

## Product datasheet for **RC211767**

### **BRSK1 (NM\_032430) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	BRSK1 (NM_032430) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	BRSK1
Synonyms:	hSAD1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

**ORF Nucleotide Sequence:**

>RC211767 representing NM\_032430  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGTCGTCGGGGCCAAGGAGGGAGGTGGGGGCTCTCCCGCTACCACCTCCCCACCCCCACCCCACC  
 CACCCCAGCACGCCAATATGTGGGCCCTATCGGCTGGAGAAGACGCTGGGCAAAGGACAGACAGGGCT  
 GGTAAACTCGGGTCCACTGCATCACGGTCAGAAGGTCGCCATCAAGATCGTGAACCGGAGAAAGCTG  
 TCGGAGTCGGTGCTGATGAAGGTGGAGCGGAGATCGCCATCCTGAAGCTCATCGAACCCACATGTCC  
 TCAAGCTCCACGACGTCTACGAGAACAAGAAATATTTGTACCTGGTTCTGGAGCACGTCTCGGGGGTGA  
 GCTATTCGACTACCTGGTAAAGAAGGGGAGACTGACGCCCAAGGAGGCCGAAAGTTCTCCGCCAGATT  
 GTGTCTGCGCTGGACTTCTGCCACAGCTACTCCATCTGCCACAGAGACCTAAAGCCCGAGAACCTGCTTT  
 TGGATGAGAAAAACAACATCCGCATTGCAGACTTCGGCATGGCGTCCCTGCAGGTGGGGGACAGCCCTCT  
 GGAGACCAGCTCGGGTCCCCCATTATGCGTGTCCAGAGGTGATTAAGGGGAAAAATATGATGGCCGC  
 CGGGCAGACATGTGGAGCTGTGGAGTATCCTCTTCGCCCTGCTCGTGGGGGCTCTGCCCTTTGATGACG  
 ACAACCTCCGCCAGCTGCTGGAGAAGGTGAAACGGGGCGTCTCCACATGCCCCACTTCATTCTCCAGA  
 TTGCCAGAGCCTCCTGAGGGGAATGATCGAAGTGGAGCCGAAAAAGGCTCAGTCTGGAGCAAATTCAG  
 AAACATCCTTGGTACCTAGGCGGGAAACACGAGCCAGACCCGTGCCTGGAGCCAGCCCCTGGCCGCCGG  
 TAGCCATGCGGAGCCTGCCATCCAACGGAGAGCTGGACCCGACGTCCTAGAGAGCATGGCATACTGGG  
 CTGCTTACGGGACCGGAGAGGCTGCATCGCGAGCTGCGCAGTGAGGAGGAGAACCAAGAAAAGATGATA  
 TATTATCTGCTTTTGGATCGGAAGGAGCGGTATCCAGCTGTGAGGACCAGGACCTGCCTCCCCGGAATG  
 ATGTTGACCCCCCGGAAGCGTGTGGATTCTCCCATGCTGAGCCGTACGGGAAGCGGACAGAGAGCG  
 GAAGTCCATGGAAGTCTGAGCATCACCGATGCCGGGGTGGTGGCTCCCTGTACCCACCCGACGGGCC  
 TTGGAGATGGCCAGCACAGCCAGAGATCCCGTAGCGTCACTGGAGCCTCCACGGGTCTGTCTCCAGCC  
 CTCTAAGCAGCCCAAGGAGTCCGGTCTTTTCTTTTACCAGGAGCCGGGGCTGGAGATGAGGCTCGAGG  
 CGGGGGCTCCCCGACTTCCAAAACGACAGCCTGCCTTCTCGGGGCCAGGGGTGGGGGCGCCGGGGAG  
 CAGCCCCCGCCCCAGTCCCGCTCCACACCCCTGCCCGGCCCCAGGCTCCCCGCGCTCTCTGGCG  
 GGACCCCTTGCCTCTGCACACGCCCGGGCCAGTCCCACCGGACCCCGGGGACAAACACCACC  
 CCCCAGCCCCGGCGGTGGCGTGGGGGAGCCGCTGGAGGAGTCTGCTCAACTCCATCCGCAACAGCTTC  
 CTGGGCTCCCCTCGCTTACCAGCGCAAGATGCAGGTCCCTACCGCTGAGGAGATGTCCAGCTTGACGC  
 CAGAGTCTCCCCGGAGCTGGCAAAACGCTCCTGGTTCGGGAACCTCATCTCCTTGACAAAAGAACA  
 AATATTCTCGTGCTAAAGGACAAACCTCTCAGCAGCATCAAAGCAGACATCGTCCATGCCTTTCTGTCTG  
 ATCCCCAGCCTGAGTACAGTGTGCTGTACAGACCAGCTTACAGGGCCGAGTACAAGGCCAGTGGCGGCC  
 CCTCCGCTTCCAAAAGCCCGTCCGCTTCCAGGTGGACATCAGCTCCTCTGAGGGTCCAGAGCCCTCCCC  
 GCGACGGGACGGCAGCGGAGGTGGTGGCATCTACTCCGTCACCTTCACTCTATCTCGGGTCCCAGCCGT  
 CGGTTCAAGCGAGTGGTGGAGACCATCCAGGCACAGCTCCTGAGCACTCATGACCAGCCCTCCGTGCAGG  
 CCCTGGCAGACGAGAAGAACGGGGCCAGACCCGGCTGCTGGTCCCCACCCGAAGCCTGCAGCCCC  
 ACCCGGCCGCCAGACCCAGAGCTGAGCAGCTCTCCCCGCGAGGCCCCCAAGGACAAGAAGCTCCTG  
 GCCACCAACGGGACCCCTCTGCC

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC211767 representing NM\_032430  
 Red=Cloning site Green=Tags(s)

MSSGAKEGGGGSPAYHLPHPHPPQHAQYVGPYRLEKTLGKGQTGLVKLGVHCITGQKVAIKIVNREKL  
 SESVLMKVEREIAILKLEIHPHVLKLDVYENKKYLYLVLEHVSGGELFDYLVKKGRLTPKEARKFFRQI  
 VSALDFCHSYSICHRDLKPENLLLDEKNNIRIADFGMASLQVGSLLLETSCGSPHYACPEVIKGEKYDGR  
 RADMWSCGVILFALLVGALPFDDNLRQLLEKVKRGVFMHPHFIPPDCQSLLRGMIEVEPEKRLSLEQIQ  
 KHPWYLGKHEPDPCLEPAPGRRVAMRSLPSNGELDPDVLESMASLGCFRDRERLHRELSEEENQEKMI  
 YYLLLDKERYPSCEDQDLPPRNDVPPRKRVDSPMLSRHGKRRPERKSMEVLSITDAGGGGSPVPTTRA  
 LEMAQHSQRSRSVSGASTGLSSSPLSSPRSPVFSPEPGAGDEARGGGSPTSKTQTLPSRGPRGGGAGE  
 QPPPPSARSTPLPGPPGSPRSSGGTPLHSLHTPRASPTGTPGTTPPPSPGGVGGAAWRSRLNSIRNSF  
 LGSPRFHRRKMVPTAEEMSSLTPESPELAKRSWFGNFIISLDKEEQIFLVLDKDKPLSSIKADIVHAFSL  
 IPSLSHVSLSQTSFRAEYKASGGPSVFKPVRVQVDISSSEGPEPSRRDGGGGGIYSVTFTLISGPSR  
 RFKRVVETIQALLSTHDQPSVQALADEKNGAQTRPAGAPPRSLQPPPGRPDPELSSSPRRGPPKDKLL  
 ATNGTLP

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:** Sgfl-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

ACCN: NM\_032430

ORF Size: 2334 bp

**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

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\\_032430.2](#)

**RefSeq Size:** 3109 bp

**RefSeq ORF:** 2337 bp

**Locus ID:** 84446

**UniProt ID:** [Q8TDC3](#)

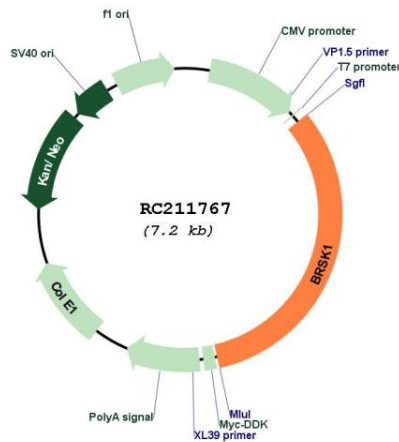
**Cytogenetics:** 19q13.42

**Protein Families:** Druggable Genome, Protein Kinase

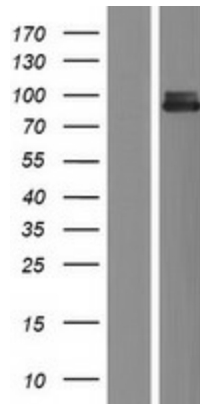
**MW:** 84.9 kDa

**Gene Summary:**

Serine/threonine-protein kinase that plays a key role in polarization of neurons and centrosome duplication. Phosphorylates CDC25B, CDC25C, MAPT/TAU, RIMS1, TUBG1, TUBG2 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 post-mitotic neurons, leading to down-regulate WEE1 activity in polarized neurons. In neurons, localizes to synaptic vesicles and plays a role in neurotransmitter release, possibly by phosphorylating RIMS1. Also acts as a positive regulator of centrosome duplication by mediating phosphorylation of gamma-tubulin (TUBG1 and TUBG2) at 'Ser-131', leading to translocation of gamma-tubulin and its associated proteins to the centrosome. Involved in the UV-induced DNA damage checkpoint response, probably by inhibiting CDK1 activity through phosphorylation and activation of WEE1, and inhibition of CDC25B and CDC25C.[UniProtKB/Swiss-Prot Function]

**Product images:**


Circular map for RC211767



Western blot validation of overexpression lysate (Cat# [LY410124]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC211767 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).