SANTA CRUZ BIOTECHNOLOGY, INC.

IFT20 (3F3): sc-517184

BACKGROUND

IFT20 (intraflagellar transport 20) is a 132 amino acid protein that localizes to a variety of locations within the cell, including the Golgi apparatus, the cilium basal body and the centrosome. Expressed ubiquitously, IFT20 interacts with KIF3B and functions as a component of the intraflagellar transport (IFT), which is comprised of several IFT proteins that work in tandem to mediate ciliary process assembly. Additionally, IFT20 is thought to play a role in the trafficking of ciliary membrane proteins from the Golgi to the cilium. Defects in the gene encoding IFT20 are associated with misorientation of the mitotic spindle and cystic kidney disease, which can ultimately lead to renal failure. IFT20 is expressed as three alternatively spliced isoforms and is encoded by a gene that maps to human chromosome 17q11.2, which comprises nearly 2.5% of the human genome and houses over 1,200 genes.

REFERENCES

1. 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.
2. Yin, G., Dai, J., Ji, C., Ni, X., Shu, G., Ye, X., Dai, J., Wu, Q., Gu, S., Xie, Y., Zhao, R.C. and Mao, Y. 2003. Cloning and characterization of the human IFT20 gene. Mol. Biol. Rep. 30: 255-260.
3. Jurczyk, A., Gromley, A., Redick, S., San Agustin, J., Witman, G., Pazour, G.J., Peters, D.J. and Doxsey, S. 2004. Pericentrin forms a complex with intraflagellar transport proteins and Polycystin-2 and is required for primary cilia assembly. J. Cell Biol. 166: 637-643.
4. Follit, J.A., Tuft, R.A., Fogarty, K.E. and Pazour, G.J. 2006. The intraflagellar transport protein IFT20 is associated with the Golgi complex and is required for cilia assembly. Mol. Biol. Cell 17: 3781-3792.
5. Jonassen, J.A., San Agustin, J., Follit, J.A. and Pazour, G.J. 2008. Deletion of IFT20 in the mouse kidney causes misorientation of the mitotic spindle and cystic kidney disease. J. Cell Biol. 183: 377-384.
6. Krock, B.L. and Perkins, B.D. 2008. The intraflagellar transport protein IFT57 is required for cilia maintenance and regulates IFT-particle-Kinesin II dissociation in vertebrate photoreceptors. J. Cell Sci. 121: 1907-1915.
7. Absalon, S., Blisnick, T., Kohl, L., Toutirais, G., Doré, G., Julkowska, D., Tavenet, A. and Bastin, P. 2008. Intraflagellar transport and functional analysis of genes required for flagellum formation in trypanosomes. Mol. Biol. Cell 19: 929-944.

CHROMOSOMAL LOCATION

Genetic locus: IFT20 (human) mapping to 17q11.2.

SOURCE

IFT20 (3F3) is a mouse monoclonal antibody raised against amino acids 1-148 representing full length IFT20 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

IFT20 (3F3) is recommended for detection of IFT20 of human 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).

Suitable for use as control antibody for IFT20 siRNA (h): sc-94233, IFT20 shRNA Plasmid (h): sc-94233-SH and IFT20 shRNA (h) Lentiviral Particles: sc-94233-V.

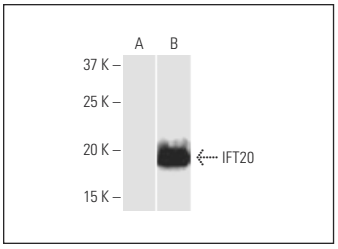
Molecular Weight of IFT20: 18 kDa.

Positive Controls: IFT20 transfected 293T whole cell lysate.

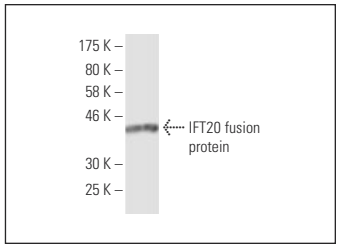
RECOMMENDED SUPPORT REAGENTS

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



IFT20 (3F3): sc-517184. Western blot analysis of IFT20 expression in non-transfected (**A**) and IFT20 transfected (**B**) 293T whole cell lysates.



IFT20 (3F3): sc-517184. Western blot analysis of human recombinant IFT20 fusion protein.

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 for detailed protocols and support products.