

## Product datasheet for **MG224913**

### Brsk2 (NM\_029426) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Brsk2 (NM_029426) 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:**

>MG224913 representing NM\_029426  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGACATCGACGGGAAGGACGGCGGGCGCAGCACGCGCAGTATGTGGGCCCTACCGGCTGGAGA  
 AGACGCTGGGCAAGGGGCAGACAGGCTTGGTGAAGCTGGGAATCCACTGTGTCACTTGCCAGAAGGTCGC  
 CATCAAAATCGTGAACCGTGAGAAGCTCAGTGAGTCGGTCTGATGAAGGTGGAGCGAGAGATTGCCATC  
 TTGAAGCTCATCGAGCATCCACATGTAAGCTGCATGACGTCTATGAAAACAAAAAATTTTATAACC  
 TGGTGCTAGAACATGTGTCTGGGGGAGAGCTGTTGACTACCTGGTGAAGAAGGGCCGGTGACCCCAA  
 GGAGGCCCGCAAGTTCTCCGGCAGATCATCTGCACTGGACTTCTGTACAGCCACTCCATATGCCAT  
 AGAGACTGAAGCCAGAGAACCTGCTGCTAGATGAGAGGAACAACATCCGATTGACAGACTTTGGCATGG  
 CATCCCTGCAGGTGGGAGACAGCCTGCTGGAGACCAGCTGCGGATCTCCACACTATGCCTGTCCGGAAGT  
 GATTCGGGGCGAGAAGTATGATGGCCGCAAGGCAGATGTGTGGAGCTGTGGTGTGATCCTGTTCCGCTTG  
 CTGGTGGGGGCTCTGCCTTTTATGATGACAACCTGCGGCAGTTGCTGGAGAAGGTCAAGCGTGGTGTGT  
 TCCACATGCCACACTTTATCCCACCAGACTGCCAGAGTCTCCTGCGTGGCATGATTGAGGTGGATGCAGC  
 TCGGCGCCTCACGCTAGAGCACATTCAGAAACACATATGGTATATAGGTGGCAAGAATGAGCCAGAGCCC  
 GAACAGCCCATCCCACGCAAGGTGCAGATCCGCTCACTACCCAGCTTGAAGACATTGACCTGATGTGT  
 TGGACAGCATGCACTCACTGGGCTGTTCCGAGACCGCAACAAGCTGTGCGAGGATCTGCTATCTGAGGA  
 GGAGAATCAGGAAAAGATGATTTATTTCTCCTCCTGGATCGGAAAGAACGGTATCCAAGCCATGAGGAT  
 GAGGACCTGCCCCCAGGAATGAGATAGACCTCCCGGAAGCGTGTGGATTCCCCGATGCTGACCCGCGC  
 ATGGCAAGCGGGCACCTGAGCGCAAGTCCATGGAAGTGTGCTGAGTGTGACAGATGGTGGCTCCCGATGCC  
 TGCACGGAGAGCCATTGAGATGGCCAGCATGGCCAGAGATCTCGATCCATCAGTGGTGGTCCCTCAGGC  
 CTTTCTACAAGTCCACTCAGCAGTCTCAGGCTGACCCCTCACCCCTACCAAGGGGTAGTCCCCTTCTTA  
 CCCCCAAGGGACGCCTGTCCACACGCCAAAGGAGAGCCAGCTGGCACACCCCAACCCACACCACCATC  
 CAGCCCTAGTGTGGAGGAGTGCCTGGCGGACACGACTGAACTCCATCAAGAACAGCTTCTGGGCTCA  
 CCTCGATTCCACCGCCGAAACTCCAAGTTCACGCCAGAGGAGATGTCCAACCTGACCCAGAATCCT  
 CTCCAGAGCTGGCAAGAAATCGTGGTTCGGGAATTCATCAACCTGGAGAAGGAGGAGCAGATCTTTGT  
 GGTGATCAAGGACAAGCCCTGAGCTCCATCAAGGCTGACATCGTTCATGCCTTCTGTCGATCCCAGC  
 CTCAGCCACAGCGTTATTTCCAGACAAGCTTCAGGGTGAATACAAGGCCACAGGGGGCCAGCAGTGT  
 TCCAGAAGCCCGTCAAGTTCAGGTGGACATCACCTACACTGAGGGCGGAGAGGCCAGAAGGAGAAATGG  
 CATCTACTCAGTCACATTCACTTACTCTCAGGCCAGTCGCGCTTCAAGAGGGTGGTGGAGACCATC  
 CAGGCCAGCTGTAAAGCACCCATGACCAGCCATCAGCCAGCACCTGTGAGGAATTATCCCGAAAAAT

**ACGCGT**ACGCGGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:**

>MG224913 representing NM\_029426  
 Red=Cloning site Green=Tags(s)

MTSTGKDGGAQHAQYVGPYRLEKTLGKGQTLVKLGIHCVTQKVAIKIVNREKLSSEVLMKVEREIAI  
 LKLEIHPHVLKLDVYENKKYLVLVLEHVS GGELFDYL VKKGRL TPKEARKFFRQIISALDFCHSHSICH  
 RDLKPENLLLDERNNIRIADFGMASLQVGDLSLETSCGSPHYACPEVIRGEKYDGRKADVWSCGVILFAL  
 LVGALPFDDNLRQLLEKVKRGVFHMPHFIPPDCQSLLRGMIEVDAARRLTLEHIQKHIWIYIGGKNEPEP  
 EQPIPRKQVIRSLPSLEIDPDVLDMSHSLGCFRDRNKLLQDLLSEEENQEKMIYFLLLDRKERYPSHED  
 EDLPPRNEIDPPRKRVDSPMLNRHGKRRPERKSMEVLSVTDGGSPVPARRAIEMAQHQRSRISGASSG  
 LSTSPSSPRVTPHPSPRGSPLPTPKGTPVHTPKESPAGTPNPTPPSSPSVGGVPWRTRLNSIKNSFLGS  
 PRFHRRKLQVPTPEEMSNLTPESPELAKKSWFGNFINLEKEEQIFVVIKDKPLSSIKADIVHAFLSIPS  
 LSHSVISQTSFRAEYKATGGPAVFQKPVKFQVDITYTEGGEAQKENGIIYSVTFTLLSGPSRRFRKRVETI  
 QAQLLSTHDQPSAQHLSGIIPKS

**TRTRPLE** - GFP Tag - V

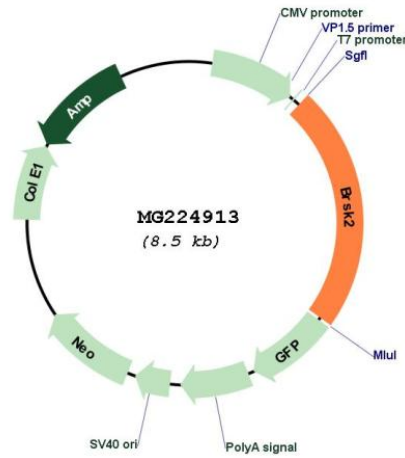
Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:



ACCN: NM\_029426

ORF Size: 1959 bp

<b>OTI Disclaimer:</b>	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. <a href="#">More info</a>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_029426.2</a> , <a href="#">NP_083702.1</a>
<b>RefSeq Size:</b>	4047 bp
<b>RefSeq ORF:</b>	1962 bp
<b>Locus ID:</b>	75770
<b>UniProt ID:</b>	<a href="#">Q69Z98</a>
<b>Cytogenetics:</b>	7 F5
<b>Gene Summary:</b>	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]