Synaptobrevin 2

Cat.No. 104 204; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

Data Sheet

Reconstitution/Storage
100 µl antiserum, lyophilized. For reconstitution add 100 µl H2O, then aliquot and store at -20°C until use.

Applications
WB: 1 : 1000 up to 1 : 5000 (AP staining)
IP: yes
ICC: 1 : 1000
IHC: 1 : 500
IHC-P/FFPE: 1 : 500

Immunogen
Synthetic peptide corresponding to AA 2 to 17 from rat Synaptobrevin2 (UniProt ID: P63045)

Reactivity
Reacts with: human (P63027), rat (P63045), mouse (P63044), hamster.
No signal: chicken.
Other species not tested yet.

Specificity
Specific for VAMP 2, no cross reactivity to VAMP 1 and VAMP 3.

Selected References SYSY Antibodies
Septin 7 reduces nonmuscle myosin II A activity in the SNAP23 complex and hinders GLUT4 storage vesicle docking and fusion. Wasik AA, Dumont V, Tienari J, Nyman TA, Fogarty CL, Forsblom C, Lehto M, Lehtonen E, Groop PH, Lehtonen S


Evidence for glutamate as a neuromodulatory transmitter within sensory ganglia. Kung LH, Gong K, Aderoyin M, Ng J, Bhargava A, Ohara PT, Jasmin L
PLoS one (2013) 8(7): e68312. JHC


Release activity-dependent control of vesicle endocytosis by the synaptic adhesion molecule N-cadherin. van Steegen B, Daper S, Gottmann K
Scientific reports (2017) 7: 40865. ICC

Selected General References
Mechanisms of synaptic vesicle exocytosis.
Lin RC, Scheller RH

Membrane fusion and exocytosis.
Jahn R, Südhof TC

Export of cellubrevin from the endoplasmic reticulum is controlled by BAP31.
Annaert WG, Becker B, Kistner U, Renth M, Jahn R

Synaptobrevin binding to synaptophysin: a potential mechanism for controlling the exocytotic fusion machine.
Edelmann L, Hanson PI, Chapman ER, Jahn R

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

Synaptic vesicles and exocytosis.
Jahn R, Südhof TC

Cellubrevin is a ubiquitous tetanus-toxin substrate homologous to a putative synaptic vesicle fusion protein.
Maclachlan HT, Ushkaryov YA, Edelmann L, Link E, Binz T, Niemann H, Jahn R, Südhof TC

Structures and chromosomal localizations of two human genes encoding synaptobrevins 1 and 2.
Archer BT, Ozcelik T, Jahn R, Francke U, Südhof TC

A synaptic vesicle membrane protein is conserved from mammals to Drosophila.
Südhof TC, Baumeister W, Merin HS, Jahn R

Two vesicle-associated membrane protein genes are differentially expressed in the rat central nervous system.
Elferink LA, Trimble WS, Scheller RH

Synaptobrevin: an integral membrane protein of 18,000 daltons present in small synaptic vesicles of rat brain.
Baumert M, Maycox PR, Navone F, De Camilli P, Jahn R

VAMP-1: a synaptic vesicle-associated integral membrane protein.
Trimble WS, Cowan DM, Scheller RH

Synaptobrevins/VAMPs represents a family of integral membrane proteins of 11-13 kDa with the N-terminal region exposed to the cytoplasm and a C-terminal transmembrane domain. Two isoforms were identified in the mammalian CNS, synaptobrevin 1 (VAMP 1 or p18-1) and synaptobrevin 2 (VAMP 2 or p18-2) that differ in their distribution within different brain regions.
Synaptobrevin 1 is highly conserved between vertebrates and invertebrates. It is a major constituent of synaptic vesicles and peptidergic secretory granules in all neurons examined so far. In addition, it is present on secretory granules of neuroendocrine cells. Low levels of synaptobrevin 2 are present in many other tissues where the protein resides on specialized microvesicles.
In non-neuronal cells the third isoform, cellubrevin (VAMP 3), is present where it is localized to an endosomal membrane pool.
Synaptobrevin/VAMP is an essential component of the exocytotic fusion machine, related to a larger protein family referred to as v-SNAREs. It is the sole target for tetanus and several of the botulinum neurotoxins which cleave the protein at single sites in the C-terminal portion of the molecule.