

Product datasheet for **RG239091**

BRSK2 (NM_001282218) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	BRSK2 (NM_001282218) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	BRSK2
Synonyms:	C11orf7; PEN11B; SAD1; SADA; STK29
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG239091 representing NM_001282218.
 Blue=ORF Red=Cloning site Green=Tag(s)

GCTCGTTTAGTGAACCGTCAGAATTTTGTAAACGACTCACTATAGGGCGGCCGGGAATTCGTGACTG
 GATCCGGTACCGAGGAGATCTGCCGCC**CGGATCGCC**
 ATGAAGTGGAGCGGGAGATCGCGATCCTGAAGCTCATTGAGCACCCCCACGTCCTAAAGCTGCACGAC
 GTTTATGAAAACAAAAAATATTTGTACCTGGTGCTAGAACACGTGTCAGGTGGTGAAGCTCTCGACTAC
 CTGGTGAAGAAGGGGAGGCTGACGCCTAAGGAGGCTCGGAAGTTCTTCCGGCAGATCATCTCGCGCTG
 GACTTCTGCCACAGCCACTCCATATGCCACAGGGATCTGAAACCTGAAAACCTCTGCTGGACGAGAAG
 AACACATCCGCATCGCAGACTTTGGCATGGCGTCCCTGCAGGTTGGCGACAGCCTGTTGGAGACCAGC
 TGTGGTCCCCCACTACGCTGCCCGAGGTGATCCGGGGGAGAAAGTATGACGGCCGGAAGGCGGAC
 GTGTGGAGCTGCGGCGTCATCCTGTTGCGCTTGTGCTGGGGGCTCTGCCCTTCGACGATGACAATTG
 CGACAGCTGCTGGAGAAGGTGAAGCGGGGCGTGTCCACATGCCGCACTTATCCCGCCGACTGCCAG
 AGTCTGCTACGGGCATGATCGAGGTGGACGCCGACGCCGCTCACGCTAGAGCACATTCAGAAACAC
 ATATGGTATATAGGGGCAAGAATGAGCCCGAACAGAGCAGCCATTCTCGAAAGTGCAGATCCGC
 TCGCTGCCAGCCTGGAGGACATCGACCCGACGTGCTGGACAGCATGCACTCACTGGGCTGCTCCGA
 GACCGCAACAAGCTGCTGCAGGACCTGCTGTCGAGGAGGAGAACCAGGAGAAGATGATTTACTTCTC
 CTCTGGACCGGAAAGAAAGGTACCCGAGCCAGGAGGATGAGGACCTGCCCGCCGGAACGAGATAGAC
 CCTCCCCGGAAGCGTGTGGACTCCCCGATGCTGAACCGGCACGGCAAGCGGCGGCCAGAACGCAATCC
 ATGGAGGTGCTCAGCGTGACGGACGGCGGCTCCCCGGTGCCTGCGCGCGGGGCCATTGAGATGGCCAG
 CACGGCCAGAGGTCTCGGTCCATCAGCGGTGCCTCCTCAGGCCTTCCACCAGCCACTCAGCAGCCCC
 CGGGTACCCCTCACCCCTACCAAGGGCAGTCCCTCCCCACCCCAAGGGGACACCTGTCCACACG
 CCAAAGGAGAGCCCGGCTGGCAGCCCAACCCACGCCCGTCCAGCCAGCGTCGGAGGGGTGCC
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 TGGTTTGGAACTTCATCAGCCTGGAGAAGGAGGAGCAGATCTTCGTGGTTCATCAAAGACAACTCTG
 AGCTCCATCAAGGCTGACATCGTGCACGCCTTCTGTGATTCCAGTCTCAGCCACAGCGTCATCTCC
 CAAACGAGCTTCCGGGCCGAGTACAAGGCCACGGGGGGCCAGCCGTGTTCCAGAAGCCGGTCAAGTTC
 CAGGTTGATACCTACACGGAGGTGGGGAGGCGCAGAAGGAGAACGGCATCTACTCCGTACCTTC
 ACCCTGCTCTCAGGCCAGCCGTGCTTCAAGAGGGTGGTGGAGACCATCCAGGCCAGCTGCTGAGC
 ACACACGACCCGCTGCGGCCAGCACTTGTGAGAACCCCCACCAGCGCCAGGACTAAGCTGGGGT
 GCTGGGCTTAAGGGCCAGAAGGTGGCCACCAGCTACGAGAGTAGCCTC
ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAAAC

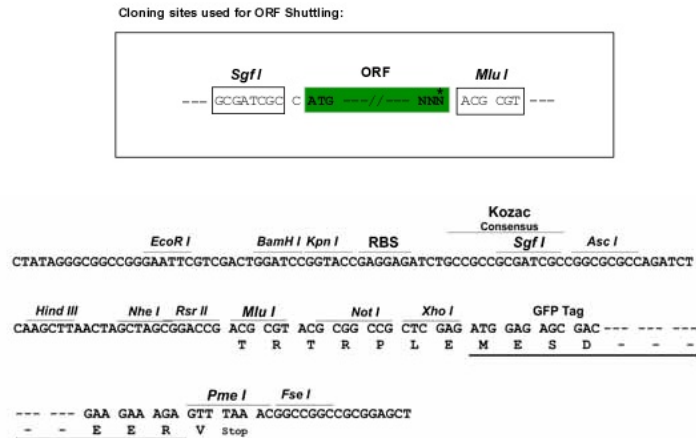
Protein Sequence:

>Peptide sequence encoded by RG239091
 Blue=ORF Red=Cloning site Green=Tag(s)

MKVEREIAILKLIHPPHVLKLDVYENKKYLVLVLEHVS GGELFDYL VKKGRLTPKEARKFFRQIISAL
 DFCHSHSICHRDLKPENLLLDEKNNIRIADFGMASLQVGD SLETS CGSPHYACPEVIRGEKYDGRKAD
 VWSCGVILFALLVGALPFDDNLRQLLEKVKRGVFHMPHFIPPDCQSLLRGMIEVDAARRLLEHIQKH
 IWYIGGKNEPEPEQPIPRKVQIRSLPSLEDIDPDVLDMSHSLGCFRDRNKLLQDLLSEENQEKMIYFL
 LLDRKERYPSQEDLPPRNEIDPPRKRVDSPMLNRHGKRRPERKSMEVLSVTDGGSPVPARRAIEMAQ
 HGQRSRSISGASSGLSTSPLSSPRVTPHSPRGSPLPTPKGTPVHTPKESPAGTPNPTPPSSPSVGGVP
 WRARLNSIKNSFLGSPRFHRRKLQVPTPEEMSNLTPESPPELAKKSWFGNFI SLEKEEQIFVVIKDKPL
 SSIKADIVHAFSLIPSLSHSVISQTSFRAEYKATGGPAVFQKPVKQVDITYTEGGEAQKENGIVSYTF
 TLLSGPSRRFRKRVETIQQLLSTHDPPAAQHLSEPPPPAPGLSWGAGLKGQKVATSYESSL
TRTRPLEMESDESGLPAMEIECRITGTLNGVEFELVGGGEGTPEQGRMTNKMSTKGALTFSPYLLSHV
 MGYGFYHFGTYPSTYSGYENPFLHAINNGGYNTRIEKYEDGGVLHVSFSYRYEAGRVIGDFKVMGTGFPEP
 SVIFTDKIIIRSNATVEHLHPMGDNDLDGFSFTRTFLSRDGGYSSVVDSHMHFKSAIHPSILQNGGPMFA
 FRRVEEDHSNTELGIVEYQHAFKTPDADAGEERV

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_001282218

ORF Size: 1842 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

RefSeq: [NM_001282218.2](#)

RefSeq Size: 4127 bp

RefSeq ORF: 1845 bp

Locus ID: 9024

UniProt ID: [Q8IWO3](#)

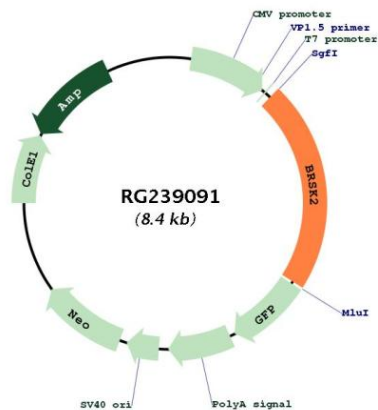
Cytogenetics: 11p15.5

Protein Families: Druggable Genome, Protein Kinase

MW: 69.2 kDa

Gene Summary:

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 (PubMed:22798068), BRSK2 phosphorylated at Thr-260 can promote insulin secretion (PubMed:22669945). Regulates reorganization of the actin cytoskeleton. May play a role in the apoptotic response triggered by endoplasmic reticulum (ER) stress. [UniProtKB/Swiss-Prot Function]

Product images:

Circular map for RG239091