

Store at
-20°C

#33738

Presynaptic Vesicle Cycle Antibody Sampler Kit



Support: +1-978-867-2388 (U.S.)
www.cellsignal.com/support

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

New 04/20

For Research Use Only. Not For Use In Diagnostic Procedures.

| Products Included | Product # | Quantity | Mol. Wt. | Isotype/Source |
|--------------------------------------|-----------|----------|-----------|----------------|
| Complexin-1 (D5Q5H) Rabbit mAb | 17700 | 20 µl | 14 kDa | Rabbit IgG |
| Complexin-1/2 (D8A6E) Rabbit mAb | 28070 | 20 µl | 14-16 kDa | Rabbit IgG |
| Munc18-1 (D4O6V) Rabbit mAb | 13414 | 20 µl | 70 kDa | Rabbit IgG |
| SNAP25 (D7B4) Rabbit mAb | 5308 | 20 µl | 25 kDa | Rabbit IgG |
| Synaptophysin (D8F6H) XP® Rabbit mAb | 36406 | 20 µl | 38 kDa | Rabbit IgG |
| Synaptotagmin-1 (D33B7) Rabbit mAb | 14558 | 20 µl | 60 kDa | Rabbit IgG |
| Synapsin-1 (D12G5) XP® Rabbit mAb | 5297 | 20 µl | 77 kDa | Rabbit IgG |
| Syntaxin 1A (D4E2W) Rabbit mAb | 18572 | 20 µl | 33 kDa | Rabbit IgG |
| VAMP2 (D6O1A) Rabbit mAb | 13508 | 20 µl | 13 kDa | Rabbit IgG |
| Anti-rabbit IgG, HRP-linked Antibody | 7074 | 100 µl | | Goat |

See www.cellsignal.com for individual component applications, species cross-reactivity, dilutions and additional application protocols.

Description: The Presynaptic Vesicle Cycle Antibody Sampler Kit provides an economical means of detecting expression of key synaptic vesicle proteins. The kit includes enough antibodies to perform two western blot experiments with each primary antibody.

Background: The synapse is the unit of information transfer in the brain between neurons (1). Synaptic transfer is initiated by action potential-initiated synaptic vesicles fusion at the presynaptic terminal to release neurotransmitters. The basic molecular machinery that drives all membrane fusion events in all cells include N-ethylmaleimide-sensitive factor attachment protein receptor (SNARE) proteins that form a trans-ternary complex between to-be-fused membranes. The zippering up of SNARE proteins provides the energy required for membrane fusion. At the synapse, the SNARE proteins include 25 kDa synaptosome-associated protein (SNAP25), syntaxin 1A (STX1A), and vesicle-associated membrane protein 2 (VAMP2, also called synaptobrevin). Neurotransmitter release, however, is a highly regulated process that occurs in response to action potential-initiated Ca²⁺-influx. Regulation of synaptic vesicle fusion is mediated by SNARE-binding proteins like complexin and the Ca²⁺-associated vesicle protein, synaptotagmin-1, that cooperatively function to initiate Ca²⁺-induced synaptic vesicle fusion. The synaptic vesicle cycle represents a cycle of events that prime the synaptic vesicle before fusion and retrieve fused membrane after full fusion. Synaptic vesicle-associated proteins like synaptophysin and synapsin-1, as well as target membrane proteins like Munc18-1, play a complex role in priming synaptic vesicles to be fusion competent.

Specificity/Sensitivity: Each antibody in the Presynaptic Vesicle Cycle Antibody Sampler Kit detects endogenous levels of its target protein. VAMP2 (D6O1A) Rabbit mAb does not cross-react with VAMP1 protein and recognizes VAMP2 protein by IF-IC analysis in mouse and rat cells. Complexin-1/2 (D8A6E) Rabbit mAb recognizes endogenous levels of total complexin-1 and complexin-2 protein. Complexin-1 (D5Q5H) Rabbit mAb does not cross-react with complexin-2. Synaptotagmin-1 (D33B7) Rabbit mAb may also cross-react with an unidentified protein of approximately 45 kDa. The antigen for Synapsin-1 (D12G5) XP® Rabbit mAb is 100% conserved between human synapsin-1a and synapsin-1b.

Source/Purification: Complexin-1 (D5Q5H) Rabbit mAb is produced by immunizing recombinant protein specific to human complexin-1 protein. Complexin-1/2 (D8A6E) Rabbit mAb is produced by immunizing rabbits with a synthetic peptide corresponding to residues surrounding Pro125 of human complexin-2 protein. VAMP2 (D6O1A) Rabbit mAb is produced by immunizing recombinant protein specific to the amino terminus of human VAMP2 protein. All other monoclonal antibodies are produced by immunizing rabbits with synthetic peptides corresponding to Asp110 of human SNAP25, Val237 of human syntaxin 1A, Gly299 of human synaptophysin, Arg400 of human synaptotagmin-1, Gln483 of human synapsin-1, and Tyr157 of human Munc18-1.

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 antibodies.

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com.

Background References:

(1) Südhof, T.C. and Rothman, J.E. (2009) *Science* 323, 474-7.

Thank you for your recent purchase. If you would like to provide a review visit www.cellsignal.com/comments.

www.cellsignal.com

© 2020 Cell Signaling Technology, Inc.

XP and Cell Signaling Technology are trademarks of Cell Signaling Technology, Inc.

Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected **Species enclosed in parentheses are predicted to react based on 100% homology.**