SANTA CRUZ BIOTECHNOLOGY, INC.

DNAH11 (E-14): sc-162741

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. DNAH11 (axonemal dynein heavy chain isotype 11) is a 4,523 amino acid microtubule-dependent motor ATPase that is involved in respiratory cilia movement. Mutations in the gene encoding DNAH11 have been linked to Kartagener syndrome, which is characterized by male sterility.

REFERENCES

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2. Kastury, K., et al. 1997. Chromosomal mapping of two members of the human dynein gene family to chromosome regions 7p15 and 11q13 near the deafness loci DFNA 5 and DFNA 11. Genomics 44: 362-364.
3. Bartoloni, L., et al. 2002. Mutations in the DNAH11 (axonemal heavy chain dynein type 11) gene cause one form of situs inversus totalis and most likely primary ciliary dyskinesia. Proc. Natl. Acad. Sci. USA 99: 10282-10286.
4. Varadi, A., et al. 2004. Cytoplasmic dynein regulates the subcellular distribution of mitochondria by controlling the recruitment of the fission factor dynamin-related protein-1. J. Cell Sci. 117: 4389-4400.
5. Schwabe, G.C., et al. 2008. Primary ciliary dyskinesia associated with normal axoneme ultrastructure is caused by DNAH11 mutations. Hum. Mutat. 29: 289-298.
6. Zuccarello, D., et al. 2008. Mutations in dynein genes in patients affected by isolated non-syndromic asthenozoospermia. Hum. Reprod. 23: 1957-1962.
7. Escudier, E., et al. 2009. Ciliary defects and genetics of primary ciliary dyskinesia. Paediatr. Respir. Rev. 10: 51-54.
8. Pifferi, M., et al. 2010. New DNAH11 mutations in primary ciliary dyskinesia with normal axonemal ultrastructure. Eur. Respir. J. 35: 1413-1416.

CHROMOSOMAL LOCATION

Genetic locus: DNAH11 (human) mapping to 7p15.3; Dnahc11 (mouse) mapping to 12 F2.

SOURCE

DNAH11 (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DNAH11 of human origin.

STORAGE

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

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-162741 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DNAH11 (E-14) is recommended for detection of DNAH11 of human origin, DNAHC11 of mouse origin and the corresponding rat homolog 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); non cross-reactive with other DNAH family members.

Suitable for use as control antibody for DNAH11 siRNA (h): sc-89758, DNAHC11 siRNA (m): sc-143083, DNAH11 shRNA Plasmid (h): sc-89758-SH, DNAHC11 shRNA Plasmid (m): sc-143083-SH, DNAH11 shRNA (h) Lentiviral Particles: sc-89758-V and DNAHC11 shRNA (m) Lentiviral Particles: sc-143083-V.

Molecular Weight of DNAH11: 521 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.

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.