

DNAH10 (E-20): sc-167645

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. DNAH10 (dynein, axonemal, heavy chain 10), also known as KIAA2017 or FLJ38262, is a 4,471 amino acid member of the dynein heavy chain protein family. Expressed primarily in testis and trachea, DNAH10 contains 16 LRR repeats and 5 TPR repeats. DNAH10 is the force generating protein of respiratory cilia.

REFERENCES

- Maiti, A.K., et al. 2000. Identification, tissue specific expression, and chromosomal localisation of several human dynein heavy chain genes. *Eur. J. Hum. Genet.* 8: 923-932.
- Carson, J.L., et al. 2002. Axonemal dynein expression in human fetal tracheal epithelium. *Am. J. Physiol. Lung Cell Mol. Physiol.* 282: L421-L430.
- Seetharam, R.N., et al. 2005. High speed sliding of axonemal microtubules produced by outer arm dynein. *Cell Motil. Cytoskeleton* 60: 96-103.
- Lee, W.L., et al. 2005. The offloading model for dynein function: differential function of motor subunits. *J. Cell Biol.* 168: 201-207.
- Pazour, G.J., et al. 2006. Identification of predicted human outer dynein arm genes: candidates for primary ciliary dyskinesia genes. *J. Med. Genet.* 43: 62-73.
- Chasman, D.I., et al. 2009. Forty-three loci associated with plasma lipoprotein size, concentration, and cholesterol content in genome-wide analysis. *PLoS Genet.* 5: e1000730.

CHROMOSOMAL LOCATION

Genetic locus: DNAH10 (human) mapping to 12q24.31; Dnahc10 (mouse) mapping to 5 F.

SOURCE

DNAH10 (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DNAH10 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-167645 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

DNAH10 (E-20) is recommended for detection of DNAH10 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other DNAH family members.

DNAH10 (E-20) is also recommended for detection of DNAH10 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for DNAH10 siRNA (h): sc-95732, DNAH10 siRNA (m): sc-143076, DNAH10 shRNA Plasmid (h): sc-95732-SH, DNAH10 shRNA Plasmid (m): sc-143076-SH, DNAH10 shRNA (h) Lentiviral Particles: sc-95732-V and DNAH10 shRNA (m) Lentiviral Particles: sc-143076-V.

Molecular Weight of DNAH10 isoforms: 515/127 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.