

AF-6 ABfinity™ Recombinant Rabbit Monoclonal Antibody - Purified

REF Catalog no. 700193

(See product label for lot information)

Clone/PAD: A7L9H48
Isotype: IgG
Gene ID: 17356
Protein Acc. no.: Q9QZQ1
Qty: 100 µg
Volume: 200 µl
Concentration: 0.5 mg/ml

Formulation

PBS + 0.09% azide

Immunogen

A peptide corresponding to amino acids 1805-1820 of Q9QZQ1.

Immunogen sequence

KASRKLTELENELTNK

Reactivity

This antibody reacts with mouse AF-6. Based on sequence identity and similarity, reactivity to rat, human, chimpanzee, rhesus monkey, canine, bovine, and chicken is expected.

Storage

2-8°C for up to 1 mo, -20°C for long term storage. Avoid repeated freezing and thawing.



Expiration Date

Expires one year from date of receipt when stored as instructed.



Validated Applications:

	Species	Test Material	Concentration
Western Blotting	mouse	hippocampus*	1-2 µg/ml
Immunohistochemistry	mouse	hippocampus	1-2 µg/ml

* do not boil samples for WB analysis

Background

AF-6, also known as afadin, is expressed in a variety of cell types. At least 5 isoforms of this protein are produced by alternative splicing and the 'canonical' sequence is designated as I-afadin. Chromosomal aberration of the MLLT4 gene (encoding AF-6) is associated with acute leukemias. AF-6 exists as a homodimer and interacts with various components of the cellular adhesion system, including actin cytoskeleton. Nectin-afadin complex is involved in the formation of cell-cell junctions, such as adherens junctions (AJ) and tight junctions (TJ). AF-6 connects nectins to the cadherin-catenin system at AJs and to the claudin-ZO protein system at TJs. Afadin knock-out mice show embryonic lethality and embryonic stem cells from these mice show increased apoptosis. Nectin-afadin complex is involved in PDGF-induced cell survival, at least through the PI3K-Akt signaling pathway (1). Proper accumulation of Par complex and activation of cdc42 and aPKC, as well as laminin and integrin alpha 6 and integrin beta 1 deposition were also inhibited by knockout of afadin (2). This indicates that afadin organizes the formation of cell-cell junctions in early embryonic development. AF-6 is also a key modulator of Wntless/Wnt, Ras-Mitogen Activated Protein Kinase (MAPK) and Notch signaling pathways cross-communication (3). This happens through physical interaction with Ras, Notch and Dishevelled, a key Wntless effector. AF-6 also controls integrin-mediated cell adhesion (4). This is done at least partially by regulating Rap1 activation through recruitment of both SPA-1 (a Rap1 GTPase-activating protein) and Rap1GTP. These results demonstrate that AF-6 is an important molecule mediating cell-cell adhesion but is also capable of modulating several key signaling pathways.

References

1. Kanzaki, N et al., (2008) Involvement of the nectin-afadin complex in PDGF-induced cell survival. J Cell Sci May 27.
2. Komura, H et al., (2008) Establishment of cell polarity by afadin during the formation of embryoid bodies. Genes Cells 13:79-90.
3. Carmona, A et al., (2006) The PDZ protein Canoe/AF-6 links Ras-MAPK, Notch and Wntless/Wnt signaling pathways by directly interacting with Ras, Notch and Dishevelled. PLoS ONE Dec 201:e66.
4. Su, L et al., (2003) AF-6 controls integrin-mediated cell adhesion by regulating Rap1 activation through the specific recruitment of Rap1GTP and SPA-1. J Biol Chem 278:15232-15238.

For research use only. CAUTION: Not intended for human or animal therapeutic or diagnostic use.

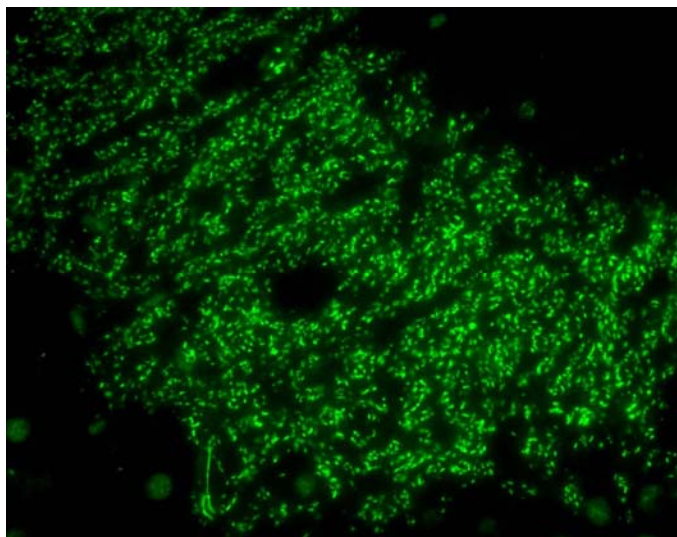
www.invitrogen.com

Invitrogen Corporation • 542 Flynn Rd • Camarillo • CA 93012 • Tel: 800.955.6288 • E-mail: techsupport@invitrogen.com

This antibody is manufactured under a licensed process covered by Patent # 5, 599, 681.

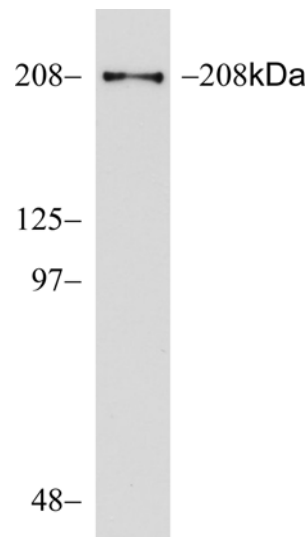
Rev. 0.0

FORM-00089



Immunohistochemistry of mouse hippocampus tissue labeled with rabbit anti-AF-6 (Cat. No. 700193).

Mouse hippocampus tissue was labeled with rabbit anti-AF-6 (1 µg/ml). Note staining of mossy fiber terminals in the CA3 region.



Western blot of mouse hippocampus lysates labeled with rabbit anti-AF-6 (Cat. No. 700193).

Rabbit anti-AF6 (1 µg/ml) was used to label AF-6 in mouse hippocampal lysates. Do not boil samples.

For research use only. CAUTION: Not intended for human or animal therapeutic or diagnostic use.

www.invitrogen.com

Invitrogen Corporation • 542 Flynn Rd • Camarillo • CA 93012 • Tel: 800.955.6288 • E-mail: techsupport@invitrogen.com

This antibody is manufactured under a licensed process covered by Patent # 5, 599, 681.

Rev. 0.0

FORM-00089