

Product Information

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Anti-Dab-1 (C-terminal)

produced in rabbit, affinity isolated antibody

Product Number **D1569**

Product Description

Anti-Dab-1 (C-terminal) is produced in rabbit using as immunogen synthetic peptide corresponding to a sequence at C-terminal of rat Dab1, conjugated to KLH. This sequence is identical in mouse Dab1 and highly conserved (single amino acid substitution) in human DAB1. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Dab-1 (C-terminal) recognizes human, rat, and mouse Dab1. Applications include immunoblotting (~80 kDa). Staining of the Dab1 band by immunoblotting is specifically inhibited by the Dab1 immunizing peptide.

The formation of the mammalian central nervous system (CNS) involves a complex pattern of neuronal migration required for the organization of several neuronal populations into precise layers. Neuronal migration is affected in a variety of human disorders including different types of lissencephalies or "smooth brain" associated with cerebellar ataxia and mental retardation.

Disabled-1 (Dab1, disabled homolog 1) is an intracellular adaptor protein that belongs to the Reelin signaling pathway.^{1,2} Dab1 plays a key role during brain development by controlling neuronal positioning as well as modulation of long-term potentiation (LTP) in the adult brain. Reelin binds to the lipoprotein receptors Apolipoprotein E receptor 2 (ApoER2) and the very low-density lipoprotein receptor (VLDLR), triggering the tyrosine phosphorylation of Dab1, thus initiating a signaling cascade that includes the Src-family kinases and Akt.^{3,4}

The amino terminus of Dab1 contains a phosphotyrosine-binding (PTB) binding domain. The Dab1 PTB domain interacts with NPXY sequences within the cytoplasmic regions of several membrane-bound proteins including lipoprotein receptors and amyloid precursor protein (APP) family.⁵ Disruption of Reelin, Dab1 or both ApoER2 and VLDLR in mice, or spontaneous mutations of Dab1 in *scrambler* or *yotari* mutant mice, generate a phenotype similar to the Reelin-deficient mice *reeler*.⁶ This phenotype is characterized by abnormal laminar organization of neurons in the cortex, hippocampus, and cerebellum.

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 0.5-1 µg/mL is recommended using mouse and rat brain extracts (S1 fraction) and HEK-293T cells expressing human DAB1.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

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3. Hiesberger, T. et al., *Neuron*, **24**, 481-489 (1999).
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VS,ER,KAA,PHC,MAM 01/19-1