

DNAH7 (G-13): sc-167657

BACKGROUND

.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. Dynein complexes transport cellular cargos toward the central region of the cell. Containing one to three non-identical heavy chains, axonemal dynein motors cause a sliding of microtubules in the axonemes of cilia and flagella in a mechanism necessary for cilia movement and cell propulsion. DNAH7 (dynein, axonemal, heavy chain 7), also known as FLJ37196, KIAA0944 or MGC39580, is a 4,024 amino acid member of the dynein heavy chain protein family. Expressed in testis, brain and trachea, DNAH7 exists as four isoforms produced by alternative splicing events. DNAH7 is a force-generating protein of respiratory cilia and is upregulated during ciliogenesis.

REFERENCES

1. Neesen, J., et al. 1997. Identification of dynein heavy chain genes expressed in human and mouse testis: chromosomal localization of an axonemal dynein gene. *Gene* 200: 193-202.
2. Milisav, I., et al. 1998. A potential human axonemal dynein heavy-chain gene maps to 17q25. *Mamm. Genome* 9: 404-407.
3. Carson, J.L., et al. 2002. Axonemal dynein expression in human fetal tracheal epithelium. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 282: L421-L430.
4. Zhang, Y.J., et al. 2002. Identification of dynein heavy chain 7 as an inner arm component of human cilia that is synthesized but not assembled in a case of primary ciliary dyskinesia. *J. Biol. Chem.* 277: 17906-17915.
5. Fliegau, M., et al. 2005. Mislocalization of DNAH5 and DNAH9 in respiratory cells from patients with primary ciliary dyskinesia. *Am. J. Respir. Crit. Care Med.* 171: 1343-1349.
6. Seetharam, R.N., et al. 2005. High speed sliding of axonemal microtubules produced by outer arm dynein. *Cell Motil. Cytoskeleton* 60: 96-103.

CHROMOSOMAL LOCATION

Genetic locus: DNAH7 (human) mapping to 2q32.3; Dnahc7b (mouse) mapping to 1 C1.1.

SOURCE

DNAH7 (G-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DNAH7 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-167657 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

DNAH7 (G-13) is recommended for detection of DNAH7 of human and rat origin and DNAHC7B of mouse 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.

DNAH7 (G-13) is also recommended for detection of DNAH7 in additional species, including equine and bovine.

Suitable for use as control antibody for DNAH7 siRNA (h): sc-94382, DNAHC7B siRNA (m): sc-143087, DNAH7 shRNA Plasmid (h): sc-94382-SH, DNAHC7B shRNA Plasmid (m): sc-143087-SH, DNAH7 shRNA (h) Lentiviral Particles: sc-94382-V and DNAHC7B shRNA (m) Lentiviral Particles: sc-143087-V.

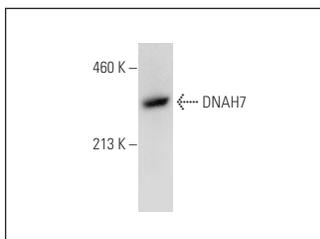
Molecular Weight of DNAH7 isoform 1/2/3/4: 461/58/21/58 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

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



DNAH7 (G-13): sc-167657. Western blot analysis of DNAH7 expression in HeLa 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.