

## Piccolo

Cat.No. 142 104; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

### Data Sheet

Reconstitution/Storage	100 µl antiserum, lyophilized. For reconstitution add 100 µl H <sub>2</sub> O, then aliquot and store at -20°C until use.
Applications	<b>WB:</b> 1 : 1000 (AP staining) (see remarks) <b>IP:</b> yes <b>ICC:</b> 1 : 500 up to 1 : 1000 <b>IHC:</b> 1 : 200 <b>IHC-P/FFPE:</b> 1 : 500
Immunogen	Recombinant protein corresponding to AA 2012 to 2351 from rat Piccolo (UniProt Id: Q9JKS6)
Reactivity	Reacts with: rat (Q9JKS6), mouse (Q9QYX7). Other species not tested yet.
Specificity	Specific for piccolo. (K.D. verified)
Remarks	<b>WB:</b> Due to its large size, piccolo requires special gel-electrophoresis and Western blot protocols for visualization by immunoblotting. Excellent results can be obtained with the 4-12% TRIS-glycine gradient gels of anamed. This antibody detects an additional band of ~65 kDa.

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

**Piccolo**, also referred to as **Aczonin**, is a large protein which consists of an N-terminal Zn<sup>2+</sup> finger, several piccolo-bassoon homology domains (PBH-domains) and C-terminal PDZ and C2 domains. In general it is found together with bassoon, a related huge multi-domain protein of the CAZ (cytoskeletal matrix assembled at active zones). Piccolo is supposed to be a scaffolding protein for proteins involved in endo- and exocytosis of synaptic vesicles. Recently piccolo has been shown to interfere with clathrin mediated endocytosis by binding to the F-actin and dynamin binding protein Abp1.

### Selected References SYSY Antibodies

HIV Tat causes synapse loss in a mouse model of HIV-associated neurocognitive disorder that is independent of the classical complement cascade component C1q.  
Hammond JW, Qiu WQ, Marker DF, Chamberlain JM, Greaves-Tunnell W, Bellizzi MJ, Lu SM, Gelbard HA  
Glia (2018) : . **IHC; tested species: mouse**

Kinesin Family of Proteins Kif11 and Kif21B Act as Inhibitory Constraints of Excitatory Synaptic Transmission Through Distinct Mechanisms.  
Swarnkar S, Avchalumov Y, Raveendra BL, Grinman E, Puthanveetil SV  
Scientific reports (2018) 8(1): 17419. **ICC; KD verified; tested species: mouse**

Synaptotagmin-3 drives AMPA receptor endocytosis, depression of synapse strength, and forgetting.  
Awasthi A, Ramachandran B, Ahmed S, Benito E, Shinoda Y, Nitzan N, Heukamp A, Rannio S, Martens H, Barth J, Burk K, et al.  
Science (New York, N.Y.) (2018) : . **WB; tested species: rat**

### Selected General References

Unitary assembly of presynaptic active zones from Piccolo-Bassoon transport vesicles.  
Shapira M, Zhai RG, Dresbach T, Bresler T, Torres VI, Gundelfinger ED, Ziv NE, Garner CC  
Neuron (2003) 38(2): 237-52.

Interactions between Piccolo and the actin/dynamin-binding protein Abp1 link vesicle endocytosis to presynaptic active zones.  
Fenster SD, Kessels MM, Qualmann B, Chung WJ, Nash J, Gundelfinger ED, Garner CC  
The Journal of biological chemistry (2003) 278(22): 20268-77.

Localization of the presynaptic cytomatrix protein Piccolo at ribbon and conventional synapses in the rat retina: comparison with Bassoon.  
Dick O, Hack I, Altmann WD, Garner CC, Gundelfinger ED, Brandstätter JH  
The Journal of comparative neurology (2001) 439(2): 224-34.

An unusual C(2)-domain in the active-zone protein piccolo: implications for Ca(2+) regulation of neurotransmitter release.  
Gerber SH, Garcia J, Rizo J, Südhof TC  
The EMBO journal (2001) 20(7): 1605-19.

Piccolo, a presynaptic zinc finger protein structurally related to bassoon.  
Fenster SD, Chung WJ, Zhai R, Cases-Langhoff C, Voss B, Garner AM, Kaempf U, Kindler S, Gundelfinger ED, Garner CC  
Neuron (2000) 25(1): 203-14.

Piccolo, a novel 420 kDa protein associated with the presynaptic cytomatrix.  
Cases-Langhoff C, Voss B, Garner AM, Appeltauer U, Takei K, Kindler S, Veh RW, De Camilli P, Gundelfinger ED, Garner CC  
European journal of cell biology (1996) 69(3): 214-23.

Gene structure and genetic localization of the PCLO gene encoding the presynaptic active zone protein Piccolo.  
Fenster SD, Garner CC  
International journal of developmental neuroscience : the official journal of the International Society for Developmental Neuroscience () 20(3-5): 161-71.