

Product datasheet for **RG223466**

BRSK2 (NM_003957) Human Tagged ORF Clone

Product data:

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



ORF Nucleotide Sequence: >RG223466 representing NM_003957
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCCGCGATCGCC

ATGACATCGACGGGAAGGACGGCGCGCAGCAGCGCAGTATGTTGGGCCCTACCGCTGGAGAAGA
 CGCTGGGCAAGGGGACAGAGTCTGGTGAAGCTGGGGGTTCACTGCGTCACCTGCCAGAAGGTGGCCAT
 CAAGATCGTCAACCGTGAGAAGCTCAGCGAGTCGGTGTGATGAAGGTGGAGCGGGAGATCGCGATCCTG
 AAGCTCATTGAGCACCCCCACGTCCTAAAGCTGCACGACGTTTATGAAAACAAAAAATTTGTACCTGG
 TGCTAGAACACGTGTGAGGTGGTGAAGTCTTTCGACTACCTGGTGAAGAAGGGGAGGCTGACGCCTAAGGA
 GGCTCGGAAGTTCTTCGGCAGATCATCTCTGCGCTGGACTTCTGCCACAGCCACTCCATATGCCACAGG
 GATCTGAAACCTGAAAACCTCTGCTGGACGAGAAGAACAACATCCGCATCGCAGACTTTGGCATGGCGT
 CCCTGCAGGTTGGCGACAGCCTGTTGGAGACCAGCTGTGGTCCCCCACTACGCTGCCCGAGGTGAT
 CCGGGGGGAGAAGTATGACGGCCGAAGGCGGACGTGTGGAGCTGCGGCGTCATCTGTTCCGCTTGCTG
 GTGGGGGCTCTGCCCTTCGACGATGACAACCTTGCAGACGCTGCTGGAGAAGGTGAAGCGGGGCGTGTTC
 ACATGCCGCACTTTATCCCGCCGACTGCCAGAGTCTGCTACGGGGCATGATCGAGGTGGACGCCGACG
 CCGCTCACGCTAGAGCACATTCAGAAACACATATGGTATATAGGGGGCAAGATGAGCCCCGAACCAGAG
 CAGCCATTCTCGAAGGTGCAGATCCGCTCGCTGCCAGCCTGGAGGACATCGACCCGACGTGCTGG
 ACAGCATGCACTCACTGGGCTGCTTCCGAGACCGCAACAAGCTGCTGCAGGACCTGCTGTCCGAGGAGGA
 GAACAGGAGAAGATGATTTACTTCTCTCTCTGGACCGGAAAGAAAGGTACCGAGCCAGGAGGATGAG
 GACCTGCCCGCCGGAACGAGATAGACCTCCCGGAAGCGTGTGGACTCCCCGATGCTGAACCGGCACG
 GCAAGCGCGGCCAGAACGCAAGTCCATGGAGGTGCTCAGCGTGACGGACGGCGCTCCCCGGTGCCTGC
 GCGGCGGGCCATTGAGATGGCCCGACGCGCCAGAGGTCTCGGTCCATCAGCGGTGCCTCCTCAGGCCTT
 TCCACGAGCCACTCAGCAGCCCCGGGTGACCCCTCACCCTCACCAGGGGAGTCCCCCTCCCCACCC
 CCAAGGGGACACCTGTCCACACGCCAAGGAGAGCCCGGTGGCACGCCAACCCACGCCCGCTCCAG
 CCCCAGCGTCGAGGGGTGCCCTGGAGGGCGCGCTCAACTCCATCAAGAACAGCTTTCTGGGCTCACC
 CGCTTCCACCGCCGAACTGCAAGTTCCGACCGCGAGGAGATGTCCAACCTGACACCAAGATCGTCCC
 CAGAGCTGGCGAAGAAGTCTGGTTTGGGAACCTCATCAGCCTGGAGAAGGAGGAGCAGATCTTCGTGGT
 CATCAAAGACAACTCTGAGCTCCATCAAGGCTGACATCGTGCACGCTTCTGTGATTCCAGTCTC
 AGCCACAGCGTCATCTCCAAACGAGCTTCGGGCGGAGTACAAGGCCAGGGGGGCCAGCCGTGTTCC
 AGAAGCCGGTCAAGTTCCAGGTTGATATCACTACACGAGGGTGGGGAGGCGCAGAAGGAGAACGGCAT
 CTACTCCGTACCTTACCCTGCTCTCAGGCCCCAGCCGTCGCTTCAAGAGGGTGGTGGAGACCATCCAG
 GCCCAGCTGCTGAGCACACGACCCGCTGCGGCCAGCACTTGTGACACCACTAACTGTATGGAAA
 TGATGACGGGGCGGCTTCCAATGTGAATTATCCCGAAAAGT

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

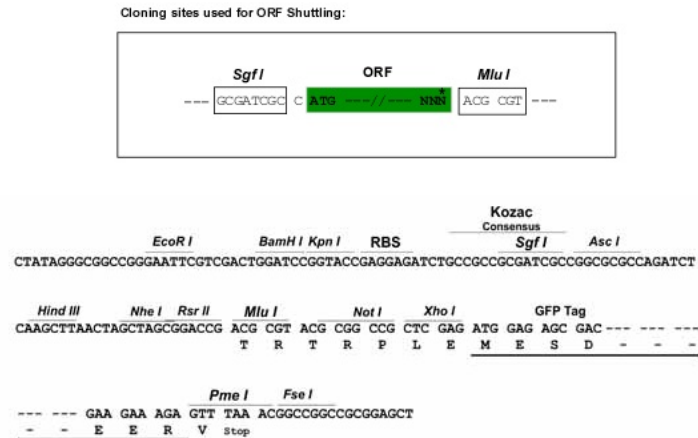
Protein Sequence: >RG223466 representing NM_003957
 Red=Cloning site Green=Tags(s)

MTSTGKDGGQAQYVGPYRLEKTLGKGQTGLVKLVGHVCTCQKVAIKIVNREKLSVLMKVEREIAIL
 KLIEHPHVLKLDVYENKKYLVLVLEHVS GGELFDYL VKKGRLTPKEARKFRQIISALDFCHSHSICHR
 DLKPENLLDEKNNIRIADFGMASLQVGSLLLETSCGSPHYACPEVIRGEKYDGRKADVWSCGVILFALL
 VGALPFDDNLRQLLEKVKRGVFHMPHFIPPDCQSLLRGMIEVDAARRLTLEHIQKHIWYIGGKNEPEPE
 QPIPRKVQIRSLPSLEIDPDVLDMSHSLGCFDRNKLQLDILLSEENQEKMIFLLDRKERYPSQEDE
 DLPPRNEIDPPRKRVDSPMLNRHGKRRPERKSMEVLSVTDGGSPVPARRAIEAQHGQRRSISGASSGL
 STSPLSSPRVTPHPSPRGSPLPTPKGTVPVHTPKESPAGTPNPTPPSSPSVGGVPWRARLNSIKNSFLGSP
 RFHRRKLQVPTPEMSNLTPESSPELAKKSWFGNFI SLEKEEQIFVVIKDKPLSSIKADIVHAFSLIPSL
 SHSVISQTSFRAEYKATGGPAVFQKPVKFQVDITYTEGGEAQKENGIVSVFTLLSGPSRRFRKRVETIQ
 AQLLSTHDPAAQHLSDTTNMEMMTGRLSKCGIIPKS

TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:



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:

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.

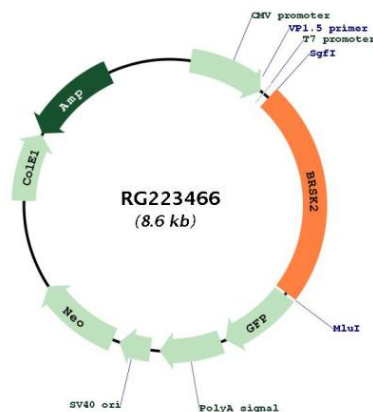
Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_003957.1](#), [NP_003948.1](#)

RefSeq Size: 3516 bp

RefSeq ORF:	2007 bp
Locus ID:	9024
UniProt ID:	Q8IWQ3
Cytogenetics:	11p15.5
Protein Families:	Druggable Genome, Protein Kinase
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 RG223466