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# ProductInformation

**Anti-Mint3**
produced in rabbit, affinity isolated antibody

Catalog Number **M2945**

## Product Description

Anti-Mint3 is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 23-40 of rat Mint3, conjugated to KLH. This sequence is highly conserved (88% sequence identity) in mouse Mint3 and shows no homology with human Mint3/X11L2. It does not share homology with the Mint1 and Mint2 isoforms. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Mint3 specifically recognizes rat Mint3 (70 kDa). An additional band at 35 kDa may be observed in some cell extracts, representing degradation of Mint3. Applications include immunoblotting and immunoprecipitation. Staining of the Mint3 band in immunoblotting is specifically inhibited by the immunizing peptide.

Synaptic transmission involves the regulated exocytosis of vesicles containing neurotransmitters at the synaptic vesicle zone. Munc-18-1 is an abundant neuronal protein that is essential for exocytosis of synaptic vesicles.[1,2] The function of Munc-18-1 is thought to be mediated by two Munc-interacting proteins, Mint1 (Munc-18-1 interacting protein 1, also named X11α, mLin-10, 120 kDa) and Mint2 (X11β, X11L, 120 kDa), that are 50% homologous. Mint3 does not interact with Munc-18. Mint3 (X11γ, X11L2, APB3A, 70 kDa) is ubiquitously expressed with lower levels in brain and testis, whereas Mint1 and Mint2 are expressed exclusively in brain and bind Munc-18-1 with high affinity.[3-5] The Mint proteins are multidomain proteins, composed of specific N-terminal Munc-18-1-interacting domain (MID), a middle phosphotyrosine-binding (PTB) domain, and two C-terminal PDZ domains, suggesting that Mint proteins link vesicle exocytosis to Tyrosine phosphorylation and/or localization at specific plasma membrane domains. Mint proteins bind to the cytoplasmic domain of β-amyloid precursor protein (APP) and may modulate the formation of β-amyloid. Mint proteins also bind via their PDZ domains to plasma membrane receptors and $Ca^{2+}$ channels. Mint-1/X11α is known to bind to the cytoplasmic tail of amyloid precursor protein (APP) via the PTB domain, and to presenilins via the PDZ domain, thus reducing the secretion of cellular APP and slowing APP processing pathways.[6-8] Mint1/X11α binds specifically to the YENPTY motif that is involved in the internalization of APP.[7] Mint2/X11L, but not Mint1 and Mint3, was found to elevate the phosphorylation of β-amyloid precursor protein family members APP and APLP2 in response to cellular stress, by facilitating JNK-mediated phosphorylation.[9] Mint3 binds to the cytoplasmic tail of APP and with Rab6a *in vitro* via the PTB and PDZ domain and forms a stable complex with APP *in vivo*.[10,11] It has been suggested that Mint3 links APP to other transport machinery components different than Mint1, thereby regulating its transport, endocytosis and metabolism.

## 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: ~2.5 mg/ml

## Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices

## Storage/Stability

For extended storage, freeze at –20 °C 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. For immediate use, store at 2-8 °C. Working dilution samples should be discarded if not used within 12 hours.

## Product Profile

Immunoblotting: a working concentration of 3-6 µg/mL is recommended using PC12 whole cell lysate.
A working concentration of 1.5-3 µg/ml is recommended using Rat1 whole cell lysate.

**Note**: In order to obtain best results and assay sensitivity in different techniques and preparations we recommend determining optimal working concentrations by titration test.

**References**


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ER,AH,PHC 09/06-1