

## Product datasheet for **MG224920**

### **Brsk2 (NM\_001009929) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Brsk2 (NM_001009929) 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:

>MG224920 representing NM\_001009929  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCCGCGATCGCC

ATGACATCGACGGGAAGGACGGCGGGCGCAGCACGCGCAGTATGTGGGCCCTACCGGCTGGAGA  
AGACGCTGGCAAGGGCAGACAGGCTTGGTGAAGCTGGGAATCCACTGTGTCACTTGCCAGAAGGTCGC  
CATCAAAATCGTGAACCGTGAGAAGCTCAGTGAGTCGGTCTGATGAAGGTGGAGCGAGAGATTGCCATC  
TTGAAGCTCATCGAGCATCCACATGTAAGCTGCATGACGTCTATGAAAACAAAAAATATTTATAACC  
TGGTGCTAGAACATGTGTCTGGGGGAGAGCTGTTGACTACCTGGTGAAGAAGGGCCGGTGACCCCAA  
GGAGGCCCGCAAGTTCTCCGGCAGATCATCTGCACTGGACTTCTGTACAGCCACTCCATATGCCAT  
AGAGACTTGAAGCCAGAGAACCTGCTGCTAGATGAGAGGAACAACATCCGTATTGCAGACTTTGGCATGG  
CATCCCTGCAGGTGGGAGACAGCCTGCTGGAGACCAGCTGCGGATCTCCACACTATGCCTGTCCGGAAGT  
GATTCGGGGCGAGAAGTATGATGGCCGCAAGGCAGATGTGTGGAGCTGTGGTGTGATCCTGTTCCGCTTG  
CTGGTGGGGGCTCTGCCTTTTATGATGATGACAACCTGCGGCAGTTGCTGGAGAAGGTCAAGCGTGGTGTGT  
TCCACATGCCACACTTTATCCCACCAGACTGCCAGAGTCTCCTGCGTGGCATGATTGAGGTGGATGCAGC  
TCGGCGCCTCACGCTAGAGCACATTCAGAAACACATATGGTATATAGGTGGCAAGAATGAGCCAGAGCCC  
GAACAGCCCATCCCACGCAAGGTGCAGATCCGCTCACTACCCAGCTTGGAAAGACATTGACCTGATGTGT  
TGGACAGCATGCACTCACTGGGCTGTTCCGAGACCGCAACAAGTGTGTCAGGATCTGCTATCTGAGGA  
GGAGAATCAGGAAAAGATGATTTATTTCTCCTCCTGGATCGGAAAGAACGGTATCCAAGCCATGAGGAT  
GAGGACCTGCCCCCAGGAATGAGATAGACCCTCCCCGGAAGCGTGTGGATTCCCCGATGCTGAACCGGC  
ATGGCAAGCGGGACCTGAGCGCAAGTCCATGGAAGTGTGTCAGTGTGACAGATGGTGGCTCCCCAGTGCC  
TGCACGGAGAGCCATTGAGATGGCCAGCATGGCCAGAGATCTCGATCCATCAGTGGTGGCTCCTCAGGC  
CTTTCTACAAGTCCACTCAGCAGTCTCAGGCGTACCCCTCACCCCTACCAAGGGGTAGTCCCCTCCTA  
CCCCAAAGGGACGCCTGTCCACACGCCAAAGGAGAGCCAGCTGGCACACCCCAACCCACACCACCATC  
CAGCCCTAGTGTGGAGGAGTGCCTGGCGGACACGACTGAACTCCATCAAGAACAGCTTCTGGGCTCA  
CCTCGATTCCACCGCCGAAACTCCAAGTTCACGCGCAGAGGAGATGTCCAACCTGACCCAGAACTCCT  
CTCCAGAGCTGGCAAGAAATCGTGGTTCGGGAACCTCATCAACCTGGAGAAGGAGGAGCAGATCTTTGT  
GGTGTCAAGGACAAGCCCTGAGCTCCATCAAGGCTGACATCGTTCATGCCTTCTGTCGATCCCAGC  
CTCAGCCACAGCGTTATTTCCAGACAAGCTTCAGGGCTGAATACAAGGCCACAGGGGGCCAGCAGTGT  
TCCAGAAGCCCGTCAAGTTCAGGTGGACATCACCTACACTGAGGGCGGAGAGGCCAGAAAGGAGAATGG  
CATCTACTCAGTCACATTCACTTACTCTCAGGCCAGTCGCCGCTTCAAGAGGGTGGTGGAGACCATC  
CAGGCCAGCTGTAAAGCACCATGACCAGCCATCAGCCAGCACCTGTGAGAACCACCCCGCCAGCGC  
CAGGACTAAGCTGGGGTGTGGGCTTAAGGGCCAGAAGGTGGCCACCAGCTACGAGAGTAGCCTC

ACGCGTACGCGGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:** >MG224920 representing NM\_001009929  
 Red=Cloning site Green=Tags(s)

```

MTSTGKDGGAQHAQYVGPYRLEKTLGKGQTGLVKLGIHCVTCQKVAIKIVNREKLSSEVLMKVEREIAI
LKLIEHPHVLKLDVYENKKYLVLVLEHVS GGELFDYL VKKGRL TPKEARKFFRQIISALDFCHSHSICH
RDLKPENLLLDERNNIRIADFGMASLQVGDLSLETCGSPHYACPEVIRGEKYDGRKADVWSCGVILFAL
LVGALPFDDNLRQLLEKVKRGVFHMPHFIPPDCQSLLRGMIEVDAARRL TLEHIQKHIWYIGGKNEPEP
EQPIPRKVQIRSLPSLEDIDPDVLDMSHSLGCFRDRNKLLQDLLSEEENQEKMIYFLLLDRKERYPSHED
EDLPPRNEIDPPRKRVDSPMLNRHGKRRPERKSMEVLSVTDGGSPVPARRAIEMAHQGRSRSISGASSG
LSTSPLSSPRVTPHPSPRGSPLTPKGTVPVHTPKESPAGTPNPTPPSSPSVGGVPWRTRLNSIKNSFLGS
PRFHRRKLQVPTPEMSNLTPESPELAKKSWFGNFINLEKEEQIFVVIKDKPLSSIKADIVHAFLSIPS
LSHSVISQTSFRAEYKATGGPAVFQKPKVQVDITYTEGGEAQKENGIIYSVTFTLLSGPSRRFRKRVETI
QAQLLSTHDQPSAQLSEPPPPAPGLSWGAGLKGQKVATSYESSL
  
```

TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_001009929

**ORF Size:** 2025 bp

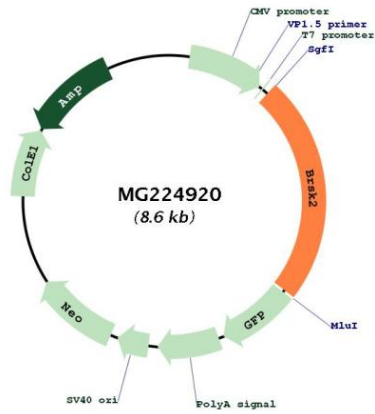
**OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone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

<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_001009929.3</a> , <a href="#">NP_001009929.1</a>
<b>RefSeq Size:</b>	2028 bp
<b>RefSeq ORF:</b>	2028 bp
<b>Locus ID:</b>	75770
<b>UniProt ID:</b>	<a href="#">Q69Z98</a>
<b>Cytogenetics:</b>	7 F5
<b>Gene Summary:</b>	<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-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.</p> <p>[UniProtKB/Swiss-Prot Function]</p>

Product images:



Circular map for MG224920