

Product datasheet for **RC234858**

BRSK2 (NM_001256630) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	BRSK2 (NM_001256630) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	BRSK2
Synonyms:	C11orf7; PEN11B; SAD1; SADA; STK29
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC234858 representing NM_001256630
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGAGCCCTGAGGGCCACCCAGCCGATGGGCACGTCCTCCGCGCCCTGCATCTGTCTTCTCCCTCT
 GCTCCCCAAGAGAGCCAGGTCTGGCCAGCGGTGGGCAGGGGAGGGCCGCACATCACAGAGTGCCAGC
 TGGCCACACTCCCGGCCACAGCTGCTCCAGCCGCACCTCCACCTTCTCAAGGCCAGACCTGGCTCTGC
 CTGCAGCCAGCCAGCAGGTCTGGTGAAGCTGGGGTTCACTGCGTCACCTGCCAGAAGGTGGCCATCA
 AGATCGTCAACCGTGAGAAGCTCAGCGAGTCGGTCTGATGAAGGTGGAGCGGGAGATCGCGATCTGAA
 GCTCATTGAGCACCCACGTCCTAAAGCTGCACGACGTTTATGAAAACAAAAAATTTGTACCTGGTG
 CTAGAACAGTGTGAGGTGGTGAAGTCTCGACTACCTGGTGAAGAAGGGGAGGCTGACGCCAAGGAGG
 CTCGGAAGTTCTCCGGCAGATCATCTCGCTGGACTTCTGCCACAGCCACTCCATATGCCACAGGGA
 TCTGAAACCTGAAACCTCTGCTGGACGAGAAGAACAACATCCGCATCGCAGACTTTGGCATGGCGTCC
 CTGCAGGTTGGCGACAGCCTGTTGGAGACCAGCTGTGGTCCCCCACTACGCTGCCCCGAGGTGATCC
 GGGGGGAGAAGTATGACGGCCGGAAGGCGGACGTGTGGAGCTGCGGCGTCATCTGTTCCGCTTGTGTT
 GGGGGCTCTGCCCTTCGACGATGACAACCTTGCACAGCTGCTGGAGAAGGTGAAGCGGGCGTGTCCAC
 ATGCCGCACTTTATCCCGCCGACTGCCAGAGTCTGCTACGGGGCATGATCGAGGTGGACGCCGACGCC
 GCCTCACGCTAGAGCACATTCAGAAACACATATGGTATATAGGGGGCAAGAATGAGCCCGAACAGAGCA
 GCCATTCTCGCAAGGTGCAGATCCGCTCGCTGCCAGCCTGGAGGACATCGACCCGACGTGCTGGAC
 AGCATGCACACTGGGTGCTTCCGAGACCGCAACAAGCTGCTGCAGGACCTGCTGTCCGAGGAGGAGA
 ACCAGGAGAAGATGATTTACTTCTCTCTGGACCGGAAAGAAAGGTACCCGAGCCAGGAGGATGAGGA
 CCTGCCCCCGGAACGAGATAGACCTCCCGGAAGCGTGTGGACTCCCGATGCTGAACCGGCACGGC
 AAGCGGGCCGAGAACGCAAATCCATGGAGGTGCTCAGCGTGACGGACGGCGGCTCCCGGTGCCTGCGC
 GGCGGGCCATTGAGATGGCCAGCACGGCCAGAGGTCTCGGTCCATCAGCGGTGCCTCTCAGGCCTTTC
 CACCAGCCACTCAGCAGCCCCGGGTGACCCCTACCCCTACCAAGGGGCAGTCCCCTCCCCACCCCC
 AAGGGGACACCTGTCCACAGCCAAAGGAGAGCCGGCTGGCACGCCAACCCACGCCCCCGTCCAGCC
 CCAGCGTCGGAGGGTGCCTGGAGGGCGGGCTCACTCCATCAAGAACAGCTTCTGGGCTACCCCG
 CTTCCACCGCCGAAACTGCAAGTTCGACGCGGAGGAGATGTCCAACCTGACACCAGAGTCGTCCTCA
 GAGCTGGCGAAGAAGTCTGGTTTGGGAACTTCATCAGCCTGGAGAAGGAGGAGCAGATCTTCGTGGTCA
 TCAAAGACAAACCTCTGAGCTCCATCAAGGCTGACATCGTGCACGCCCTTCTGTGATTCCAGTCTCAG
 CCACAGCGTCATCTCCAAACGAGCTTCCGGGCGGAGTACAAGGCCACGGGGGGCCAGCCGTGTTCCAG
 AAGCCGGTCAAGTTCAGGTTGATACCTACACGGAGGGTGGGGAGGCGCAGAAGGAGAACGGCATCT
 ACTCCGTACCTTACCCTGCTCTCAGGCCAGCCGTCGCTTCAAGAGGGTGGTGGAGACCATCCAGGC
 CCAGCTGCTGAGCACACGACCCGCTGCGGCCAGCACTTGTGAGACCCACTAACTGTATGAAATG
 ATGACGGGGCGGCTTCCAAATGTGACGAGAAGAACGGGCAGGCGGCCAGGCCCCAGCACGCCCGCCA
 AGCGGAGTGCCACGGCCACTCGGTGACTCCGGCGGCTGGCCCTGGCCCCGAGGGGACGCCGAGTA
 CCAACGGGCAAGGACACGGCCAAGATGGGCCCGCCACCGCCCGCCGAGCAGCCT

ACGCGTACGCGGGCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC234858 representing NM_001256630
Red=Cloning site Green=Tags(s)

MSPEGHPSRWARRRPPICPSSLCSPREPRSGPAVGRGGAHHRVPAGHTPGPQLLQPHLHLPQGQTWLC
 LQPSPAGLVKLVGVCVTCQKVAIKIVNREKLSVLMKVEREIAILKLEIHPHVLKLDVYENKKYLYLV
 LEHVS GGELFDYLVKKGRLLTPKEARKFFRQIISALDFCHSHSICHRDLKPENLLLDEKNNIRIADFGMAS
 LQVGDLSLETCGSPHYACPEVIRGEKYDGRKADVWSCGVILFALLV GALPFDDNLRQLLEKVKRGVVFH
 MPHFI PPDCQSLLRGMIEVDAARRLTLEHIQKHIWYIGGKNEPEPEQPIPRKVQIRSLPSLEDIDPDVLD
 SMHSLGCFRDRNKLLQDLLSEENQEKMIYFLLLDRKERYPSEDEDLPPRNEIDPPRKRVDSPMLNRHG
 KRRPERKSMEVLSVTDGGSPVPARRAIEMAQHGRSRSISGASSGLSTSPSSPRVTPHPSRPGSPLPTP
 KGTPVHTPKESPAGTPNPPTPPSSPSVGGVPWRARLNSIKNSFLGSPRFHRRKLQVPTPEEMSNLTPESP
 ELAKKSWFNGFISLEKEEQIFVVIKDKPLSSIKADIVHAFLSIPSLSHSVISQTSFRAEYKATGGPAVFQ
 KPVKFQVDITYEGGEAQKENGIVSVTFLLSGPSRRFKRVVETIQ AQLLSTHDPAAQHLSDTTNCMEM
 MTGRLSKCDEKNGQAAQAPSTPAKRSAHGPLGDSAAAGPGGGDAEYPTGKDTAKMGPTARREQP

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_001256630

ORF Size: 2298 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).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_001256630.1](#), [NP_001243559.1](#)

RefSeq Size: 4520 bp

RefSeq ORF: 2301 bp

Locus ID: 9024

UniProt ID: [Q8IWQ3](#)

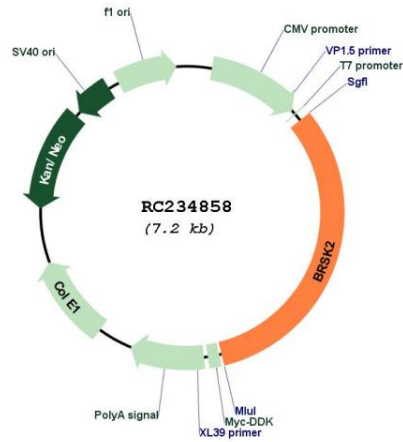
Cytogenetics: 11p15.5

Protein Families: Druggable Genome, Protein Kinase

MW: 85.3 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 RC234858