DNHD1 (S-20): sc-323794

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. 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. 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. DNHD1 (dynein heavy chain domain-containing protein 1), also known as CCDC35, DHCD1 or DNHD1L, is a 4,753 amino acid member of the dynein heavy chain protein family. Phosphorylated upon DNA damage, DNHD1 contains 12 LRR (leucine-rich) repeats. The gene that encodes DNHD1 maps to human chromosome 11, which contains 135 million base pairs and 1,400 genes.

REFERENCES

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2. Jikuya, H., et al. 2003. Characterization of long cDNA clones from human adult spleen. II. The complete sequences of 81 cDNA clones. DNA Res. 10: 49-57.

3. Asai, D.J., et al. 2004. The dynein heavy chain family. J. Eukaryot. Microbiol. 51: 23-29.

4. Seetharam, R.N., et al. 2005. High speed sliding of axonemal microtubules produced by outer arm dynein. Cell Motil. Cytoskeleton 60: 96-103.

5. Lee, W.L., et al. 2005. The offloading model for dynein function: differential function of motor subunits. J. Cell Biol. 168: 201-207.

6. Kimura, K., et al. 2006. Diversification of transcriptional modulation: large-scale identification and characterization of putative alternative promoters of human genes. Genome Res. 16: 55-65.

7. Matsuoka, S., et al. 2007. ATM and ATR substrate analysis reveals extensive protein networks responsive to DNA damage. Science 316: 1160-1166.

CHROMOSOMAL LOCATION

Genetic locus: DNHD1 (human) mapping to 11p15.4.

SOURCE

DNHD1 (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DNHD1 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-323794 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DNHD1 (S-20) is recommended for detection of DNHD1 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

DNHD1 (S-20) is also recommended for detection of DNHD1 in additional species, including equine.

Suitable for use as control antibody for DNHD1 siRNA (h): sc-96735, DNHD1 shRNA Plasmid (h): sc-96735-SH and DNHD1 shRNA (h) Lentiviral Particles: sc-96735-V.

Molecular Weight of DNHD1: 534 kDa.

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.

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.