

#13638 Store at -20C

Phospho-GKAP (Ser346) 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	M R	Endogenous	90-150	Rabbit	#O14490	9229

Product Usage Information	Application Western Blotting	Dilution 1:1000
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	Phospho-GKAP (Ser346) Antibody recognizes endogenous levels of GKAP protein only when phosphorylated at Ser346.	
Species predicted to react based on 100% sequence homology:	Human	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser346 of human GKAP protein. Antibodies are purified by protein A and peptide affinity chromatography.	
Background	Guanylate kinase-associated protein (GKAP, DLGAP1 or SAPAP1) is part of the postsynaptic scaffolding complex that includes the PSD-95, SAP90, and SHANK proteins (1-3). GKAP links the synaptic protein SHANK to a PSD-95 complex that includes NMDA glutamate receptors (3,4). Synaptic activity induces ubiquitination of GKAP protein by the E3 ubiquitin ligase TRIM3, which results in decreased GKAP protein levels through degradation (5,6). GKAP protein turnover is regulated by a CaMKII-dependent, bidirectional mechanism. Synaptic over-excitation leads to CaMKIIα-mediated GKAP phosphorylation at Ser346, which induces polyubiquitination of GKAP and removal of the scaffold protein from synapses. In contrast, during low-level synaptic activity CaMKIIβ phosphorylates GKAP, which triggers dissociation of GKAP from the motor protein complex responsible for GKAP transport to the base of the synapse and its subsequent incorporation into the postsynaptic density (7).	
Background References	1. Satoh, K. et al. (1997) <i>Genes Cells</i> 2, 415-24. 2. Kim, E. et al. (1997) <i>J Cell Biol</i> 136, 669-78. 3. Naisbitt, S. et al. (1999) <i>Neuron</i> 23, 569-82. 4. Romorini, S. et al. (2004) <i>J Neurosci</i> 24, 9391-404. 5. Ehlers, M.D. (2003) <i>Nat Neurosci</i> 6, 231-42. 6. Hung, A.Y. et al. (2010) <i>PLoS One</i> 5, e9842. 7. Shin, S.M. et al. (2012) <i>Nat Neurosci</i> 15, 1655-66.	

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	WB: Western Blotting
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.