Synaptic Systems

Rudolf-Wissell-Str. 28
37079 Göttingen, Germany
Phone: +49 551-50556-0
Fax: +49 551-50556-384
E-mail: sales@sysy.com
Web: www.sysy.com

AP 180

Cat.No. 155 003; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Rabbit serum albumin was added for stabilization. For reconstitution add 50 µl H_2O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	**WB**: 1 : 1000 up to 1 : 5000 (AP staining) **IP**: not tested yet **ICC**: 1 : 500 **IHC**: 1 : 1000 **IHC-P/FFPE**: not tested yet
Immunogen	Synthetic peptide corresponding to AA 279 to 297 from rat AP180 (UniProt Id: Q05140)
Reactivity	Reacts with: human (O60641), rat (Q05140), mouse (Q61548), dog. Other species not tested yet.
Specificity	Specific for AP 180. (K.O. verified)
matching control	155-0P

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

During neurotransmitter release synaptic vesicles fuse with the presynaptic plasma membrane. A whole protein machinery consisting of e.g. amphiphysin, clathrin, endophilin and synaptojanin is involved in the subsequent endocytotic recycling of the synaptic vesicles.
AP 180 also known as **pp155**, **NP185**, **F1-20**, and **SNAP 91** is a clathrin binding phospho-protein and faciliates the formation of clathrin coats.

Selected References SYSY Antibodies

Composition of isolated synaptic boutons reveals the amounts of vesicle trafficking proteins.
Wilhelm BG, Mandad S, Truckenbrodt S, Kröhnert K, Schäfer C, Rammner B, Koo SJ, Claßen GA, Krauss M, Haucke V, Urlaub H, et al.
Science (New York, N.Y.) (2014) 344(6187): 1023-8. **WB, ICC, IHC; tested species: mouse,rat**

Diffusional spread and confinement of newly exocytosed synaptic vesicle proteins.
Gimber N, Tadeus G, Maritzen T, Schmoranzer J, Haucke V
Nature communications (2015) 6: 8392. **ICC; tested species: mouse**

Vesicular Synaptobrevin/VAMP2 Levels Guarded by AP180 Control Efficient Neurotransmission.
Koo SJ, Kochlamazashvili G, Rost B, Puchkov D, Gimber N, Lehmann M, Tadeus G, Schmoranzer J, Rosenmund C, Haucke V, Maritzen T, et al.
Neuron (2015) 88(2): 330-44. **WB; KO verified; tested species: mouse**

Evidence for a Clathrin-independent mode of endocytosis at a continuously active sensory synapse.
Fuchs M, Brandstätter JH, Regus-Leidig H
Frontiers in cellular neuroscience (2014) 8: 60. **IHC; tested species: rat**

Stiff person syndrome-associated autoantibodies to amphiphysin mediate reduced GABAergic inhibition.
Geis C, Weishaupt A, Hallermann S, Grünewald B, Wessig C, Wultsch T, Reif A, Byts N, Beck M, Jablonka S, Boettger MK, et al.
Brain : a journal of neurology (2010) 133(11): 3166-80. **ICC**

Synaptic and vesicular coexistence of VGLUT and VGAT in selected excitatory and inhibitory synapses.
Zander JF, Münster-Wandowski A, Brunk I, Pahner I, Gómez-Lira G, Heinemann U, Gutiérrez R, Laube G, Ahnert-Hilger G
The Journal of neuroscience : the official journal of the Society for Neuroscience (2010) 30(22): 7634-45. **WB**

Selected General References

AP180 maintains the distribution of synaptic and vesicle proteins in the nerve terminal and indirectly regulates the efficacy of Ca2+-triggered exocytosis.
Bao H, Daniels RW, MacLeod GT, Charlton MP, Atwood HL, Zhang B
Journal of neurophysiology (2005) 94(3): 1888-903.

Synaptic distribution of the endocytic accessory proteins AP180 and CALM.
Yao PJ, Petralia RS, Bushlin I, Wang Y, Furukawa K
The Journal of comparative neurology (2005) 481(1): 58-69.

High-resolution localization of clathrin assembly protein AP180 in the presynaptic terminals of mammalian neurons.
Yao PJ, Coleman PD, Calkins DJ
The Journal of comparative neurology (2002) 447(2): 152-62.

Unusual structural organization of the endocytic proteins AP180 and epsin 1.
Kalthoff C, Alves J, Urbanke C, Knorr R, Ungewickell EJ
The Journal of biological chemistry (2002) 277(10): 8209-16.

Changes in synaptic expression of clathrin assembly protein AP180 in Alzheimer's disease analysed by immunohistochemistry.
Yao PJ, Morsch R, Callahan LM, Coleman PD
Neuroscience (1999) 94(2): 389-94.

AP180 and AP-2 interact directly in a complex that cooperatively assembles clathrin.
Hao W, Luo Z, Zheng L, Prasad K, Lafer EM
The Journal of biological chemistry (1999) 274(32): 22785-94.

Clathrin assembly protein AP180: primary structure, domain organization and identification of a clathrin binding site.
Morris SA, Schröder S, Plessmann U, Weber K, Ungewickell E
The EMBO journal (1993) 12(2): 667-75.

Molecular characterization of the AP180 coated vesicle assembly protein.
Prasad K, Lippoldt RE
Biochemistry (1988) 27(16): 6098-104.