SANTA CRUZ BIOTECHNOLOGY, INC.

JRAB (h3): 293T Lysate: sc-177416

BACKGROUND

JRAB (junctional Rab 13-binding protein, MICAL-like protein 2) is a 904 amino acid protein with one CH (calponin-homology) domain and one LIM zinc-binding domain. JRAB has been shown to interact with Rab 13 and Rab 8 to facilitate cellular transport of claudin-1, Occludin and E-cadherin. This interaction is vital for the coordination of the assembly of tight junctions (TJs) and adherens junctions (AJs). Dynamic turnover (endocytic recycling) of cell-to-cell AJs and TJs is essential for epithelial morphogenesis during normal development and differentiation. The endocytic recycling of Occludin and cluadin proteins is part of an ongoing process of restructuring and maintaining cell junctions, especially at TJs. JRAB and Rab13 have also been implicated in the carcinoma metastasis event of epithelial cell scattering. This event shows Rab 13 and JRAB colocalizing with F-actin in lamellipodial structures prior to cell scattering.

REFERENCES

1. Terai, T., Nishimura, N., Kanda, I., Yasui, N. and Sasaki, T. 2006. JRAB/MICAL-L2 is a junctional Rab 13-binding protein mediating the endocytic recycling of Occludin. Mol. Biol. Cell 17: 2465-2475.
2. Nishimura, N. and Sasaki, T. 2008. Regulation of epithelial cell adhesion and repulsion: role of endocytic recycling. J. Med. Invest. 55: 9-16.
3. Nishimura, N. and Sasaki, T. 2008. Identification and characterization of JRAB/MICAL-L2, a junctional Rab 13-binding protein. Meth. Enzymol. 438: 141-153.
4. Yamamura, R., Nishimura, N., Nakatsuji, H., Arase, S. and Sasaki, T. 2008. The interaction of JRAB/MICAL-L2 with Rab 8 and Rab 13 coordinates the assembly of tight junctions and adherens junctions. Mol. Biol. Cell 19: 971-983.
5. Nakatsuji, H., Nishimura, N., Yamamura, R., Kanayama, H.O. and Sasaki, T. 2008. Involvement of actinin-4 in the recruitment of JRAB/MICAL-L2 to cell-cell junctions and the formation of functional tight junctions. Mol. Cell. Biol. 28: 3324-3335.
6. Kanda, I., Nishimura, N., Nakatsuji, H., Yamamura, R., Nakanishi, H. and Sasaki, T. 2008. Involvement of Rab 13 and JRAB/MICAL-L2 in epithelial cell scattering. Oncogene 27: 1687-1695.
7. Nishimura, N. and Sasaki, T. 2009. Rab family small G proteins in regulation of epithelial apical junctions. Front. Biosci. 14: 2115-2129.
8. Sakane, A., Honda, K. and Sasaki, T. 2010. Rab 13 regulates neurite outgrowth in PC-12 cells through its effector protein, JRAB/MICAL-L2. Mol. Cell. Biol. 30: 1077-1087.

CHROMOSOMAL LOCATION

Genetic locus: MICALL2 (human) mapping to 7p22.3.

PRODUCT

JRAB (h3): 293T Lysate represents a lysate of human JRAB transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

JRAB (h3): 293T Lysate is suitable as a Western Blotting positive control for human reactive JRAB antibodies. Recommended use: 10-20 µl per lane.

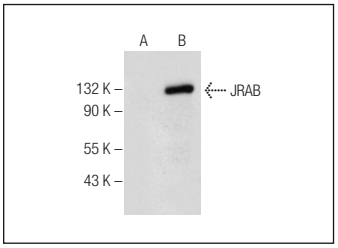
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

JRAB (G-10): sc-376791 is recommended as a positive control antibody for Western Blot analysis of enhanced human JRAB expression in JRAB transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

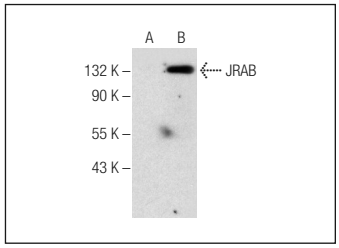
RECOMMENDED SUPPORT REAGENTS

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.

DATA



JRAB (G-10): sc-376791. Western blot analysis of JRAB expression in non-transfected: sc-117752 (**A**) and human JRAB transfected: sc-177416 (**B**) 293T whole cell lysates.



JRAB (F-5): sc-376675. Western blot analysis of JRAB expression in non-transfected: sc-117752 (**A**) and human JRAB transfected: sc-177416 (**B**) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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