

#3200 Store at -20°C

SynGAP Antibody



Cell Signaling
TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, W-S	M R	Endogenous	140	Rabbit	#Q96PV0	8831

Product Usage Information	Application Western Blotting Simple Western™	Dilution 1:1000 1:10 - 1:50
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	SynGAP Antibody detects endogenous levels of total SynGAP protein.	
Species predicted to react based on 100% sequence homology:	Human	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to human SynGAP. Antibodies are purified by peptide affinity chromatography.	
Background	SynGAP is a synaptic GTPase-activating protein selectively expressed in the brain and found at higher concentrations specifically at excitatory synapses in the mammalian forebrain. SynGAP has a PH domain, a C2 domain, and a highly conserved RasGAP domain, which negatively regulates both Ras activity and its downstream signaling pathways. SynGAP interacts with the PDZ domains of SAP102, as well as PSD95, a postsynaptic scaffolding protein that couples SynGAP to NMDA receptors (1). SynGAP is phosphorylated by Ca2+/calmodulin-dependent protein kinase II (CaMKII) at Ser765 and Ser1123, among other sites (2,3). Phosphorylation of SynGAP results in stimulation of the GTPase activity of Ras, and PSD95 dependent CaMKII phosphorylation of SynGAP increases after transient brain ischemia (1,4). SynGAP is implicated in NMDAR- and CaMKII-dependent regulation of AMPAR trafficking and plays an important role in synaptic plasticity (3,5). SynGAP is critical during neuronal development as mice lacking SynGAP protein die postnatally. Furthermore, SynGAP mutant mice have reduced long-term potentiation (LTP) and perform poorly in spatial memory tasks (6).	
Background References	1. Kim, J.H. et al. (1998) <i>Neuron</i> 20, 683-91. 2. Oh, J.S. et al. (2004) <i>J Biol Chem</i> 279, 17980-8. 3. Krapivinsky, G. et al. (2004) <i>Neuron</i> 43, 563-74. 4. Song, B. et al. (2004) <i>Brain Res</i> 1005, 44-50. 5. Komiyama, N.H. et al. (2002) <i>J Neurosci</i> 22, 9721-32. 6. Kim, J.H. et al. (2003) <i>J Neurosci</i> 23, 1119-24.	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Western Blot Buffer	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	WB: Western Blotting W-S: Simple Western™
Cross-Reactivity Key	H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr: horse GP: Guinea Pig Rab: rabbit All: all species expected

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.