Revision 1

Store at -20C

#8630

Synaptic Vesicle Antibody Sampler Kit

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Munc18-1 (D4O6V) Rabbit mAb	13414	40 µl	70 kDa	Rabbit IgG
Syntaxin 6 (C34B2) Rabbit mAb	2869	40 µl	32 kDa	Rabbit IgG
SNAP25 (D9A12) Rabbit mAb	5309	40 µl	25 kDa	Rabbit IgG
NSF (D31C7) XP® Rabbit mAb	3924	40 µl	78 kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The Synaptic Vesicle Antibody Sampler Kit provides an economical means of evaluating proteins involved in synaptic vesicle fusion and membrane trafficking. The kit contains enough primary and secondary antibodies to perform four western miniblot experiments with each antibody.

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.

Background

Fusion of a vesicle to its target membrane is a universal process in eukaryotic cells for proper cellular organization and function. Several protein-protein interactions are essential to membrane fusion during endocytosis. Membrane fusion requires interaction among SNARE1 proteins associated with both donor and acceptor membranes (1,2). SNAP25 forms a core complex with the SNARE proteins syntaxin and synaptobrevin to mediate synaptic vesicle fusion with the plasma membrane during Ca^{2+}-dependent exocytosis (3). Syntaxin 6 is a ubiquitously expressed S25C family member of the SNARE proteins (4,5). Munc18-1 acts as a molecular chaperone for syntaxin-1, allowing for formation of the SNARE complex at the plasma membrane (6). Following membrane fusion, the α-SNAP cytoplasmic adapter protein binds to the SNARE complex. N-ethylmaleimide-sensitive factor (NSF), a hexameric ATPase, then associates with the α-SNAP/SNARE complex to mediate SNARE disassembly during membrane fusion (7,8). The ATPase activity of NSF induces a conformational change in the α-SNAP/SNARE complex that leads to its dissociation from the membrane, membrane fusion, and eventual recycling of the SNARE complex for subsequent membrane fusion (7,8).

Background References

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2. Leabu, M. *J Cell Mol Med* 10, 423-7.
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4. Bock, J.B. et al. (2001) *Nature* 409, 839-41.
5. Bock, J.B. et al. (1996) *J Biol Chem* 271, 17961-5.
6. Medine, C.N. et al. (2007) *J Cell Sci* 120, 4407-15.
7. May, A.P. et al. (2001) *J Biol Chem* 276, 21991-4.
8. Dalal, S. et al. (2004) *Mol Biol Cell* 15, 637-48.

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