

AF-6 (35): sc-135823

BACKGROUND

The dynamics of a cell-cell interface such as tight junctions or adherens junctions are important in many developmental, physiological and pathological processes. AF-6 (MLLT4: myeloid/lymphoid or mixed-lineage leukemia translocated to 4) is a 1,612 amino acid protein that contains two N-terminal Ras binding domains (RBD) and a GLGF motif, and is implicated in Ras-mediated signaling events occurring at peripheral cell-cell junctions. AF-6 interacts with F-Actin and Profilin in cell-cell junctions, and may modulate Actin modeling near adhesion complexes. Furthermore, AF-6 coordinates junction adhesion molecule (JAM) recruitment to intercellular junctions through a PDZ domain. Developing mice deficient in AF-6 activity display a loss of neuro-epithelial polarity, suggesting that AF-6 activity is an important regulator of cell-cell junctions that influence apical/basolateral asymmetry.

REFERENCES

1. Prasad, R., et al. 1993. Cloning of the ALL-1 fusion partner, the AF-6 gene, involved in acute myeloid leukemias with the t(6;11) chromosome translocation. *Cancer Res.* 53: 5624-5628.
2. Kuriyama, M., et al. 1996. Identification of AF-6 and canoe as putative targets for Ras. *J. Biol. Chem.* 271: 607-610.
3. Yamamoto, T., et al. 1997. The Ras target AF-6 interacts with ZO-1 and serves as a peripheral component of tight junctions in epithelial cells. *J. Cell Biol.* 139: 785-795.
4. Zhadanov, A.B., et al. 1999. Absence of the tight junctional protein AF-6 disrupts epithelial cell-cell junctions and cell polarity during mouse development. *Curr. Biol.* 9: 880-888.
5. Boettner, B., et al. 2000. The junctional multidomain protein AF-6 is a binding partner of the Rap1A GTPase and associates with the Actin cytoskeletal regulator Profilin. *Proc. Natl. Acad. Sci. USA* 97: 9064-9069.
6. Ebnet, K., et al. 2000. Junctional adhesion molecule interacts with the PDZ domain-containing proteins AF-6 and ZO-1. *J. Biol. Chem.* 275: 27979-27988.

CHROMOSOMAL LOCATION

Genetic locus: MLLT4 (human) mapping to 6q27; Mllt4 (mouse) mapping to 17 A1.

SOURCE

AF-6 (35) is a mouse monoclonal antibody raised against amino acids 1091-1233 of AF-6 of human origin.

PRODUCT

Each vial contains 50 µg IgG_{2a} in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

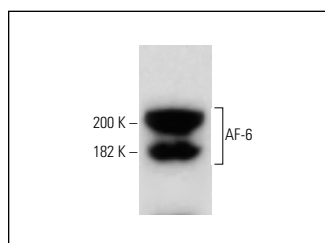
AF-6 (35) is recommended for detection of AF-6 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); not recommended for immunoprecipitation.

Suitable for use as control antibody for AF-6 siRNA (h): sc-43007, AF-6 siRNA (m): sc-43008, AF-6 shRNA Plasmid (h): sc-43007-SH, AF-6 shRNA Plasmid (m): sc-43008-SH, AF-6 shRNA (h) Lentiviral Particles: sc-43007-V and AF-6 shRNA (m) Lentiviral Particles: sc-43008-V.

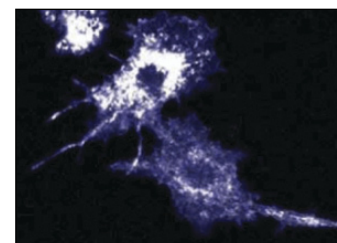
Molecular Weight of AF-6: 200 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, SK-N-MC cell lysate: sc-2237 or IMR-32 cell lysate: sc-2409.

DATA



AF-6 (35): sc-135823. Western blot analysis of AF-6 expression in PC-12 whole cell lysate.



AF-6 (35): sc-135823. Immunofluorescence staining of mouse macrophage cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Iwasawa, N., et al. 2012. R-Ras controls axon branching through afadin in cortical neurons. *Mol. Biol. Cell* 23: 2793-2804.
2. Sun, T.T., et al. 2014. Disrupted interaction between CFTR and AF-6/afadin aggravates malignant phenotypes of colon cancer. *Biochim. Biophys. Acta* 1843: 618-628.
3. Umeda, K., et al. 2015. A short splicing isoform of afadin suppresses the cortical axon branching in a dominant-negative manner. *Mol. Biol. Cell* 26: 1957-1970.
4. Ohama, D., et al. 2018. Differential regional and subcellular localization patterns of afadin splice variants in the mouse central nervous system. *Brain Res.* 1692: 74-86.
5. Matsuda, T., et al. 2019. Dynamic spatiotemporal patterns of alternative splicing of an F-Actin scaffold protein, afadin, during murine development. *Gene* 689: 56-68.

RESEARCH USE

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

PROTOCOLS

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