Product name: Anti-Munc18-1 antibody

Description: Rabbit polyclonal to Munc18-1

Host species: Rabbit

Tested applications: Suitable for: IHC-Fr, IHC-FoFr, IP, WB, ICC/IF

Species reactivity: Reacts with: Mouse, Rat, Dog

Predicted to work with: Chicken, Cow, Human, Pig

Immunogen: Synthetic peptide corresponding to Human Munc18-1 aa 58-70.

Sequence: VEDINKRREPIPS

(Peptide available as ab4982)

Positive control: Rat whole brain extract.

Form: Liquid

Storage instructions: Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.

Storage buffer: Preservative: 0.05% Sodium azide
Constituents: 0.1% BSA, 99% PBS

Purity: Immunogen affinity purified

Clonality: Polyclonal

Isotype: IgG

Applications: Our Abpromise guarantee covers the use of ab3451 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.
Function
May participate in the regulation of synaptic vesicle docking and fusion, possibly through interaction with GTP-binding proteins. Essential for neurotransmission and binds syntaxin, a component of the synaptic vesicle fusion machinery probably in a 1:1 ratio. Can interact with syntaxins 1, 2, and 3 but not syntaxin 4. May play a role in determining the specificity of intracellular fusion reactions.

Tissue specificity
Brain and spinal cord. Highly enriched in axons.

Involvement in disease
Defects in STXBP1 are the cause of epileptic encephalopathy early infantile type 4 (EIEE4) [MIM:612164]. Affected individuals have neonatal or infantile onset of seizures, suppression-burst pattern on EEG, profound mental retardation, and MRI evidence of hypomyelination.

Sequence similarities
Belongs to the STXBP/unc-18/SEC1 family.

Cellular localization
Cytoplasm. Membrane.

Images

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<td>IHC-Fr</td>
<td>Use at an assay dependent concentration.</td>
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<td>IHC-FoFr</td>
<td>Use at an assay dependent concentration. PubMed: 23209433</td>
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<td>IP</td>
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<td>WB</td>
<td>Use a concentration of 1 µg/ml. Detects a band of approximately 67 kDa. Can be blocked with Munc18-1 peptide (ab4982). By Western blot, this antibody detects an ~67 kDa protein representing Munc-18 from rat whole brain extract.</td>
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Target

**Function**
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**Images**

Anti-Munc18-1 antibody (ab3451) at 1/5000 dilution + Mouse hippocampal homogenate at 5 µg

**Secondary**
Goat Anti-Rabbit IgG H&L (HRP) preadsorbed (ab97069) at 1/10000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

**Observed band size:** 67 kDa

*why is the actual band size different from the predicted?*
Western blot of Munc-18 in rat brain homogenate immunoprecipitated with ab3451.

1. Extract only.
2-4. 750 µg of extract immunoprecipitated with 1 µg, 5 µg, and 10 µg of ab3451, respectively.

Immunocytochemistry/Immunofluorescence - Anti-Munc18-1 antibody (ab3451)

ICC/IF image of ab3451 stained PC12 cells. The cells were 4% PFA fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab3451, 5µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 anti-rabbit IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.

Immunohistochemistry (PFA perfusion fixed frozen sections) - Anti-Munc18-1 antibody (ab3451)

Immunohistochemical analysis of PFA-perfusion fixed mouse brain tissue, staining Munc18-1 with ab3451.

Tissue was post-fixed in 4% paraformaldehyde overnight at 4°C. Sections were incubated in a blocking buffer of 0.3% Triton-X-100, 1% BSA and 10% NGS in PBS for 2 hours at room temperature, before incubating with primary antibody (1/100) for 2 days at 4°C. An Alexa Fluor®-conjugated anti-rabbit IgG (1/1000) was used as the secondary antibody.

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