

Technical Data Sheet

Purified Mouse Anti-panMunc13**Product Information**

Material Number:	610998
Size:	50 µg
Concentration:	250 µg/ml
Clone:	32/panMunc13
Immunogen:	Rat Munc13-1 aa. 621-834
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Rat Tested in Development: Mouse
Target MW:	196 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Release of neurotransmitters at the synaptic junction is a primary mechanism of neuronal communication and is regulated by the synaptic vesicle (SV) cycle. Several components of the SV cycle were initially characterized in *C. elegans*. One of those, unc-13, is involved in normal presynaptic function. Mammalian homologues of unc-13 are Munc13-1, 13-2, and 13-3. These neuron-specific proteins lack N-terminal homology, but are highly conserved in their C-terminal regions. Here they contain a phorbol ester binding C1-domain and two C2-domains with homology to the PKC Ca²⁺/phospholipid-binding domain. The most abundant isoform, Munc 13-1, is a presynaptic receptor with high affinities for phorbol ester and DAG. In response to phorbol ester, Munc13-1 associates with the plasma membrane and acts as a stimulation dependent enhancer of neurotransmitter release. In addition, Munc13-1 interacts with components of the SV cycle (syntaxin, SNAP25, synaptobrevin, Doc2) and with a brain specific isoform of β-spectrin, a protein that interacts with the actin cytoskeleton. Thus, it is thought that Munc13 proteins function in signaling pathways that regulate the neuronal exocytic machinery.



Western blot analysis of panMunc13 on rat brain lysate.
Lane 1: 1:250, lane 2: 1:500, lane 3: 1:1000 dilution of panMunc13.

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Store undiluted at -20°C.

Application Notes**Application**

Western blot	Routinely Tested
Immunofluorescence	Tested During Development

Suggested Companion Products

Catalog Number	Name	Size	Clone
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)

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Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharming/en/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Betz A, Ashery U, Rickmann M. Munc13-1 is a presynaptic phorbol ester receptor that enhances neurotransmitter release. *Neuron*. 1998; 21(1):123-136.(Biology)

Brose N, Hofmann K, Hata Y, Sudhof TC. Mammalian homologues of *Caenorhabditis elegans* unc-13 gene define novel family of C2-domain proteins. *J Biol Chem*. 1995; 270(42):25273-25280.(Biology)

Orita S, Naito A, Sakaguchi G. Physical and functional interactions of Doc2 and Munc13 in Ca²⁺-dependent exocytotic machinery. *J Biol Chem*. 1997; 272(26):16.(Biology)

Sakaguchi G, Orita S, Naito A. A novel brain-specific isoform of beta spectrin: isolation and its interaction with Munc13. *Biochem Biophys Res Commun*. 1998; 248(3):846-851.(Biology)