

# Chibby (8-2): sc-101551

## BACKGROUND

Chibby, also known as cytosolic leucine-rich protein and PIGEA-14, is a 126 amino acid highly conserved protein that inhibits  $\beta$ -catenin-mediated transcriptional activation by competing with LEF-1 to bind  $\beta$ -catenin. Chibby may also play a role in the regulation of the intracellular location of Polycystin-2 and other intracellular proteins. Acting as a homodimer, Chibby is subcellularly localized to the nucleus and Golgi apparatus within the *trans*-Golgi network. Interaction with 14-3-3 results in the sequestration of Chibby to the cytoplasm and formation of a stable complex with  $\beta$ -catenin, thereby facilitating nuclear export of  $\beta$ -catenin. Though widely expressed, Chibby is found at highest levels in skeletal muscle, heart, placenta and kidney. Down-regulation of Chibby is observed in thyroid and metastatic uterine tumors, suggesting that the gene encoding Chibby may function as a tumor suppressor.

## REFERENCES

1. Takemaru, K., et al. 2003. Chibby, a nuclear  $\beta$ -catenin-associated antagonist of the Wnt/Wingless pathway. *Nature* 422: 905-909.
2. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607757. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Gad, S., et al. 2004. Is the gene encoding Chibby implicated as a tumour suppressor in colorectal cancer? *BMC Cancer* 4: 31.
4. Hidaka, S., et al. 2004. PIGEA-14, a novel coiled-coil protein affecting the intracellular distribution of Polycystin-2. *J. Biol. Chem.* 279: 35009-35016.
5. Jung, Y., et al. 2006. TC1 (C8orf4) enhances the Wnt/ $\beta$ -catenin pathway by relieving antagonistic activity of Chibby. *Cancer Res.* 66: 723-728.
6. Schuierer, M.M., et al. 2006. Reduced expression of  $\beta$ -catenin inhibitor Chibby in colon carcinoma cell lines. *World J. Gastroenterol.* 12: 1529-1535.
7. Li, F.Q., et al. 2007. Chibby promotes adipocyte differentiation through inhibition of  $\beta$ -catenin signaling. *Mol. Cell. Biol.* 27: 4347-4354.
8. Gall, C., et al. 2007. The intrinsically disordered TC-1 interacts with Chibby via regions with high helical propensity. *Protein Sci.* 16: 2510-2518.
9. Li, F.Q., et al. 2008. Chibby cooperates with 14-3-3 to regulate  $\beta$ -catenin subcellular distribution and signaling activity. *J. Cell Biol.* 181: 1141-1154.

## CHROMOSOMAL LOCATION

Genetic locus: CBY1 (human) mapping to 22q13.1; Cby1 (mouse) mapping to 15 E1.

## SOURCE

Chibby (8-2) is a mouse monoclonal antibody raised against amino acids 1-63 of Chibby of human origin.

## STORAGE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Chibby (8-2) is available conjugated to agarose (sc-101551 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-101551 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-101551 PE), fluorescein (sc-101551 FITC), Alexa Fluor® 488 (sc-101551 AF488), Alexa Fluor® 546 (sc-101551 AF546), Alexa Fluor® 594 (sc-101551 AF594) or Alexa Fluor® 647 (sc-101551 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-101551 AF680) or Alexa Fluor® 790 (sc-101551 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Chibby (8-2) is recommended for detection of Chibby of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Chibby siRNA (h): sc-72890, Chibby siRNA (m): sc-142327, Chibby shRNA Plasmid (h): sc-72890-SH, Chibby shRNA Plasmid (m): sc-142327-SH, Chibby shRNA (h) Lentiviral Particles: sc-72890-V and Chibby shRNA (m) Lentiviral Particles: sc-142327-V.

Molecular Weight of Chibby: 14 kDa.

Positive Controls: HeLa nuclear extract: sc-2120.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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).

## SELECT PRODUCT CITATIONS

1. Love, D., et al. 2010. Altered lung morphogenesis, epithelial cell differentiation and mechanics in mice deficient in the Wnt/ $\beta$ -catenin antagonist Chibby. *PLoS ONE* 5: e13600.
2. Enjolras, C., et al. 2012. *Drosophila* Chibby is required for basal body formation and ciliogenesis but not for Wg signaling. *J. Cell Biol.* 197: 313-325.
3. Zou, J., et al. 2013. FancJ regulates interstrand crosslinker induced centrosome amplification through the activation of polo-like kinase 1. *Biol. Open* 2: 1022-1031.

## RESEARCH USE

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