

Dynactin 1 (E-6): sc-271166

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 subunits include p22, p50, p62, p150 (also designated Glued) and ARP-1. The p135 splice variant is neuron specific and, unlike p150, does not bind microtubules.

REFERENCES

1. Dillman, J.F., et al. 1996. Functional analysis of Dynactin and cytoplasmic Dynein in slow axonal transport. *J. Neurosci.* 16: 6742-6752.
2. Tokito, M.K., et al. 1996. Functionally distinct isoforms of Dynactin are expressed in human neurons. *Mol. Biol. Cell* 7: 1167-1180.
3. Waterman-Storer, C.M., et al. 1997. The interaction between cytoplasmic Dynein and Dynactin is required for fast axonal transport. *Proc. Natl. Acad. Sci. USA* 94: 12180-12185.
4. Holleran, E.A., et al. 1998. The role of the Dynactin complex in intracellular motility. *Int. Rev. Cytol.* 182: 69-109.
5. 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.
6. Berrueta, L., et al. 1999. The APC-associated protein EB1 associates with components of the Dynactin complex and cytoplasmic Dynein intermediate chain. *Curr. Biol.* 9: 425-428.
7. Karki, S., et al. 1999. Cytoplasmic Dynein and Dynactin in cell division and intracellular transport. *Curr. Opin. Cell Biol.* 11: 45-53.
8. Kraemer, J., et al. 1999. Cytoplasmic Dynein and Dynactin as likely candidates for microtubule-dependent apical targeting of pancreatic zymogen granules. *Eur. J. Cell Biol.* 78: 265-277.
9. Huang, C.Y., et al. 1999. M phase phosphorylation of cytoplasmic Dynein intermediate chain and p150^{Glued}. *J. Biol. Chem.* 274: 14262-14269.

CHROMOSOMAL LOCATION

Genetic locus: DCTN1 (human) mapping to 2p13.1.

SOURCE

Dynactin 1 (E-6) is a mouse monoclonal antibody raised against amino acids 964-1263 of Dynactin 1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

Dynactin 1 (E-6) is recommended for detection of p150 and p135 splice variants of Dynactin 1 of 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), 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).

Suitable for use as control antibody for Dynactin 1 siRNA (h): sc-43317, Dynactin 1 shRNA Plasmid (h): sc-43317-SH and Dynactin 1 shRNA (h) Lentiviral Particles: sc-43317-V.

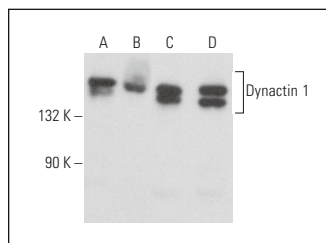
Molecular Weight of Dynactin 1 isoforms: 135/150 kDa.

Positive Controls: Ramos cell lysate: sc-2216, Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

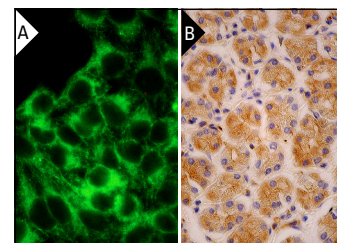
RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Dynactin 1 (E-6): sc-271166. Western blot analysis of Dynactin 1 expression in HeLa (A), Ramos (B) and Jurkat (C) whole cell lysates and human brain tissue extract (D).



Dynactin 1 (E-6): sc-271166. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach tissue showing cytoplasmic staining of glandular cells (B).

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.