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**Anti-Human Munc18-1 (STXBP1)  
Monoclonal Antibody**

Catalogue#	Format	Size	Concentration	Isotype Control
CL2710AP	Purified	200 µg	1 mg/ml	CLCMG2B00
CL2710B	Biotin	100 µg	0.1 mg/ml	CLCMG2B15
CL2710HP	HRPO	100 µg	0.1 mg/ml	N/A
CL2710AF4	Alexa Fluor <sup>®</sup> 488	100 µg	0.1 mg/ml	N/A

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Isotype: Mouse IgG2b, κ

**DESCRIPTION:**

Syntaxin-binding protein 1 (STXBP1) or munc18-1 is an abundant neuronal protein that tightly binds to synaptic fusion protein syntaxin and functions in synaptic vesicle docking and fusion. Munc-18 is the mammalian homologue of the unc-18 protein, which can be found in organisms such as *C. elegans* and is a member of the Sec1/Munc18-like (SM) protein family. There are six known Munc-18 family members in mammalian cells: Munc18-1 (STXBP1) and STXBP2-6. Munc18-1 in particular is highly expressed in brain, spinal cord and axons.

Munc18-1 is known to interact with syntaxin 1, 2, and 3 but not with syntaxin 4. Syntaxin 1A is a key member of the SNARE core complex and is important for synaptic vesicle docking, fusion and ultimately exocytosis. Munc18-1 modulates neurotransmission through its interaction with Syntaxin 1 and is thought to help restrict fusion of vesicles to specific sites of the plasma membrane. Deletion of munc18-1 leads to defects in secretory vesicle docking and the absence of neurotransmitter release. Defects in munc18-1 are the cause of epileptic encephalopathy early infantile type 4 (EIEE4). Affected individuals have neonatal or infantile onset of seizures and suppression-bursts.

**PRESENTATION:**

**Purified:** Purified IgG buffered in PBS and 0.02% NaN<sub>3</sub>. (Purified from ascitic fluid via Protein G Chromatography). For maximum recovery of contents, spin down tube before use.

**Biotin, HRP and AF488:** Biotin/FITC/AF488 conjugated IgG buffered in PBS, 0.02% NaN<sub>3</sub> and EIA grade BSA as a stabilizing protein to bring total protein concentration to 4-5 mg/ml.

**STORAGE/STABILITY:**

For all formats, store at + 4°C. DO NOT FREEZE AF488 conjugates. For long term storage (**Purified, Biotin and HRPO**), aliquot and freeze unused portion at -20°C in volumes appropriate for single usage. Avoid freeze/thaw cycles.

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### **APPLICATIONS:**

This antibody is suitable for use in Western Blot (recommended dilution: 1:100); ELISA (recommended dilution: 1:64K) and flow cytometry (recommended dilution: 1 – 2 µg/10<sup>6</sup> cells). This antibody has not been tested in other applications.

### **SPECIFICATIONS:**

Clone: 1B9

Hybridoma Production:

Immunization: Immunogen: Munc18-1 fusion peptide with the following sequence: HKAQMKNPILM  
NTGEKTTMRQIPPEDSEIIVTDSTLRRRSISTRSSASFSDLRHPDFRESSFEDQAPTME  
Donor: Balb/c mouse spleen  
Fusion Partner: Sp2/0 myeloma cells

Specificity: This antibody is specific for human Munc18-1 isoform a.

### **REFERENCES:**

1. Fisher RJ., Pevsner J., and Burgoyne RD (2001). Control Of Fusion Pore Dynamics During Exocytosis by Munc18. *Science* 291(5505): 875-878.
2. Shi L., Kummel D., Coleman J., Melia TJ and Giraudo CG (2011). Dual roles Of Munc18-1 rely on distinct binding modes of the central cavity with Stx1A and SNARE complex. *Mol. Biol. Cell* 22: 4150-4160.
3. Smyth AM., Rickman C and Duncan RR (2010). Vesicle Fusion probability Is Determined by the Specific Interactions of Munc18. *J. Biol. Chem.* 285:38141-38148.

**Optimum conditions for use of this antibody in analytical procedures should be established in each laboratory**

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