Anti-BRSK2 antibody

Description	Unconjugated Rabbit polyclonal to BRSK2

Model	STJ190235
Host	Rabbit
Reactivity	Human, Mouse, Rat
Applications	ELISA, WB
Immunogen	Synthesized peptide derived from human BRSK2 protein.
Immunogen Region	320-400aa
Gene ID	9024
Gene Symbol	BRSK2
Dilution range	WB 1:500-2000 ELISA 1:5000-20000
Specificity	BRSK2 Polyclonal Antibody detects endogenous levels of protein.
Tissue Specificity	Detected in pancreas islets (at protein level).
Purification	BRSK2 antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Note	For Research Use Only (RUO).
Protein Name	Serine/threonine-protein kinase BRSK2 Brain-selective kinase 2 Brain-specific serine/threonine-protein kinase 2 BR serine/threonine-protein kinase 2 Serine/threonine-protein kinase 29 Serine/threonine-protein kinase SAD-A
Molecular Weight	80 kDa
Clonality	Polyclonal

Conjugation	Unconjugated
Isotype	IgG
Formulation	Liquid form in PBS containing 50% glycerol,and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:11405OMIM:609236
Alternative Names	Serine/threonine-protein kinase BRSK2 Brain-selective kinase 2 Brain-specific serine/threonine-protein kinase 2 BR serine/threonine-protein kinase 2 Serine/threonine-protein kinase 29 Serine/threonine-protein kinase SAD-A
Function	Serine/threonine-protein kinase that plays a key role in polarization of neurons and axonogenesis, cell cycle progress and insulin secretion. Phosphorylates CDK16, CDC25C, MAPT/TAU, PAK1 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. Plays a role in the regulation of the mitotic cell cycle progress and the onset of mitosis. Plays a role in the regulation of insulin secretion in response to elevated glucose levels, probably via phosphorylation of CDK16 and PAK1. While BRSK2 phosphorylated at Thr-174 can inhibit insulin secretion , BRSK2 phosphorylated at Thr-260 can promote insulin secretion . Regulates reorganization of the actin cytoskeleton. May play a role in the apoptotic response triggered by endoplasmic reticulum (ER) stress.
Sequence and Domain Family	The KEN box motif is required for interaction with FZR1/CDH1 and essential for APC(CDH1)-mediated ubiquitination.
Cellular Localization	Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, perinuclear region. Endoplasmic reticulum. Detected at centrosomes during mitosis. Localizes to the endoplasmic reticulum in response to stress caused by tunicamycin.
Post-translational Modifications	Phosphorylated at Thr-174 by STK11/LKB1 in complex with STE20-related adapter-alpha (STRADA) pseudo kinase and CAB39. Not phosphorylated at Thr-174 by CaMKK2. In contrast, it is phosphorylated and activated by CaMKK1. May be inactivated via dephosphorylation of Thr-174 by PP2C. Phosphorylated at Thr-260 by PKA. Phosphorylation at Thr-260 by PKA was not observed in another study , but this may reflect differences in the experimental approach. Phosphorylation at Thr-260 seems to play a role in the regulation of insulin secretion . Polyubiquitinated by the APC complex in conjunction with FZR1, leading to its proteasomal degradation. Targeted for proteasomal degradation by interaction with COPS5. BRSK2 levels change during the cell cycle. BRSK2 levels are low at the G1/S boundary and gradually increase as cells progress into G2 phase. BRSK2 levels decrease rapidly at the end of mitosis.