

Store at -20C
#3733

SAP102 (G670) Antibody



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	H M R	Endogenous	102	Rabbit	#Q92796	1741

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

SAP102 (G670) Antibody detects endogenous levels of total SAP102 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide surrounding residue Gly670 of human SAP102. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Synapse-associated protein **102** (SAP102, DLG3) belongs to the membrane-associated guanylate kinase (MAGUK) protein family and is a homolog of the *Drosophila* disc large (dlg) tumor suppressor protein. SAP102 consists of three PDZ domains, a Src homology 3 (SH3) domain, and a guanylate kinase (GK) domain (1). The SAP102 protein is more highly expressed in nonproliferating cells than in proliferating cells, indicating a role in the negative regulation of cell growth. SAP102 interacts with the carboxy terminus of the adenomatous polyposis coli (APC) tumor suppressor protein. Furthermore, SAP102 associates with PSD95 in the presence of calcium while the SH3 domain of SAP102 binds calmodulin (2,3). All three PDZ domains of SAP102 participate in binding to the NMDA receptor, interacting specifically with the carboxy-terminal domain of the N-methyl-D-aspartate receptor 2B (NR2B). This SAP102-NR2B interaction may facilitate AMPA receptor withdrawal from the postsynaptic membrane by inhibiting the Erk/MAPK pathway (1,4). Neuronal SAP102 is concentrated at dendritic shafts and spines, axons, and synaptic junctions. At excitatory synapses, SAP102 is involved in NMDA receptor clustering and immobilization and links NMDA receptors to the submembraneous cytomatrix (4). SAP102 and the NMDA receptor function together to mediate plasticity, behavior, and signal transduction (1). A nonsyndromic form of X-linked mental retardation is caused by loss-of-function mutations to the SAP102 gene. The SAP102 protein may be involved in autism since MAGUK proteins in the NMDA receptor complex bind directly to the autism susceptibility gene, neuroligin (1,5).

Background References

- Cuthbert, P.C. et al. (2007) *J Neurosci* 27, 2673-82.
- Makino, K. et al. (1997) *Oncogene* 14, 2425-33.
- Masuko, N. et al. (1999) *J Biol Chem* 274, 5782-90.
- Lau, L.F. et al. (1996) *J Biol Chem* 271, 21622-8.
- Yan, J. et al. (2005) *Mol Psychiatry* 10, 329-32.

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.