

## Product datasheet for **RG234797**

### **BRSK2 (NM\_001256627) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	BRSK2 (NM_001256627) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	BRSK2
Synonyms:	C11orf7; PEN11B; SAD1; SADA; STK29
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG234797 representing NM\_001256627  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGACATCGACGGGAAGGACGGCGCGCGCAGCACGCGCAGTATGTTGGCCCTACCGGTGGAGAAGA  
 CGCTGGGCAAGGGCAGACAGGTCTGGTGAAGCTGGGGTTCACTGCGTCACCTGCCAGAAGGTGGCCAT  
 CAAGATCGTCAACCGTGAGAAGCTCAGCGAGTCCGGTCTGATGAAGGTGGAGCGGGAGATCGCGATCCTG  
 AAGCTCATTGAGCACCCACGTCCTAAAGCTGCACGACGTTTATGAAAACAAAAATATTTGTACCTGG  
 TGCTAGAACACGTGTCAGGTGGTGAAGCTCTCGACTACCTGGTGAAGAAGGGGAGGCTGACGCCTAAGGA  
 GGCTCGGAAGTTCTCCGGCAGATCATCTCTGCGCTGGACTTCTGCCACAGCCACTCCATATGCCACAGG  
 GATCTGAAACCTGAAACCTCCTGCTGGACGAGAACAACATCCGCATCGCAGACTTTGGCATGGCGT  
 CCCTGCAGTTGGCGACAGCCTGTTGGAGACCAGCTGTGGTCCCCCACTACGCCTGCCCGAGGTGAT  
 CCGGGGGGAGAAGTATGACGGCCGAAGGCGGACGTGTGGAGCTCGGGCGTCATCTGTTCGCTTGTCTG  
 GTGGGGCTCTGCCCTTCGACGATGACAACCTGCGACAGCTGCTGGAGAAGGTGAAGCGGGCGTGTTC  
 ACATGCCGCACCTTATCCCGCCGACTGCCAGAGTCTGCTACGGGGCATGATCGAGGTGGACGCCGACG  
 CCGCTCACGCTAGAGCACATTCAGAAACATATGGTATATAGGGGCAAGAATGAGCCGAACCAGAG  
 CAGCCATTCTCGAAGGTGCAGATCCGCTCGCTGCCAGCCTGGAGGACATCGACCCGACGTGCTGG  
 ACAGCATGCACTCACTGGGCTGCTCCGAGACCGCAACAAGTCTGCAGGACCTGCTGTCCGAGGAGGA  
 GAACCAGGAGAAGATGATTTACTTCTCCTCTGGACCGAAAGAAAGGTACCCGAGCCAGGAGGATGAG  
 GACCTGCCCCCGGAACGAGATAGACCTCCCCGGAAGCGTGTGACTCCCCGATGCTGAACCGGCACG  
 GCAAGCGCGGCCAGAACGCAAATCCATGGAGGTGCTCAGCGTGACGGACGGCGGCTCCCCGGTGCCTGC  
 CGGGCGGCCATTGAGATGGCCACGACCGCCAGAGGTCTCGGTCCATCAGCGGTGCTCCTCAGGCCTT  
 TCCACCAGCCACTCAGCAGCCCCGGGTACCCCTACCCCTACCAAGGGGCAGTCCCCTCCCCACCC  
 CCAAGGGGACACCTGTCCACAGCCAAAGGAGAGCCCGCTGGCAGCCCAACCCACGCCCCCGTCCAG  
 CCCCAGCGTCGGAGGGGTGCCCTGGAGGGCGGGCTCACTCCATCAAGAACAGCTTTCTGGGCTCACCC  
 CGCTTCCACCGCCGAAACTGCAAGTCCGACGCCGAGGAGATGTCAAACCTGACACCAGAGTCGTCCC  
 CAGAGCTGGCGAAGAAGTCTGGTTTGGAACTTATCAGCCTGGAGAAGGAGGAGCAGATCTTCGTGGT  
 CATCAAAGACAACTCTGAGCTCCATCAAGGCTGACATCGTGCACGCCTTCTGTGATTTCCAGTCTC  
 AGCCACAGCGTCACTCCCAAACGAGCTTCCGGGCGGAGTACAAGGCCACGGGGGGCCAGCCGTGTTCC  
 AGAAGCCGGTCAAGTTCCAGTTGATATCACTACACGGAGGGTGGGAGGCGCAGAAGGAGAACGCAT  
 CTACTCCGTACCTTACCCCTGCTCTCAGGCCACGCCGTCGCTTCAAGAGGGTGGTGGAGACCATCCAG  
 GCCAGCTGCTGAGCACACGACCCGCTGCGGCCAGCACTTGTGAGACACCACTAAGTATGGAAA  
 TGATGACGGGGCGGCTTTCCAAATGTGGCAGCCATTGAGTAAGTCTTTGACGTAATTAACAACTTTT  
 TTCAGACGAGAAGAACGGGCAGGCGGCCAGGCCCCAGCACGCCCGCAAGCGGAGTGCCACGGCCCA  
 CTCGGTGACTCCGCGCCGCTGGCCCTGGCCCCGAGGGGACGCCGAGTACCCAACGGGCAAGGACACGG  
 CCAAGATGGGCCCGCCACCGCCCGCGGAGCAGCCT

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:** >RG234797 representing NM\_001256627  
Red=Cloning site Green=Tags(s)

MTSTGKDGGAQHAQYVGPYRLEKTLGKGQTGLVKLGVHCVTCQKVAIKIVNREKLSSEVLMKVEREIAIL  
 KLIEHPHLKLDVYENKKYLVLVLEHVS GGELFDYL VKKGR LTPKEARKFFRQIISALDFCHSHSICHR  
 DLKPENLLLDEKNNIRIADFGMASLQVGD S LLETSCGSPHYACPEVIRGEKYDGRKADVWSCGVILFALL  
 VGALPFDDDLRQLLEKVKRGVFMHPHFIPDCQSLLRGMIEVDAARRLTLEHIQKHIWIYIGGKNEPEPE  
 QPIPRKVQIRSLPSLEDIDPDVLD SMHSLGCFRDRNKLLQDLLSEEENQEKMIYFLLLDRKERYPSQEDE  
 DLPPRNEIDPPRKRVDSPLNRHGKRRPERKSMEVLSVTDGGSPVPARRAIEAQAHQRSRSISGASSGL  
 STSPLSSPRVTPHPSRGSPLPTPKGTPVHTPKESPAGTPNPTPPSSPSVGGVPWRARLNSIKNSFLGSP  
 RFHRRKLQVPTPEEMSNLTPESP ELAKKSWFNGFISLEKEEQIFVVIKDKPLSSIKADIVHAFSLIPSL  
 SHSVISQTSFRAEYKATGGPAVFQKPKVFQVDITYTEGGEAQKENG IYSVTFTLLSGPSRRFRKRVETIQ  
 AQLLSTHDPAAQHLSDTTNCMEMMTGRLSKCGSPLSNFFDVIKQLFSDEKNGQAAQAPSTPAKRS AHGP  
 LGDSAAAGPGGGDAEYPTGKDTAKMGPP TARREQP

TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_001256627

**ORF Size:** 2208 bp

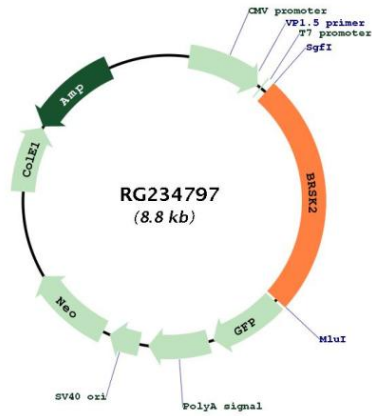
**OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone 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_001256627.2</a>
<b>RefSeq Size:</b>	4563 bp
<b>RefSeq ORF:</b>	2211 bp
<b>Locus ID:</b>	9024
<b>UniProt ID:</b>	<a href="#">Q8IWQ3</a>
<b>Cytogenetics:</b>	11p15.5
<b>Protein Families:</b>	Druggable Genome, Protein Kinase
<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-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.</p> <p>[UniProtKB/Swiss-Prot Function]</p>

Product images:



Circular map for RG234797