

Product Information

Anti-BRSK2

produced in rabbit, affinity isolated antibody

Catalog Number **SAB4200430**

Product Description

Anti-BRSK2 is produced in rabbit using as immunogen a synthetic peptide corresponding to a sequence at an internal region of human BRSK2 (GeneID: 9024), conjugated to KLH. The corresponding sequence is identical in rat and mouse BRSK2. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-BRSK2 specifically recognizes mouse BRSK2. The antibody may be used in various immunochemical techniques including immunoblotting (~75 kDa). Detection of the BRSK2 band by immunoblotting is specifically inhibited by the BRSK2 immunizing peptide.

BRSK1 (BR serine/threonine kinase 1, also known as SAD-1, SAD-B) and BRSK2 (SAD-A) belong to the family of Ser/Thr AMPK-related kinases that are specifically expressed in the mammalian brain.¹⁻³ BRSK1 has been shown to localize to and associate with synaptic vesicle in the hippocampus and cerebellum and is required for the polarization of cortical neurons.²⁻⁴ Knock-out mice that lack both BRSK1 and BRSK2 have defects in neuronal polarity and die prematurely after birth. LKB1 phosphorylates and activates the SAD kinases by phosphorylation of a specific threonine residue within the T-loop activation segment of the kinase domain.^{2,3} LKB1 has been shown to phosphorylate BRSK2 at Thr¹⁷⁴, increasing its kinase activity, whereas cAMP-dependent protein kinase A (PKA) as another upstream kinase of BRSK2, has been shown to phosphorylate BRSK2 at Thr²⁶⁰.⁵ BRSK1/2 in turn, phosphorylate downstream effectors such as the microtubule associated protein tau and the cell cycle checkpoint kinase Wee1.^{2,6} Phosphorylation of Wee1 by BRSK1/2 is required for regulation of its activity in polarized neurons, and is an essential step for the differentiation of polarized neurons.

Reagent

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

Antibody Concentration: ~1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. 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 concentration of 2.5-5 µg/mL is recommended using HEK-293T cell lysates over-expressing mouse BRSK2.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

1. Kishi, M., et al., *Science*, **307**, 929-932 (2005).
2. Barnes, A.P., et al., *Cell*, **129**, 549-563 (2007).
3. Shelly, M., et al., *Cell*, **129**, 565-577 (2007).
4. Inoue, E., et al., *Neuron*, **50**, 261-275 (2006).
5. Guo, Z., et al., *Biochem. Biophys. Res. Commun.*, **347**, 867-871 (2006).
6. Müller, M., et al., *J. Cell Sci.*, **123**, 286-294 (2010).

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