

BIN1 (E4A1P) Rabbit mAb

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Applications: W, IP	Reactivity: H M	Sensitivity: Endogenous	MW (kDa): 45-80	Source/Isotype: Rabbit IgG	UniProt ID: #O00499	Entrez-Gene Id: 274
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Product Usage Information**Application**

Western Blotting
Immunoprecipitation

Dilution

1:1000
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

BIN1 (E4A1P) Rabbit mAb recognizes endogenous levels of total BIN1 protein. The antibody recognizes multiple BIN1 isoforms.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Val266 of human BIN1 protein.

Background

Bridging integrator 1 (BIN1, AMPHL) is an adaptor protein and putative tumor suppressor expressed as multiple isoforms due to alternative splicing. The BIN1 protein was originally identified as a Myc box-interacting protein with structural similarity to the synaptic vesicle protein amphiphysin (1). BIN1 protein structure contains an amino-terminal amphipathic helix and a BAR domain that is involved in sensing membrane curvature. The protein also includes a Myc-binding domain and an SH3 domain, which are implicated in protein-protein interactions (1). Multiple BIN1 isoforms range in size from approximately 45 to 65 kDa, with the nuclear BIN1 isoform found mostly in skeletal muscle and the cytoplasmic IIA isoform expressed in axon initial segments and nodes of Ranvier of the brain (2,3). Corresponding *BIN1* gene mutations and incorrect splicing can lead to impaired BIN1 membrane-tabulating and protein binding activities, resulting in development of autosomal recessive centronuclear myopathy and myotonic dystrophy (4,5). Genome-wide association studies link the *BIN1* gene with late onset Alzheimer disease (AD) and increased BIN1 mRNA expression is seen in AD brains (6,7).

Background References

1. Sakamuro, D. et al. (1996) *Nat Genet* 14, 69-77.
2. Ge, K. and Prendergast, G.C. (2000) *Genomics* 67, 210-20.
3. Ramjaun, A.R. et al. (1997) *J Biol Chem* 272, 16700-6.
4. Nicot, A.S. et al. (2007) *Nat Genet* 39, 1134-9.
5. Fugier, C. et al. (2011) *Nat Med* 17, 720-5.
6. Seshadri, S. et al. (2010) *JAMA* 303, 1832-40.
7. Chapuis, J. et al. (2013) *Mol Psychiatry* 18, 1225-34.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse

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