

Store at  
-20C  
#74798

# Synaptic Neuron Marker Antibody Sampler Kit



1 Kit (8 x 20 microliters)

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

**For Research Use Only. Not for Use in Diagnostic Procedures.**

Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
PSD95 (D74D3) XP® Rabbit mAb	3409	20 µl	95 kDa	Rabbit IgG
Synaptophysin (D8F6H) XP® Rabbit mAb	36406	20 µl	38 kDa	Rabbit IgG
Bassoon (D63B6) Rabbit mAb	6897	20 µl	420 kDa	Rabbit IgG
Complexin-1/2 (D8A6E) Rabbit mAb	28070	20 µl	14-16 kDa	Rabbit IgG
Synaptotagmin-1 (D33B7) Rabbit mAb	14558	20 µl	60 kDa	Rabbit IgG
SHANK3 (D5K6R) Rabbit mAb	64555	20 µl	220 kDa	Rabbit IgG
Synapsin-1 (D12G5) XP® Rabbit mAb	5297	20 µl	77 kDa	Rabbit IgG
SynGAP (D78B11) Rabbit mAb	5540	20 µl	140 kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

Please visit [cellsignal.com](http://cellsignal.com) for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

## Description

The Synaptic Neuron Marker Antibody Sampler Kit provides an economical means of detecting presynaptic and postsynaptic proteins by western blot. This kit includes enough primary antibodies to perform at least two western blot experiments with each primary 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

Synaptophysin (SYP) is a neuronal synaptic vesicle glycoprotein that is expressed in neuroendocrine cells and neoplasms (1). Synapsin-1 is a neuronal phospho-protein localized to presynaptic terminals. Synapsin-1 plays an important role in synapse formation, neurotransmitter regulation, and regulation of synaptic vesicle fusion and trafficking (2,3). Synaptotagmin-1 (SYT1) is an integral membrane protein found in synaptic vesicles thought to play a role in vesicle trafficking and exocytosis (4). Complexin isoforms 1 and 2 are small synaptic proteins that bind to SNARE complexes, responsible for regulating exocytosis and synaptic vesicle fusion (5). SynGAP is a synaptic GTPase-activating protein selectively expressed in the brain and found at higher concentrations specifically at excitatory synapses in the mammalian forebrain. SynGAP interacts with the PDZ domains of PSD95, a postsynaptic scaffolding protein that couples SynGAP to NMDA receptors (6). PSD95 is involved in the assembly and function of the postsynaptic density (PSD) complex (7,8). SHANK proteins act as scaffolds at the neuronal PSD (9), where they play a critical role in PSD assembly of excitatory synapses during development (10). Bassoon (BSN) is a scaffolding protein component of the synaptic ribbon and of the cytomatrix at the active zones of both excitatory and inhibitory synapses with a presumptive role in orchestrating events of the synaptic vesicle cycle (11-13). Together, these proteins can be used to measure presynaptic and postsynaptic proteins and synaptic development under normal and disease conditions.

## Background References

1. Wiedenmann, B. et al. (1986) *Proc Natl Acad Sci U S A* 83, 3500-4.
2. Mirza, F.J. and Zahid, S. (2018) *Neurosci Bull* 34, 349-358.
3. Takei, Y. et al. (1995) *J Cell Biol* 131, 1789-800.
4. Fukuda, M. and Mikoshiba, K. (2001) *Biochem Biophys Res Commun* 281, 1226-33.
5. Chang, S. et al. (2015) *J Neurosci* 35, 8272-90.
6. Kim, J.H. et al. (1998) *Neuron* 20, 683-91.
7. Cao, J. et al. (2005) *J Cell Biol* 168, 117-26.
8. Chetkovich, D.M. et al. (2002) *J Neurosci* 22, 6415-25.
9. Grabrucker, A.M. et al. (2011) *Trends Cell Biol* 21, 594-603.
10. Boeckers, T.M. et al. (1999) *J Neurosci* 19, 6506-18.
11. Winter, C. et al. (1999) *Genomics* 57, 389-97.
12. Hallermann, S. et al. (2010) *Neuron* 68, 710-23.
13. Frank, T. et al. (2010) *Neuron* 68, 724-38.

## Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

XP is a registered trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit [cellsignal.com/trademarks](http://cellsignal.com/trademarks) for more information.

## Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.