SANTA CRUZ BIOTECHNOLOGY, INC.

DNCLI1 (H-7): sc-514141

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Dyneins are multi-subunit, high molecular weight ATPases that interact with microtubules to generate force by converting the chemical energy of ATP into the mechanical energy of movement. There are two families of Dynein motor complexes: axonemal Dynein heavy, intermediate, light and light-intermediate chains are all components of minus end-directed motors, while cytoplasmic Dyneins mainly function in intracellular transport. Belonging to the Dynein light intermediate chain family, DNCLI1 (cytoplasmic dynein 1 light intermediate chain 1) is a 523 amino acid protein that consists of at least three heavy chains, two intermediate chains and 8 light chains. DNCLI1 may play a role in binding Dynein heavy chain to chromosomes or membranous organelles and also may regulate Dynein enzymatic activity by associating with heavy chains of the Dynein head.

REFERENCES

1. Purohit, A., et al. 1999. Direct interaction of pericentrin with cytoplasmic dynein light intermediate chain contributes to mitotic spindle organization. J. Cell Biol. 147: 481-492.
2. Tynan, S.H., et al. 2000. Light intermediate chain 1 defines a functional subfraction of cytoplasmic dynein which binds to pericentrin. J. Biol. Chem. 275: 32763-32768.
3. Bielli, A., et al. 2001. The small GTPase Rab4A interacts with the central region of cytoplasmic dynein light intermediate chain-1. Biochem. Biophys. Res. Commun. 281: 1141-1153.
4. Ligon, L.A., et al. 2004. A direct interaction between cytoplasmic dynein and kinesin I may coordinate motor activity. J. Biol. Chem. 279: 19201-19208.
5. Song, Y., et al. 2007. Potential role for phosphorylation in differential regulation of the assembly of dynein light chains. J. Biol. Chem. 282: 17272-17279.
6. Lo, K.W., et al. 2007. Interaction of the DYNLT (TCTEX1/RP3) light chains and the intermediate chains reveals novel intersubunit regulation during assembly of the dynein complex. J. Biol. Chem. 282: 36871-36878.

CHROMOSOMAL LOCATION

Genetic locus: DYNC1LI1 (human) mapping to 3p22.3; Dync1li1 (mouse) mapping to 9 F3.

SOURCE

DNCLI1 (H-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 5-23 at the N-terminus of DNCLI1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-514141 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

DNCLI1 (H-7) is recommended for detection of DNCLI1 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).

Suitable for use as control antibody for DNCLI1 siRNA (h): sc-78144, DNCLI1 siRNA (m): sc-143120, DNCLI1 shRNA Plasmid (h): sc-78144-SH, DNCLI1 shRNA Plasmid (m): sc-143120-SH, DNCLI1 shRNA (h) Lentiviral Particles: sc-78144-V and DNCLI1 shRNA (m) Lentiviral Particles: sc-143120-V.

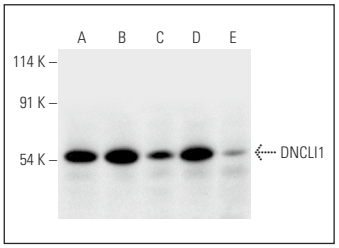
Molecular Weight of DNCLI1: 57 kDa.

Positive Controls: DU 145 cell lysate: sc-2268, Ramos cell lysate: sc-2216 or K-562 whole cell lysate: sc-2203.

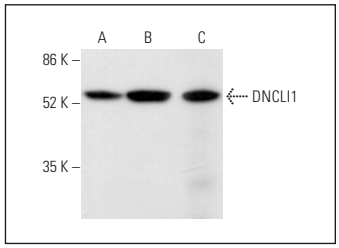
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



DNCLI1 (H-7): sc-514141. Western blot analysis of DNCLI1 expression in DU 145 (**A**), Ramos (**B**), MIA PaCa-2 (**C**), K-562 (**D**) and Raji (**E**) whole cell lysates.



DNCLI1 (H-7): sc-514141. Western blot analysis of DNCLI1 expression in PC-3 (**A**) and HeLa (**B**) whole cell lysates and rat heart tissue extract (**C**).

STORAGE

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

PROTOCOLS

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