

SynGAP

Cat.No. 157 003; 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 ₂ O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	WB: 1 : 1000 up to 1 : 4000 AP staining IP: not tested yet ICC: 1 : 100 up to 1 : 200 IHC: not tested yet IHC-P/FFPE: not tested yet
Immunogen	Synthetic peptide corresponding to AA 1274 to 1293 from rat SynGAP (UniProt Id: Q9QUH6)
Reactivity	Reacts with: rat (Q9QUH6). Other species not tested yet.
Specificity	Recognizes both isoforms SynGAP a and b.
matching control	157-0P

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

SynGAP is an approximately 135 kDa protein which is condensed at the post-synaptic density. A potential interaction partner for this protein is the abundant PDZ domain protein PSD 95. Three isoforms (a, b and c) of synGAP have been described. The protein is a substrate for calmodulin dependent kinase 2 (CAMK2). Phosphorylation of synGAP reduces its activity, leading to an increased activation of Ras.

Selected General References

A role for synGAP in regulating neuronal apoptosis.
Knuesel I, Elliott A, Chen HJ, Mansuy IM, Kennedy MB
The European journal of neuroscience (2005) 21(3): 611-21.

SynGAP regulates spine formation.
Vazquez LE, Chen HJ, Sokolova I, Knuesel I, Kennedy MB
The Journal of neuroscience : the official journal of the Society for Neuroscience (2004) 24(40): 8862-72.

SynGAP-MUFP1-CaMKII synaptic complexes regulate p38 MAP kinase activity and NMDA receptor-dependent synaptic AMPA receptor potentiation.
Krapivinsky G, Medina I, Krapivinsky L, Gapon S, Clapham DE
Neuron (2004) 43(4): 563-74.

Regulation of the neuron-specific Ras GTPase-activating protein, synGAP, by Ca²⁺/calmodulin-dependent protein kinase II.
Oh JS, Manzerra P, Kennedy MB
The Journal of biological chemistry (2004) 279(17): 17980-8.

SynGAP regulates ERK/MAPK signaling, synaptic plasticity, and learning in the complex with postsynaptic density 95 and NMDA receptor.
Komiya NH, Watabe AM, Carlisle HJ, Porter K, Charlesworth P, Monti J, Strathdee DJ, O'Carroll CM, Martin SJ, Morris RG, O'Dell TJ, et al.
The Journal of neuroscience : the official journal of the Society for Neuroscience (2002) 22(22): 9721-32.

SynGAP: a synaptic RasGAP that associates with the PSD-95/SAP90 protein family.
Kim JH, Liao D, Lau LF, Huganir RL
Neuron (1998) 20(4): 683-91.