OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for MR224913

Brsk2 (NM_029426) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Brsk2 (NM_029426) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Brsk2
Synonyms:	4833424K13Rik; SAD-A; SADA
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin

ORF Nucleotide Sequence:

>MR224913 representing NM_029426
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGACATCGACGGGGAAGGACGGCGGCGGGGCGCAGCACGCGCAGTATGTGGGGCCCTACCGGCTGGAGA
AGACGCTGGGCAAGGGGCAGACAGGCTTGGTGAAGCTGGGAATCCACTGTGTCACTTGCCAGAAGGTCGC
CATCAAAATCGTGAACCGTGAGAAGCTCAGTGAGTCGGTGCTGATGAAGGTGGAGCGAGAGATTGCCATC
TTGAAGCTCATCGAGCATCCACATGTACTGAAGCTGCATGACGTCTATGAAAACAAAAAATATTTATACC
TGGTGCTAGAACATGTGTCTGGGGGAGAGCTGTTCGACTACCTGGTGAAGAAGGGCCGGCTGACCCCCAA
GGAGGCCCGCAAGTTCTTCCGGCAGATCATCTCTGCACTGGACTTCTGTCACAGCCACTCCATATGCCAT
AGAGACTTGAAGCCAGAGAACCTGCTGCTAGATGAGAGGAACAACATCCGTATTGCAGACTTTGGCATGG
CATCCCTGCAGGTGGGAGACAGCCTGCTGGAGACCAGCTGCGGATCTCCACACTATGCCTGTCCGGAAGT
GATTCGGGGCGAGAAGTATGATGGCCGCAAGGCAGATGTGTGGAGCTGTGGTGTGATCCTGTTCGCCTTG
CTGGTGGGGGCTCTGCCTTTTGATGATGACAACCTGCGGCAGTTGCTGGAGAAGGTCAAGCGTGGTGTGT
TCCACATGCCACACTTTATCCCACCAGACTGCCAGAGTCTCCTGCGTGGCATGATTGAGGTGGATGCAGC
TCGGCGCCTCACGCTAGAGCACATTCAGAAACACATATGGTATATAGGTGGCAAGAATGAGCCAGAGCCC
GAACAGCCCATCCCACGCAAGGTGCAGATCCGCTCACTACCCAGCTTGGAAGACATTGACCCTGATGTGT
TGGACAGCATGCACTCACTGGGCTGCTTCCGAGACCGCAACAAGCTGCTGCAGGATCTGCTATCTGAGGA
GGAGAATCAGGAAAAGATGATTTATTTCCTCCTCCTGGATCGGAAAGAACGGTATCCAAGCCATGAGGAT
GAGGACCTGCCCCCCAGGAATGAGATAGACCCTCCCCGGAAGCGTGTGGATTCCCCGATGCTGAACCGGC
ATGGCAAGCGGCGACCTGAGCGCAAGTCCATGGAAGTGCTCAGTGTGACAGATGGTGGCTCCCCAGTGCC
TGCACGGAGAGCCATTGAGATGGCCCAGCATGGCCAGAGATCTCGATCCATCAGTGGTGCGTCCTCAGGC
CTTTCTACAAGTCCACTCAGCAGTCCTCGGGTGACCCCTCACCCCTCACCAAGGGGTAGTCCCCTTCCTA
CCCCCAAAGGGACGCCTGTCCACACGCCAAAGGAGAGCCCAGCTGGCACACCCAACCCCACACCACCATC
CAGCCCTAGTGTTGGAGGAGTGCCCTGGCGGACACGACTGAACTCCATCAAGAACAGCTTCCTGGGCTCA
CCTCGATTCCACCGCCGGAAACTCCAAGTTCCCACGCCAGAGGAGATGTCCAACCTGACCCCAGAATCCT
CTCCAGAGCTGGCCAAGAAATCGTGGTTCGGGAACTTCATCAACCTGGAGAAGGAGGAGCAGATCTTTGT
GGTGATCAAGGACAAGCCCCTGAGCTCCATCAAGGCTGACATCGTTCATGCCTTCCTGTCGATCCCCAGC
CTCAGCCACAGCGTTATTTCCCAGACAAGCTTCAGGGCTGAATACAAGGCCACAGGGGGCCCAGCAGTGT
TCCAGAAGCCGGTCAAGTTCCAGGTGGACATCACCTACACTGAGGGCGGAGAGGCCCAGAAGGAGAATGG
CATCTACTCAGTCACATTCACTTTACTCTCAGGCCCCAGTCGCCGCTTCAAGAGGGTGGTGGAGACCATC
CAGGCCCAGCTGTTAAGCACCCATGACCAGCCATCAGCCCAGCACCTGTCAGGAATTATCCCGAAAAGT

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

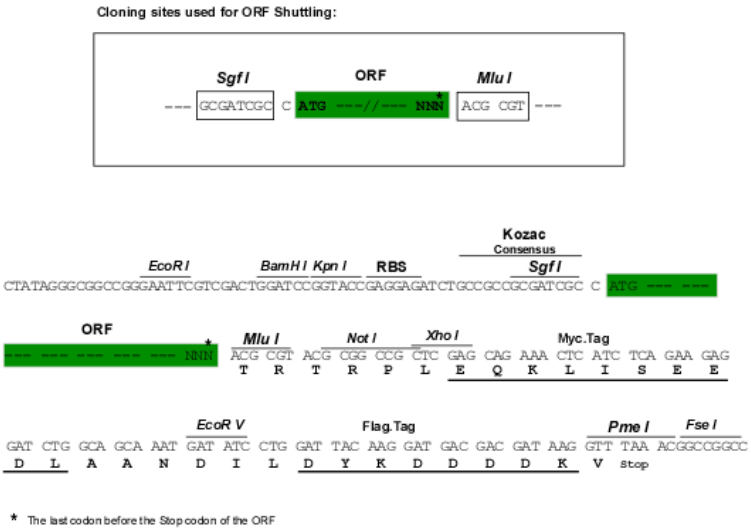
>MR224913 representing NM_029426
Red=Cloning site Green=Tags(s)

MTSTGKDGGGAQHAQYVGPYRLEKTLGKGQTGLVKLGIHCVTCQKVAIKIVNREKLSESVLMKVEREIAI
LKLIEHPHVLKLHDVYENKKYLYLVLEHVSGGELFDYLVKKGRLTPKEARKFFRQIISALDFCHSHSICH
RDLKPENLLLDERNNIRIADFGMASLQVGDSLLETSCGSPHYACPEVIRGEKYDGRKADVWSCGVILFAL
LVGALPFDDDNLRQLLEKVKRGVFHMPHFIPPDCQSLLRGMIEVDAARRLTLEHIQKHIWYIGGKNEPEP
EQPIPRKVQIRSLPSLEDIDPDVLDSMHSLGCFRDRNKLLQDLLSEEENQEKMIYFLLLDRKERYPSHED
EDLPPRNEIDPPRKRVDSPMLNRHGKRRPERKSMEVLSVTDGGSPVPARRAIEMAQHGQRSRSISGASSG
LSTSPLSSPRVTPHPSPRGSPLPTPKGTPVHTPKESPAGTPNPTPPSSPSVGGVPWRTRLNSIKNSFLGS
PRFHRRKLQVPTPEEMSNLTPESSPELAKKSWFGNFINLEKEEQIFVVIKDKPLSSIKADIVHAFLSIPS
LSHSVISQTSFRAEYKATGGPAVFQKPVKFQVDITYTEGGEAQKENGIYSVTFTLLSGPSRRFKRVVETI
QAQLLSTHDQPSAQHLSGIIPKS

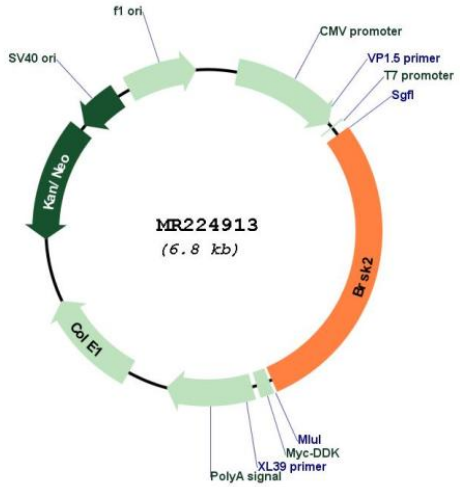
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN:	NM_029426
ORF Size:	1959 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_029426.2, NP_083702.1

RefSeq Size:	4047 bp
RefSeq ORF:	1962 bp
Locus ID:	75770
UniProt ID:	Q69Z98
Cytogenetics:	7 F5
MW:	73.6 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-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]