SANTA CRUZ BIOTECHNOLOGY, INC.

Dynactin 3 (D-14): sc-162755

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The Power to Question

BACKGROUND

Dynactin, a multisubunit complex, is a cytoplasmic Dynein-interacting protein that functions as the "receptor" for the Dynein microtubule motor. Dynactin/Dynein binding may be required for most, if not all, cytoplasmic Dynein-driven activities and is thought to contribute to the functional diversity of Dynein. Enriched in neurons, Dynactin also binds to microtubules and has been shown to function in diverse processes, including organelle transport, formation of the mitotic spindle and cytokinesis. Dynactin 3, also known as Dynactin complex subunit 22 kDa subunit or p22, is a 186 amino acid subunit of the Dynactin complex. Dynactin 3 localizes to punctate cytoplasmic structures, to the centrosome during interphase and to the kinetochores and spindle poles throughout mitosis. Ubiquitously expressed, Dynactin 3 is found at highest levels in pancreas and muscle.

REFERENCES

1. Karki, S., et al. 1998. Characterization of the p22 subunit of dynactin reveals the localization of cytoplasmic dynein and dynactin to the midbody of dividing cells. J. Cell Biol. 142: 1023-1034.
2. Karki, S., et al. 2000. A dynactin subunit with a highly conserved cysteine-rich motif interacts directly with Arp1. J. Biol. Chem. 275: 4834-4839.
3. Mayor, T., et al. 2000. The centrosomal protein C-Nap1 is required for cell cycle-regulated centrosome cohesion. J. Cell Biol. 151: 837-846.
4. Mills, D.R., et al. 2001. Assignment of p22 dynactin light chain (DCTN3) to human chromosome region 9p13 by radiation hybrid mapping. Cytogenet. Cell Genet. 92: 166.
5. Takahashi, M., et al. 2002. Centrosomal proteins CG-NAP and kendrin provide microtubule nucleation sites by anchoring γ-tubulin ring complex. Mol. Biol. Cell 13: 3235-3245.
6. Casenghi, M., et al. 2003. Polo-like kinase 1 regulates Nlp, a centrosome protein involved in microtubule nucleation. Dev. Cell 5: 113-125.
7. Lehner, B., et al. 2004. Analysis of a high-throughput yeast two-hybrid system and its use to predict the function of intracellular proteins encoded within the human MHC class III region. Genomics 83: 153-167.
8. Lim, J., et al. 2006. A protein-protein interaction network for human inherited ataxias and disorders of Purkinje cell degeneration. Cell 125: 801-814.

CHROMOSOMAL LOCATION

Genetic locus: DCTN3 (human) mapping to 9p13.3; Dctn3 (mouse) mapping to 4 A5.

SOURCE

Dynactin 3 (D-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Dynactin 3 of human origin.

STORAGE

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

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-162755 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Dynactin 3 (D-14) is recommended for detection of Dynactin 3 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other Dynactin family members.

Dynactin 3 (D-14) is also recommended for detection of Dynactin 3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Dynactin 3 siRNA (h): sc-92863, Dynactin 3 siRNA (m): sc-143203, Dynactin 3 shRNA Plasmid (h): sc-92863-SH, Dynactin 3 shRNA Plasmid (m): sc-143203-SH, Dynactin 3 shRNA (h) Lentiviral Particles: sc-92863-V and Dynactin 3 shRNA (m) Lentiviral Particles: sc-143203-V.

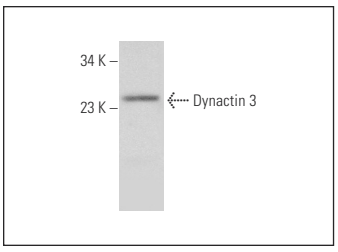
Molecular Weight of Dynactin 3: 22 kDa.

Positive Controls: rat skeletal muscle extract: sc-364810.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Dynactin 3 (D-14): sc-162755. Western blot analysis of Dynactin 3 expression in rat skeletal muscle tissue extract.

RESEARCH USE

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