

Product datasheet for **RC223466**

BRSK2 (NM_003957) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	BRSK2 (NM_003957) 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:**

>RC223466 representing NM_003957
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGACATCGACGGGAAGGACGGCGCGCAGCAGCGCAGTATGTTGGGCCCTACCGGTGGAGAAGA
 CGCTGGGCAAGGGCAGACAGGTCTGGTGAAGCTGGGGTTCACTGCGTCACCTGCCAGAAGGTGGCCAT
 CAAGATCGTCAACCGTGAGAAGCTCAGCGAGTCGGTGCTGATGAAGGTGGAGCGGAGATCGCGATCCTG
 AAGCTCATTGAGCACCCACGTCCTAAAGCTGCACGACGTTTATGAAAACAAAAATATTTGTACCTGG
 TGCTAGAACACGTGTCAGGTGGTGAAGCTCTCGACTACCTGGTGAAGAAGGGGAGGCTGACGCCTAAGGA
 GGCTCGGAAGTTCTCCGGCAGATCATCTCTGCGCTGGACTTCTGCCACAGCCACTCCATATGCCACAGG
 GATCTGAAACCTGAAACCTCCTGCTGGACGAGAACAACATCCGCATCGCAGACTTTGGCATGGCGT
 CCCTGCAGTTGGCGACAGCCTGTTGGAGACCAGCTGTGGTCCCCCACTACGCCTGCCCGAGGTGAT
 CCGGGGGGAGAAGTATGACGGCCGAAGGCGGACGTGTGGAGCTCGGGCGTCATCTGTTCGCTTGCTG
 GTGGGGCTCTGCCCTTCGACGATGACAACCTGCGACAGCTGCTGGAGAAGGTGAAGCGGGCGTGTTC
 ACATGCCGCACCTTATCCCGCCGACTGCCAGAGTCTGCTACGGGGCATGATCGAGGTGGACGCCGACG
 CCGCTCACGCTAGAGCACATTCAGAAACATATGGTATATAGGGGGCAAGAATGAGCCGAACCAGAG
 CAGCCATTCTCGAAGGTGCAGATCCGCTCGCTGCCAGCCTGGAGGACATCGACCCGACGTGCTGG
 ACAGCATGCACTCACTGGGCTGCTCCGAGACCGCAACAAGTGTGCAGGACCTGCTGTCCGAGGAGGA
 GAACCAGGAGAAGATGATTTACTTCTCCTCTGGACCGAAAGAAAGGTACCCGAGCCAGGAGGATGAG
 GACCTGCCCCCGGAACGAGATAGACCCTCCCCGGAAGCGTGTGGACTCCCCGATGCTGAACCGGCACG
 GCAAGCGGCGCCAGAACGCAAGTCCATGGAGGTGCTCAGCGTGACGGACGGCGGCTCCCCGGTGCCTGC
 GCGGCGGCCATTGAGATGGCCCAGCACGGCCAGAGGTCTCGGTCCATCAGCGGTGCTCCTCAGGCCTT
 TCCACCAGCCACTCAGCAGCCCCGGGTGACCCCTACCCCTCACCAGGGCAGTCCCCCTCCCCACCC
 CCAAGGGGACACCTGTCCACAGCCAAAGGAGAGCCCGGCTGGCAGCCCAACCCACGCCCCCGTCCAG
 CCCCAGCGTCGGAGGGGTGCCCTGGAGGGCGGGCTCAACTCCATCAAGAACAGCTTTCTGGGCTCACCC
 CGCTTCCACCGCCGAAACTGCAAGTCCGACGCCGAGGAGATGTCAAACCTGACACCAGAGTCGTCCC
 CAGAGCTGGCGAAGAAGTCTGGTTTGGAACTTATCAGCCTGGAGAAGGAGGAGCAGATCTTCGTGGT
 CATCAAAGACAACTCTGAGCTCCATCAAGGCTGACATCGTGCACGCCTTCTGTGATCCCAGTCTC
 AGCCACAGCGTCACTCCCAAACGAGCTTCCGGCCGAGTACAAGGCCACGGGGGGCCAGCCGTGTTC
 AGAAGCCGGTCAAGTCCAGTTGATATCACCTACACGGAGGGTGGGGAGGCGCAGAAGGAGAACGCAT
 CTACTCCGTACCTTACCCTGCTCTCAGGCCACGCCGTCGTTCAAGAGGGTGGTGGAGACCATCCAG
 GCCAGCTGCTGAGCACACGACCCGCTGCGGCCAGCACTTGTGAGACACCCTAAGTATGGAAA
 TGATGACGGGGCGGCTTTCCAAATGTGGAATTATCCCGAAAAGT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC223466 representing NM_003957
 Red=Cloning site Green=Tags(s)

MTSTGKDGGQAQAQYVGPYRLEKTLGKGQTGLVKLGVCVTCQKVAIKIVNREKLSSEVLMKVEREIALI
 KLIEHPHVLKLDVYENKKYLVLVEHVS GGELFDYL VKKGR LTPKEARKFFRQIISALDFCHSHSICHR
 DLKPENLLLDEKNNIRIADFGMASLQVGD SLL E TSCGSPHYACPEVIRGEKYDGRKADVWSCGVILFALL
 VGALPFDDDLRQLLEKVKRGVFMHPHFIPPDCQSLLRGMIEVDAARRLTLEHIQKHIWIYIGGKNEPEPE
 QPIPRKVQIRSLPSLEDIDPDVLD SMHSLGCFRDRNKLLQDLLSEEENQEKMIFYLLLD R KERYPSQEDE
 DLPPRNEIDPPRKRVDSPMLNRHGKRRPERKSMEVLSVTDGGSPVPARRA IEMAQHGRSRISGASSGL
 STSPLSSPRVTPHPSPRGSP LPTPKGTPVHTPKESPAGTPNPTPPSSPSVGGVPWRARLNSIKNSFLGSP
 RFHRRKLVQPTPEEMSNLTPESSPELAKKSWFGNFI SLEKEEQIFVVIKDKPLSSIKADIVHAFLSIPSL
 SHSVISQTSFRAEYKATGGPAVFQKPKVFQVDITYTEGGEAQKENG IYSVTFTLLSGPSRRFRKRVETIQ
 AQLLSTHDPAAQHLSDTTNMEMMTGRLSKCGIIPKS

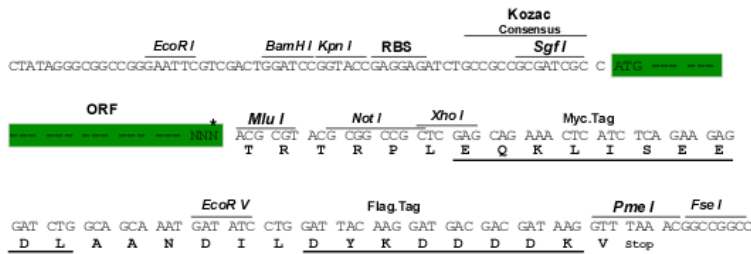
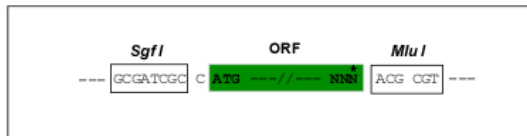
TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6165_b08.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_003957

ORF Size: 2004 bp

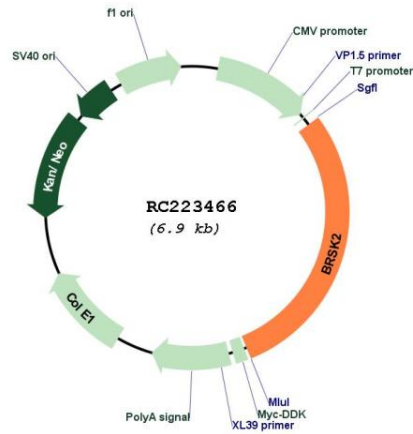
OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially 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.

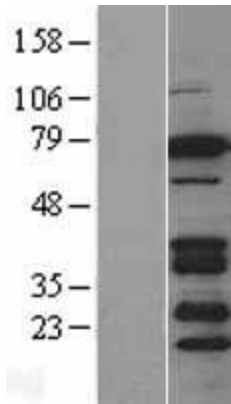
Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:	<ol style="list-style-type: none">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_003957.4
RefSeq Size:	3516 bp
RefSeq ORF:	2007 bp
Locus ID:	9024
UniProt ID:	Q8IWQ3
Cytogenetics:	11p15.5
Protein Families:	Druggable Genome, Protein Kinase
MW:	74.6 kDa
Gene Summary:	<p>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.</p> <p>[UniProtKB/Swiss-Prot Function]</p>

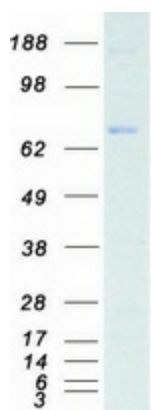
Product images:



Circular map for RC223466



Western blot validation of overexpression lysate (Cat# [LY401301]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC223466 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified BRSK2 protein (Cat# [TP323466]). The protein was produced from HEK293T cells transfected with BRSK2 cDNA clone (Cat# RC223466) using MegaTran 2.0 (Cat# [TT210002]).