Revision 1

Store at -20C

#13531

Afadin (D1Y3Z) Rabbit mAb

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Applications:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	Endogenous	205	Rabbit IgG	#P55196	4301

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Afadin (D1Y3Z) Rabbit mAb recognizes endogenous levels of total afadin protein. Based on the protein sequence, this antibody is expected to recognize all afadin isoforms.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Arg1117 of human afadin protein.

Background

In multicellular organisms, intercellular junctions play essential roles in tissue integrity and maintenance of cell polarity. Tight junctions (TJs) form a continuous barrier to fluids across the epithelium and endothelium (reviewed in 1). Adherens junctions (AJs) are dynamic structures that form cell-cell contacts linking cells into a continuous sheet (reviewed in 2). The actin filament-binding protein, Afadin, binds to nectin forming a connection to the actin cytoskeleton (3). AJs are formed when nectin assembles cadherin at the cell-cell adhesion site and these junctions are then involved in the formation and maintenance of TJs (4,5). Afadin has two splice variants: l-afadin, which is ubiquitously expressed, and s-afadin, which is expressed predominantly in neural tissue. s-Afadin is a shorter form lacking one of the three proline-rich regions found in l-afadin, as well as the carboxyl-terminal F-actin binding region (6). Human s-afadin is identical to AF-6, the ALL-1 fusion partner involved in acute myeloid leukemias (7). Recent work has also shown that afadin is involved in controlling the directionality of cell movement when it is localized at the leading edge of moving cells (8,9).

Background References

1. Shin, K. et al. (2006) *Annu Rev Cell Dev Biol* 22, 207-35.
2. Harris, T.J. and Tepass, U. (2010) *Nat Rev Mol Cell Biol* 11, 502-14.
3. Ikeda, W. et al. (1999) *J Cell Biol* 146, 1117-32.
4. Sato, T. et al. (2006) *J Biol Chem* 281, 5288-99.
5. Ooshio, T. et al. (2007) *J Cell Sci* 120, 2352-65.
6. Mandai, K. et al. (1997) *J Cell Biol* 139, 517-28.
7. Prasad, R. et al. (1993) *Cancer Res* 53, 5624-8.
8. Miyata, M. et al. (2009) *J Cell Sci* 122, 4319-29.
9. Miyata, M. et al. (2009) *J Biol Chem* 284, 24595-609.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

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