SANTA CRUZ BIOTECHNOLOGY, INC.

DNAH1 (S-20): sc-102483

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. 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. DNAH1 (Dynein heavy chain 1, axonemal), also known as heat shock regulated protein 1 or ciliary Dynein heavy chain 1, is a 4,330 amino acid protein consisting of at least 2 heavy chains and several intermediate and light chains. Mutations in the gene encoding DNAH1 may be a cause of primary ciliary dyskinesia, also known as Kartagener syndrome, which is characterized by chronic recurrent respiratory infections due to defective cilia action in the respiratory tract. There are three isoforms of DNAH1 that exist as a result of alternative splicing events.

REFERENCES

1. Vaughan, K.T., Mikami, A., Paschal, B.M., Holzbaur, E.L., Hughes, S.M., Echeverri, C.J., Moore, K.J., Gilbert, D.J., Copeland, N.G., Jenkins, N.A. and Vallee, R.B. 1996. Multiple mouse chromosomal loci for Dynein-based motility. Genomics 36: 29-38.
2. Chapelin, C., Duriez, B., Magnino, F., Goossens, M., Escudier, E. and Amselem, S. 1997. Isolation of several human axonemal Dynein heavy chain genes: genomic structure of the catalytic site, phylogenetic analysis and chromosomal assignment. FEBS Lett. 412: 325-330.
3. Neesen, J., Koehler, M.R., Kirschner, R., Steinlein, C., Kreutzberger, J., Engel, W. and Schmid, M. 1997. Identification of Dynein heavy chain genes expressed in human and mouse testis: chromosomal localization of an axonemal Dynein gene. Gene 200: 193-202.
4. Yagi, T. 2000. ADP-dependent microtubule translocation by flagellar inner-arm Dyneins. Cell Struct. Funct. 25: 263-267.

CHROMOSOMAL LOCATION

Genetic locus: DNAH1 (human) mapping to 3p21.1; Dnahc1 (mouse) mapping to 14 B.

SOURCE

DNAH1 (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DNAH1 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-102483 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

DNAH1 (S-20) is recommended for detection of DNAH1 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 DNAH family members.

DNAH1 (S-20) is also recommended for detection of DNAH1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for DNAH1 siRNA (h): sc-78027, DNAH1 siRNA (m): sc-143075, DNAH1 shRNA Plasmid (h): sc-78027-SH, DNAH1 shRNA Plasmid (m): sc-143075-SH, DNAH1 shRNA (h) Lentiviral Particles: sc-78027-V and DNAH1 shRNA (m) Lentiviral Particles: sc-143075-V.

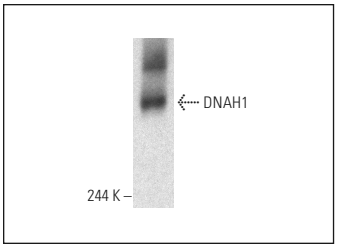
Molecular Weight of DNAH1: 494 kDa.

Positive Controls: F9 cell lysate: sc-2245.

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



DNAH1 (S-20): sc-102483. Western blot analysis of DNAH1 expression in F9 whole cell lysate.

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.