SANTA CRUZ BIOTECHNOLOGY, INC.

IFT172 (D-16): sc-138961

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Intraflagellar transport is mediated by a variety of intraflagellar transport proteins (IFTs) that work in tandem to mediate ciliary and flagellar process assembly. Endogenous IFT proteins are most highly expressed within the inner segment, around the basal body, and within the outer segment. Addi-tionally, IFT proteins are localized in discrete particles along the entire length of the axoneme. IFT proteins are divided into 2 subcomplexes, A and B, which contain at least 6 or 11 subunits, respectively. IFT-A proteins are associated with retrograde transport, whereas IFT-B proteins are thought to be involved in structure because, in their absence, cilia and flagella may be truncated, or completely absent. IFT172 (intraflagellar transport 172), also known as SLB, wim or osm-1, is a 1,749 amino acid protein that belongs to the IFT172 family and localizes to the cilium. Containing fourteen TPR repeats and nine WD repeats, IFT172 is required for the maintenance and formation of cilia. IFT172 plays an indirect role in Shh signaling, with cilia being required for all activity of the hedgehog pathway.

REFERENCES

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2. Deane, J.A., Cole, D.G., Seeley, E.S., Diener, D.R. and Rosenbaum, J.L. 2001. Localization of intraflagellar transport protein IFT52 identifies basal body transitional fibers as the docking site for IFT particles. Curr. Biol. 11: 1586-1590.
3. Baker, S.A., Freeman, K., Luby-Phelps, K., Pazour, G.J. and Besharse, J.C. 2003. IFT20 links kinesin II with a mammalian intraflagellar transport complex that is conserved in motile flagella and sensory cilia. J. Biol. Chem. 278: 34211-34218.
4. Huangfu, D., Liu, A., Rakeman, A.S., Murcia, N.S., Niswander, L. and Anderson, K.V. 2003. Hedgehog signalling in the mouse requires intraflagellar transport proteins. Nature 426: 83-87.
5. Tsujikawa, M. and Malicki, J. 2004. Intraflagellar transport genes are essential for differentiation and survival of vertebrate sensory neurons. Neuron 42: 703-716.
6. Liu, A., Wang, B. and Niswander, L.A. 2005. Mouse intraflagellar transport proteins regulate both the activator and repressor functions of Gli transcription factors. Development 132: 3103-3111.

CHROMOSOMAL LOCATION

Genetic locus: IFT172 (human) mapping to 2p23.3; Ift172 (mouse) mapping to 5 B1.

SOURCE

IFT172 (D-16) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of IFT172 of human origin.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-138961 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

IFT172 (D-16) is recommended for detection of IFT172 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other IFT172 family members.

IFT172 (D-16) is also recommended for detection of IFT172 in additional species, including equine, canine and avian.

Suitable for use as control antibody for IFT172 siRNA (h): sc-94558, IFT172 siRNA (m): sc-146173, IFT172 shRNA Plasmid (h): sc-94558-SH, IFT172 shRNA Plasmid (m): sc-146173-SH, IFT172 shRNA (h) Lentiviral Particles: sc-94558-V and IFT172 shRNA (m) Lentiviral Particles: sc-146173-V.

Molecular Weight of IFT172: 197 kDa.

Positive Controls: A549 cell lysate: sc-2413 or NTERA-2 cl.D1 whole cell lysate: sc-364181.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.