

**BRSK1 Blocking Peptide(Center)**  
**Synthetic peptide**  
**Catalog # BP19765C****Specification**

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**BRSK1 Blocking Peptide(Center) - Product Information**

Primary Accession [Q8TDC3](#)  
Other Accession [B2DD29](#), [Q5RJI5](#), [NP\\_115806.1](#)

**BRSK1 Blocking Peptide(Center) - Additional Information**

**Gene ID** 84446

**Other Names**

Serine/threonine-protein kinase BRSK1, Brain-selective kinase 1, Brain-specific serine/threonine-protein kinase 1, BR serine/threonine-protein kinase 1, Serine/threonine-protein kinase SAD-B, Synapses of Amphids Defective homolog 1, SAD1 homolog, hSAD1, BRSK1, KIAA1811, SAD1, SADB

**Target/Specificity**

The synthetic peptide sequence is selected from aa 370-384 of HUMAN BRSK1

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**BRSK1 Blocking Peptide(Center) - Protein Information**

**Name** BRSK1

**Synonyms** KIAA1811, SAD1, SADB

**Function**

Serine/threonine-protein kinase that plays a key role in polarization of neurons and centrosome duplication. Phosphorylates CDC25B, CDC25C, MAPT/TAU, RIMS1, TUBG1, TUBG2 and WEE1. Following phosphorylation and activation by STK11/LKB1, acts as a key regulator of polarization of cortical neurons, probably by mediating phosphorylation of microtubule-associated proteins such as MAPT/TAU at 'Thr-529' and 'Ser-579'. Also regulates neuron polarization by mediating phosphorylation of WEE1 at 'Ser-642' in postmitotic neurons, leading to down-regulate WEE1 activity in polarized neurons. In neurons, localizes to synaptic vesicles and plays a role in neurotransmitter release, possibly by phosphorylating RIMS1. Also acts as a positive regulator of centrosome duplication by mediating phosphorylation of gamma-tubulin (TUBG1 and TUBG2) at

'Ser-131', leading to translocation of gamma-tubulin and its associated proteins to the centrosome. Involved in the UV-induced DNA damage checkpoint response, probably by inhibiting CDK1 activity through phosphorylation and activation of WEE1, and inhibition of CDC25B and CDC25C.

#### **Cellular Location**

Cytoplasm. Nucleus. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Synapse {ECO:0000250|UniProtKB:B2DD29}. Presynaptic active zone {ECO:0000250|UniProtKB:B2DD29}. Cytoplasmic vesicle, secretory vesicle, synaptic vesicle {ECO:0000250|UniProtKB:B2DD29}. Note=Nuclear in the absence of DNA damage. Translocated to the nucleus in response to UV- or MMS-induced DNA damage (By similarity).

#### **Tissue Location**

Widely expressed, with highest levels in brain and testis. Protein levels remain constant throughout the cell cycle

### **BRSK1 Blocking Peptide(Center) - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

### **BRSK1 Blocking Peptide(Center) - Images**

### **BRSK1 Blocking Peptide(Center) - Background**

Required for the polarization of forebrain neurons which endows axons and dendrites with distinct properties, possibly by locally regulating phosphorylation of microtubule-associated proteins (By similarity). May be involved in the regulation of G2/M arrest in response to UV-or methyl methane sulfonate (MMS)-induced, but not IR-induced, DNA damage. Phosphorylates WEE1 and CDC25B in vitro and CDC25C in vitro and in vivo.

### **BRSK1 Blocking Peptide(Center) - References**

Alvarado-Kristensson, M., et al. Nat. Cell Biol. 11(9):1081-1092(2009)  
He, C., et al. Nat. Genet. (2009) In press :  
Stolk, L., et al. Nat. Genet. (2009) In press :  
Fogarty, S., et al. J. Biol. Chem. 284(1):77-84(2009)  
Bright, N.J., et al. J. Biol. Chem. 283(22):14946-14954(2008)