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BRSK1 Rabbit pAb

Catalog # AP98176

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q8TDC3
Other Accession	Q8TDC3
Reactivity	Rat
Predicted	Pig, Human, Mouse, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	85087
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human BRSK1
Epitope Specificity	101-200/778
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. SNF1 subfamily.Contains 1 protein kinase domain.Contains 1 UBA domain.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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. Tissue specificity: Widely expressed, with highest levels in brain and testis. Protein levels remain constant throughout the cell cycle.

Additional Information

Gene ID	84446
Other Names	SAD-B; hSAD1; Gm1100; SADB; RGD1563268; BRSK1_HUMAN; 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); 2.7.11.1; KIAA1811; SAD1; BRSK1_MOUSE; 2.7.11.26; BRSK1_RAT; BR serine/threonine kinase 1; brain selective kinase 1
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody

is stable for at least two weeks at 2-4 °C.

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

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.