

DNAH5 (C-14): sc-162744

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; complexes that transport cellular cargo toward the central region of the cell. 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. DNAH5 (Dynein, axonemal, heavy chain 5), also known as HL1, PCD, CILD3 or KTGNR, is a 4,624 amino acid member of the Dynein family and functions to produce force toward the minus ends of microtubules and may play an important role in the structural and functional integrity of cellular cilia. Defects in the gene encoding DNAH5 are the cause of primary ciliary dyskinesia type 3 (CILD3) and Kartagener syndrome type 2 (KTGS2), both of which are characterized by ciliary abnormalities.

REFERENCES

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- Vaughan, K.T., et al. 1996. Multiple mouse chromosomal loci for Dynein-based motility. *Genomics* 36: 29-38.
- Omran, H., et al. 2000. Homozygosity mapping of a gene locus for primary ciliary dyskinesia on chromosome 5p and identification of the heavy Dynein chain DNAH5 as a candidate gene. *Am. J. Respir. Cell Mol. Biol.* 23: 696-702.
- Olbrich, H., et al. 2002. Mutations in DNAH5 cause primary ciliary dyskinesia and randomization of left-right asymmetry. *Nat. Genet.* 30: 143-144.
- Horváth, J., et al. 2005. Identification and analysis of axonemal Dynein light chain 1 in primary ciliary dyskinesia patients. *Am. J. Respir. Cell Mol. Biol.* 33: 41-47.
- Hornef, N., et al. 2006. DNAH5 mutations are a common cause of primary ciliary dyskinesia with outer Dynein arm defects. *Am. J. Respir. Crit. Care Med.* 174: 120-126.

CHROMOSOMAL LOCATION

Genetic locus: DNAH5 (human) mapping to 5p15.2; Dnahc5 (mouse) mapping to 15 B1.

SOURCE

DNAH5 (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of DNAH5 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-162744 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DNAH5 (C-14) is recommended for detection of DNAH5 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.

Suitable for use as control antibody for DNAH5 siRNA (h): sc-92043, DNAH5 siRNA (m): sc-143080, DNAH5 shRNA Plasmid (h): sc-92043-SH, DNAH5 shRNA Plasmid (m): sc-143080-SH, DNAH5 shRNA (h) Lentiviral Particles: sc-92043-V and DNAH5 shRNA (m) Lentiviral Particles: sc-143080-V.

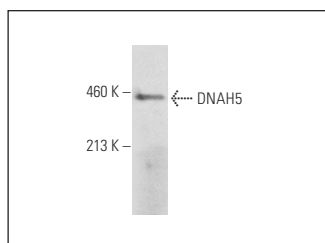
Molecular Weight of DNAH5: 529 kDa.

Positive Controls: human skeletal muscle extract: sc-363776.

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 Blotting 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



DNAH5 (C-14): sc-162744. Western blot analysis of DNAH5 expression in human skeletal muscle tissue extract.

STORAGE

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

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.