

Product Information

Anti-SRGAP3

produced in rabbit, affinity isolated antibody

Product Number **SAB4200050**

Product Description

Anti-SRGAP3 is produced in rabbit using as the immunogen a synthetic peptide corresponding to a fragment of human SRGAP3 (GeneID: 9901), conjugated to KLH. The corresponding sequence is identical in human SRGAP3 isoforms A and B, and is highly conserved (single amino acid substitution) in rat and mouse SRGAP3. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-SRGAP3 specifically recognizes human and mouse SRGAP3. The antibody may be used in various immunochemical techniques including immunoblotting (~124 kDa). Detection of the SRGAP3 band by immunoblotting is specifically inhibited by the SRGAP3 immunizing peptide.

Cell migration plays a central role in a variety of fundamental processes including embryogenesis, development, immune response, tissue repair, and tumorigenesis. The Rho signaling pathways play an important role in various aspects of neuronal development, including axonal and dendritic growth during embryonic development and neuronal synaptic plasticity in the adult brain. SRGAP3 (Slit-ROBO Rho GTPase-activating protein 3, also known as MEGAP, SRGAP2, WRP, and ARHGAP14), is a GTPase activating protein that belongs to the Slit-ROBO GAPs (SRGAPs) family.^{1,2} SRGAP3 negatively regulates cell migration, by inhibiting the activity of Rac1 and Cdc42. SRGAP3/MEGAP has been associated with severe mental retardation in several patients.² SRGAP3 is predominantly and highly expressed in the brain during embryonic development and in the adult brain, specifically in neurons of the hippocampus and cortex, structures known to play pivotal roles in learning and memory. SRGAP3 exists as two isoforms SRGAP3A and SRGAP3B resulting from alternative splicing. SRGAP3/WRP has been shown to interact directly to WAVE-1 through its Src homology domain and specifically inhibits Rac function *in vivo*.³ Induced expression of SRGAP3 inhibits Rac1 and Cdc42 activity and impedes cell migration by impairing actin and microtubule dynamics and formation of focal complexes.⁴

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: ~1.5 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store at -20 °C. For continuous use, the product may be stored at 2-8 °C for up to one month. For extended storage, freeze in working aliquots at -20 °C. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working antibody concentration of 1.5-3 µg/mL is recommended using mouse brain extracts (S1 fraction) and HEK-293T cell lysates overexpressing SRGAP3.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

1. Wong, K. et al., *Cell*, **107**, 209-221 (2001).
2. Endris, V. et al., *Proc. Natl. Acad. Sci. USA*, **99**, 11754-11759 (2002).
3. Soderling, S.H. et al., *Nat. Cell Biol.*, **4**, 970-975 (2002).
4. Yang, Y. et al., *Exp. Cell Res.*, **312**, 2379-2393 (2006).

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