

Product datasheet for **MG223685**

Brsk2 (NM_001009930) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Brsk2 (NM_001009930) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Brsk2
Synonyms:	4833424K13Rik; SAD-A; SADA
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide
Sequence:

>MG223685 representing NM_001009930
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGACATCGACGGGAAGGACGGCGGGCGCAGCACGCGCAGTATGTGGGGCCCTACCGGCTGGAGA
AGACGCTGGCAAGGGCAGACAGGCTTGGTGAAGCTGGGAATCCACTGTGTCACTTGCCAGAAGGTCGC
CATCAAAATCGTGAACCGTGAGAAGCTCAGTGAGTCGGTCTGATGAAGGTGGAGCGAGAGATTGCCATC
TTGAAGCTCATCGAGCATCCACATGTAAGCTGCATGACGTCTATGAAAACAAAAAATTTTATAACC
TGGTGCTAGAACATGTGTCTGGGGGAGAGCTGTTGACTACCTGGTGAAGAAGGGCCGGCTGACCCCAA
GGAGGCCCGCAAGTTCTCCGGCAGATCATCTGCACTGGACTTCTGTACAGCCACTCCATATGCCAT
AGAGACTGAAGCCAGAGAACCTGCTGCTAGATGAGAGGAACAACATCCGTATTGCAGACTTTGGCATGG
CATCCCTGCAGGTGGGAGACAGCCTGCTGGAGACCAGCTGCGGATCTCCACACTATGCCGTGCCGAAGT
GATTCGGGGCGAGAAGTATGATGGCCGCAAGGCAGATGTGTGGAGCTGTGGTGTGATCCTGTTCCGCTTG
CTGGTGGGGGCTCTGCCTTTTATGATGATGACAACCTGCGGCAGTTGCTGGAGAAGGTCAAGCGTGGTGTGT
TCCACATGCCACACTTTATCCCACCAGACTGCCAGAGTCTCCTGCGTGGCATGATTGAGGTGGATGCAGC
TCGGCGCCTCACGCTAGAGCACATTCAGAAACACATATGGTATATAGGTGGCAAGAATGAGCCAGAGCCC
GAACAGCCCATCCCACGCAAGGTGCAGATCCGCTCACTACCCAGCTTGAAGACATTGACCTGATGTGT
TGGACAGCATGCACTCACTGGGCTGTTCCGAGACCGCAACAAGCTGTGTCAGGATCTGCTATCTGAGGA
GGAGAATCAGGAAAAGATGATTTATTTCTCCTCCTGGATCGGAAAGAACGGTATCCAAGCCATGAGGAT
GAGGACCTGCCCCCAGGAATGAGATAGACCCTCCCCGGAAGCGTGTGGATTCCCCGATGCTGAACCGGC
ATGGCAAGCGGGACCTGAGCGCAAGTCCATGGAAGTGTGTCAGTGTGACAGATGGTGGCTCCCCAGTGC
TGCACGGAGAGCCATTGAGATGGCCAGCATGGCCAGAGATCTCGATCCATCAGTGGTGGTCCCTCAGGC
CTTTCTACAAGTCCACTCAGCAGTCTCAGGCGTACCCCTCACCCCTACCAAGGGGTAGTCCCCTCCTA
CCCCAAAGGGACGCCTGTCCACACGCCAAAGGAGAGCCAGCTGGCACACCCCAACCCACACCACCATC
CAGCCCTAGTGTGGAGGAGTCCCTGGCGGACACGACTGAACTCCATCAAGAACAGCTTCTGGGCTCA
CCTCGATTCCACCGCCGAAACTCCAAGTTCACGCGCAGAGGAGATGTCCAACCTGACCCAGAACTCCT
CTCCAGAGCTGGCAAGAAATCGTGGTTCGGGAACCTCATCAACCTGGAGAAGGAGGAGCAGATCTTTGT
GGTGTCAAGGACAAGCCCTGAGCTCCATCAAGGCTGACATCGTTCATGCCTTCTGTCGATCCCAGC
CTCAGCCACAGCGTTATTTCCAGACAAGCTTCAGGGCTGAATACAAGGCCACAGGGGGCCAGCAGTGT
TCCAGAAGCCGGTCAAGTTCAGGTGGACATCACCTACACTGAGGGCGGAGAGGCCAGAAAGGAGAATGG
CATCTACTCAGTCACATTCACTTACTCTCAGGCCAGTCGCGCTTCAAGAGGGTGGTGGAGACCATC
CAGGCCAGCTGTTAAGCACCCATGACCAGCCATCAGCCAGCACCTGTCAGACACCCTAACTGTATGG
AAGTGTGACGGGGCGGCTTTCCAAATGTGACGAGAAGAACGGGCAGGCGGCCAGGCCCCAGCACACC
CGCAAGCGGAGTGCCACGGCCCCCTGGGTGACTCCGCGGCCGCTGGCCCTGGAGGGGACACCGAGTAC
CCGATGGCAAGGACATGGCAAGATGGGGCCGCCCGCCCGCCGCTGAGCAGCCT

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >MG223685 representing NM_001009930
 Red=Cloning site Green=Tags(s)

MTSTGKDGGAQHAQYVGPYRLEKTLGKGQTGLVKLGIHCVTCQKVAIKIVNREKLSSEVLMKVEREIAI
 LKLIIEHPVHLKLDVYENKKYLVLVLEHVS GGELFDYL VKKGRL TPKEARKFFRQIISALDFCHSHSICH
 RDLKPENLLLDERNNIRIADFGMASLQVGDLSLLETSCGSPHYACPEVIRGEKYDGRKADVWSCGVILFAL
 LVGALPFDDNLRLLEKVKRGVFMHPHFIPPDCQSLLRGMIEVDAARRLLEHIQKHIWIYIGGKNEPEP
 EQPIPRKVQIRSLPSLEDIDPDVLDMSHSLGCFRDRNKLLQDLLSEEENQEKMIYFLLDRKERYPSHED
 EDLPPRNEIDPPRKRVDSPMLNRHGKRRPERKSMEVLSVTDGGSPVPARRAIEMAQHQRSRISGASSG
 LSTSPSSPRVTPHSPRGSPLTPKGTVPVHTPKESPAGTPNPTPPSSPSVGGVPWRTRLNSIKNSFLGS
 PRFHRRKLQVPTPEMSNLTPESPELAKKSWFGNFINLEKEEQIFVVIKDKPLSSIKADIVHAFLSIPS
 LSHSVISQTSFRAEYKATGGPAVFQKPVKFQVDITYTEGGEAQKENGIIYSVTFTLLSGPSRRFRKRVETI
 QAQLLSTHDQPSAQHLSDTTNCMEVMTGRLSKCDEKNGQAAQAPSTPAKRSAHGPLGDSAAAGPGGDETEY
 PMGKDMAKMGPPAARREQP

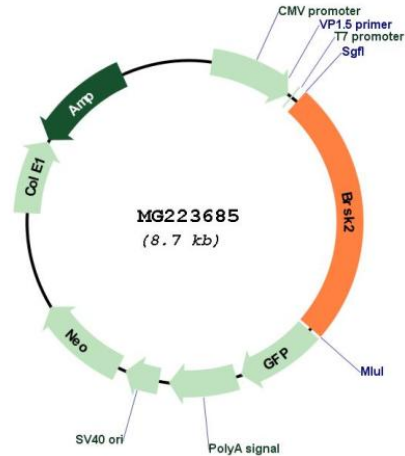
TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:


ACCN: NM_001009930

ORF Size: 2157 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_001009930.3](#), [NP_001009930.1](#)

RefSeq Size: 2160 bp

RefSeq ORF: 2160 bp

Locus ID: 75770

UniProt ID: [Q69Z98](#)

Cytogenetics: 7 F5

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-504' and 'Ser-554'. Also regulates neuron polarization by mediating phosphorylation of WEE1 at 'Ser-642' in post-mitotic 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-175 can inhibit insulin secretion (PubMed:22798068), BRSK2 phosphorylated at Thr-261 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]