS1. *Nat. Cell Biol.* 7: 686-690.
5. Seetharam, R.N. and Satir, P. 2005. High speed sliding of axonemal microtubules produced by outer arm Dynein. *Cell Motil. Cytoskeleton* 60: 96-103.
6. He, Y., et al. 2005. Role of cytoplasmic Dynein in the axonal transport of microtubules and neurofilaments. *J. Cell Biol.* 168: 697-703.
7. Pfister, K.K., et al. 2005. Cytoplasmic dynein nomenclature. *J. Cell Biol.* 171: 411-413.

CHROMOSOMAL LOCATION

Genetic locus: DNCH1 (human) mapping to 14q32.31; Dnchc1 (mouse) mapping to 12 F1.

SOURCE

Dynein HC (C-18)-R is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Dynein 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.

Blocking peptide available for competition studies, sc-7526 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Dynein HC (C-18)-R is recommended for detection of Dynein heavy chain of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

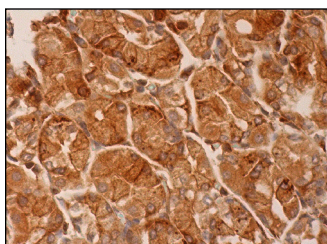
Dynein HC (C-18)-R is also recommended for detection of Dynein HC in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Dynein HC siRNA (h): sc-43738, Dynein HC siRNA (m): sc-44778, Dynein HC shRNA Plasmid (h): sc-43738-SH, Dynein HC shRNA Plasmid (m): sc-44778-SH, Dynein HC shRNA (h) Lentiviral Particles: sc-43738-V and Dynein HC shRNA (m) Lentiviral Particles: sc-44778-V.

Molecular Weight of Dynein HC: 500 kDa.

Positive Controls: T98G cell lysate: sc-2294, IMR-32 cell lysate: sc-2409 or L8 cell lysate: sc-3807.

DATA



Dynein HC Antibody (C-18)-R: sc-7526-R. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lower stomach tissue showing cytoplasmic and membrane staining of glandular cells.

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.

PROTOCOLS

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



Try **Dynein HC (C-5): sc-514579**, our highly recommended monoclonal alternative to Dynein HC (C-18).