

IFT172 (A-11): sc-398393

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. Additionally, 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 14 TPR repeats and 9 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

- Howard, P.W. and Maurer, R.A. 2000. Identification of a conserved protein that interacts with specific LIM homeodomain transcription factors. *J. Biol. Chem.* 275: 13336-13342.
- Deane, J.A., et al. 2001. Localization of intraflagellar transport protein IFT52 identifies basal body transitional fibers as the docking site for IFT particles. *Curr. Biol.* 11: 1586-1590.
- Huangfu, D., et al. 2003. Hedgehog signalling in the mouse requires intraflagellar transport proteins. *Nature* 426: 83-87.

CHROMOSOMAL LOCATION

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

SOURCE

IFT172 (A-11) is a mouse monoclonal antibody raised against amino acids 1353-1652 mapping within an internal region of IFT172 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IFT172 (A-11) is available conjugated to agarose (sc-398393 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398393 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398393 PE), fluorescein (sc-398393 FITC), Alexa Fluor® 488 (sc-398393 AF488), Alexa Fluor® 546 (sc-398393 AF546), Alexa Fluor® 594 (sc-398393 AF594) or Alexa Fluor® 647 (sc-398393 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398393 AF680) or Alexa Fluor® 790 (sc-398393 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

IFT172 (A-11) is recommended for detection of IFT172 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

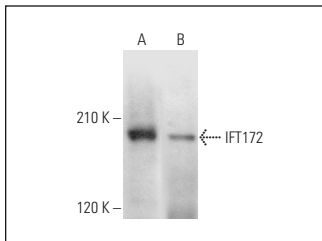
Molecular Weight of IFT172: 197 kDa.

Positive Controls: A549 cell lysate: sc-2413, rat testis extract: sc-2400 or NTERA-2 cl.D1 whole cell lysate: sc-364181.

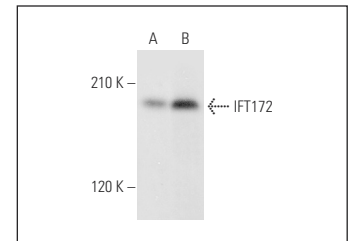
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



IFT172 (A-11): sc-398393. Western blot analysis of IFT172 expression in NTERA-2 cl.D1 whole cell lysate (A) and rat testis tissue extract (B).



IFT172 (A-11): sc-398393. Western blot analysis of IFT172 expression in A549 (A) and NTERA-2 cl.D1 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Wang, Q., et al. 2018. Membrane association and remodeling by intraflagellar transport protein IFT172. *Nat. Commun.* 9: 4684.
- Kunova Bosakova, M., et al. 2019. Fibroblast growth factor receptor influences primary cilium length through an interaction with intestinal cell kinase. *Proc. Natl. Acad. Sci. USA* 116: 4316-4325.

STORAGE

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