

SV2 C

Cat.No. 119 202; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

Data Sheet

Reconstitution/Storage	200 µl antiserum, lyophilized. For reconstitution add 200 µl H ₂ O, then aliquot and store at -20°C until use.
Applications	WB: 1 : 1000 (AP staining) (see remarks) IP: not tested yet ICC: 1 : 500 IHC: 1 : 200 IHC-P/FFPE: 1 : 200
Immunogen	Synthetic peptide corresponding to AA 2 to 16 from rat SV2C (UniProt Id: Q9Z2I6)
Reactivity	Reacts with: human (Q496J9), rat (Q9Z2I6), mouse (Q69ZS6), cow, dog. Other species not tested yet.
Specificity	Specific for SV 2C.
matching control	119-2P
Remarks	WB: SV 2 aggregates after boiling, making it necessary to run SDS-PAGE only with non-boiled samples.

TO BE USED IN VITRO / FOR RESEARCH ONLY NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

SV2s (synaptic vesicle protein 2) are integral membrane glycoproteins present in all synaptic vesicles. They have 12 transmembrane domains predicted by sequence analysis. There are three characterized isoforms, **SV2 A**, **SV2 B** and **SV2 C**. SV2 A is expressed ubiquitously throughout the brain and is probably involved in the maintenance of a pool of synaptic vesicles competent for calcium-stimulated exocytosis. SV2 B has a more restricted distribution with varying degrees of coexpression with SV2 A. SV2 C is more closely related to SV2 A but shows a very restricted expression pattern. The highest expression levels were observed in phylogenetically old brain areas like pallidum, the midbrain and the olfactory bulb. SV2 expression has also been observed in other organs. In kidney it localizes to podocytes.

Selected References SYSY Antibodies

Quantitative comparison of glutamatergic and GABAergic synaptic vesicles unveils selectivity for few proteins including MAL2, a novel synaptic vesicle protein.

Grønberg M, Pavlos NJ, Brunk I, Chua JJ, Münster-Wandowski A, Riedel D, Ahnert-Hilger G, Urlaub H, Jahn R
The Journal of neuroscience : the official journal of the Society for Neuroscience (2010) 30(1): 2-12. **WB, ICC, IHC**

Expression of SV2 isoforms during rodent brain development.

Crèvecoeur J, Foerch P, Doupagne M, Thielen C, Vandenplas C, Moonen G, Deprez M, Rogister B
BMC neuroscience (2013) 14: 87. **IHC**

Tetanus toxin and botulinum toxin a utilize unique mechanisms to enter neurons of the central nervous system.

Blum FC, Chen C, Kroken AR, Barbieri JT
Infection and immunity (2012) 80(5): 1662-9. **WB**

Botulinum neurotoxins C, E and F bind gangliosides via a conserved binding site prior to stimulation-dependent uptake with botulinum neurotoxin F utilising the three isoforms of SV2 as second receptor.

Rummel A, Häfner K, Mahrhold S, Darashchonak N, Holt M, Jahn R, Beermann S, Karnath T, Bigalke H, Binz T
Journal of neurochemistry (2009) 110(6): 1942-54. **WB; tested species: mouse**

Selected General References

SV2 modulates the size of the readily releasable pool of secretory vesicles.

Xu T, Bajjalieh SM
Nature cell biology (2001) 3(8): 691-8.

Genetics of synaptic vesicle function: toward the complete functional anatomy of an organelle.

Fernández-Chacón R, Südhof TC
Annual review of physiology (1999) 61: 753-76.

The synaptic vesicle cycle: a cascade of protein-protein interactions.

Südhof TC
Nature (1995) 375(6533): 645-53.

Synaptic vesicles and exocytosis.

Jahn R, Südhof TC
Annual review of neuroscience (1994) 17: 219-46.

Differential expression of synaptic vesicle protein 2 (SV2) isoforms.

Bajjalieh SM, Frantz GD, Weimann JM, McConnell SK, Scheller RH
The Journal of neuroscience : the official journal of the Society for Neuroscience (1994) 14(9): 5223-35.

SV2, a brain synaptic vesicle protein homologous to bacterial transporters.

Bajjalieh SM, Peterson K, Shinghal R, Scheller RH
Science (New York, N.Y.) (1992) 257(5074): 1271-3.

The synaptic vesicle protein SV2 is a novel type of transmembrane transporter.

Feany MB, Lee S, Edwards RH, Buckley KM
Cell (1992) 70(5): 861-7.