

DYNLL1/2 (A-12): sc-31058

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. The highly conserved DYNLL proteins were originally identified as light chains for microtubule-based motor protein Dynein. In mammals there are two closely related isoforms expressed, DYNLL1 and DYNLL2 which share 93% sequence identity at the protein level. DYNLL1 (Dynein light chain 1) also designated, DLC8 or PIN (protein inhibitor of neuronal nitric oxide synthase) has been identified as a protein that interacts with NOS1 resulting in NOS1 inhibition. Dimerization is required for NOS1 activity and DYNLL1 has been shown to destabilize the NOS1 dimer. Nitric oxide may be involved in several processes such as apoptosis, synaptogenesis and neuronal development; thus DYNLL1 is implicated in these processes as well. DYNLL1 is a ubiquitously expressed protein that exhibits high expression in testis and moderate expression in brain. DYNLL2 (Dynein light chain 2) is subject to a unique alternative splicing event which is implicated in myosin Va binding specificity.

REFERENCES

1. Dick, T., Ray, K., Salz, H.K. and Chia, W. 1996. Cytoplasmic dynein (ddlc1) mutations cause morphogenetic defects and apoptotic cell death in *Drosophila melanogaster*. Mol. Cell. Biol. 16: 1966-1977.
2. Jaffrey, S.R. and Snyder, S.H. 1996. PIN: an associated protein inhibitor of neuronal nitric oxide synthase. Science 274: 774-777.
3. Fuhrmann, J.C., Kins, S., Rostaing, P., El Far, O., Kirsch, J., Sheng, M., Triller, A., Betz, H. and Kneussel, M. 2002. Gephyrin interacts with Dynein light chains 1 and 2, components of motor protein complexes. J. Neurosci. 22: 5393-5402.

CHROMOSOMAL LOCATION

Genetic locus: DYNLL1 (human) mapping to 12q24.31, DYNLL2 (human) mapping to 17q22; Dynll1 (mouse) mapping to 5 F, Dynll2 (mouse) mapping to 11 C.

SOURCE

DYNLL1/2 (A-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DYNLL1 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-31058 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

DYNLL1/2 (A-12) is recommended for detection of DYNLL1 and DYNLL2 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).

DYNLL1/2 (A-12) is also recommended for detection of DYNLL1 and DYNLL2 in additional species, including equine, canine, bovine and porcine.

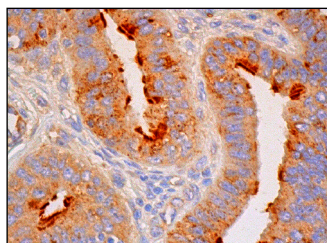
Molecular Weight of DYNLL1/2: 10 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, mouse testis extract: sc-2405 or human platelet lysate: sc-363773.

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) 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



DYNLL1/2 (A-12): sc-31058. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic 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.

MONOS
Satisfaction
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Try **DYNLL2 (1G7): sc-293315**, our highly recommended monoclonal alternative to DYNLL1/2 (A-12).