

## Product datasheet for **SC332430**

### **BRSK2 (NM\_001256629) Human Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	BRSK2 (NM_001256629) Human Untagged Clone
Tag:	Tag Free
Symbol:	BRSK2
Synonyms:	C11orf7; PEN11B; SAD1; SADA; STK29
Vector:	pCMV6-Entry (PS100001)



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**Fully Sequenced ORF:** >SC332430 representing NM\_001256629.  
 Blue=Insert sequence Red=Cloning site Green=Tag(s)

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ATGACATCGACGGGGAAGGACGGCGCGCAGCACGCGCAGTATGTTGGGCCCTACCGGCTGGAGAAG
ACGCTGGGCAAGGGGCAGACAGGTCTGGTGAAGCTGGGGTTCACTGCGTCACCTGCCAGAAGGTGGCC
ATCAAGATCGTCAACCGTGAGAAGCTCAGCGAGTCGGTGCTGATGAAGGTGGAGCGGAGATCGCGATC
CTGAAGCTCATTGAGCACCCACGTCCTAAAGCTGCACGAGTTTATGAAAACAAAAAATATTTGTAC
CTGGTGCTAGAACACGTGTCAGGTGGTGAGCTCTTCGACTACCTGGTGAAGAAGGGGAGGCTGACGCCT
AAGGAGGCTCGGAAGTTCTCCGCGAGATCATCTGCGCTGGACTTCTGCCACAGCCACTCCATATGC
CACAGGGATCTGAAACCTGAAACCTCCTGCTGGACGAGAAGAACAACATCCGCATCGCAGACTTTGGC
ATGGCGTCCCTGCAGGTTGGCGACAGCCTGTTGGAGACCAGCTGTGGTCCCCCACTACGCTGCCCC
GAGGTGATCCGGGGGAGAAGTATGACGGCCGGAAGGCGGACGTGTGGAGCTGCGGCGTCATCCTGTTT
GCCTTGCTGGTGGGGCTCTGCCCTTCGACGATGACAACCTGCGACAGCTGCTGGAGAAGGTGAAGCGG
GGCGTGTCCACATGCCGCACTTATCCCGCCGACTGCCAGAGTCTGCTACGGGCGATGATCGAGGTG
GACGCCGACGCCGCTCAGCTAGAGCACATTCAGAAACACATATGGTATATAGGGGGCAAGAATGAG
CCGAACAGAGCAGCCATTCTCGAAAGGTGCAGATCCGCTCGCTGCCAGCCTGGAGGACATCGAC
CCCGACGTGCTGGACAGCATGCACTCACTGGGCTGCTTCCGAGACCGCAACAAGCTGCTGCAGGACCTG
CTGTCCGAGGAGGAGAACCAGGAGAAGATGATTTACTTCTCCTCCTGGACCGGAAAGAAAGGTACCCG
AGCCAGGAGGATGAGGACCTGCCCGCCGGAACGAGATAGACCCTCCCGGAAGCGTGTGGACTCCCCG
ATGCTGAACCGGCACGGCAAGCGGCGGCCAGAACGCAATCCATGGAGGTGCTCAGCGTGACGGACGGC
GGTCCCCGGTGCCTGCGCGGGGCCATTGAGATGGCCAGCACGGCCAGAGGTCTCGGTCCATCAGC
GGTGCTCCTCAGGCTTTCACCAGCCCACTCAGCAGCCCCGGGTGACCCCTCACCCCTACCAAGG
GGCAGTCCCCTCCCACCCCAAGGGGACACCTGTCCACACGCCAAAGGAGAGCCGGCTGGCAGCACC
AACCCACGCCCCCGTCCAGCCCAAGCGTCCGAGGGGTGCCCTGGAGGGCGCGGCTCAACTCCATCAAG
AACAGTCTTCTGGGCTCACCCCGCTTCCACCGCGGAAACTGCAAGTTCGACGCGGAGGAGATGTCC
AACCTGACACCAGAGTCGTCCCCAGAGCTGGCGAAGAAGTCTGGTTTGGGAACTTCATCAGCCTGGAG
AAGGAGGAGCAGATCTTCGTGGTCATCAAAGACAAACCTCTGAGCTCCATCAAGGCTGACATCGTGAC
GCCTTCTGTGATTCCAGTCTCAGCCACAGCGTCATCTCCAAACGAGCTTCCGGGCCGAGTACAAG
GCCACGGGGGGCCAGCCGTGTTCCAGAAGCCGGTCAAGTTCAGGTTGATATCACCTACACGGAGGTT
GGGAGGGCGCAGAAGGAGAACGGCATCTACTCCGTACCTTACCCTGCTCTCAGGCCCCAGCCGTCGC
TTCAAGAGGGTGGTGGAGACCATCCAGGCCAGCTGCTGAGCACACGACCCGCTGCGGCCAGCAC
TTGTCAGAACCCCCACCAGGCCAGGACTAAGCTGGGGTGTGGGCTTAAGGGCCAGAAGGTGGCC
ACCAGTACGAGAGTAGCCTGA
  
```

**Restriction Sites:** Sgfl-MluI

**ACCN:** NM\_001256629

**Insert Size:** 2025 bp

**OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

**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\\_001256629.1](#)

**RefSeq Size:** 4140 bp

**RefSeq ORF:** 2025 bp

**Locus ID:** 9024

**UniProt ID:** [Q8IWQ3](#)

**Cytogenetics:** 11p15.5

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

**MW:** 75.1 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-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.  
[UniProtKB/Swiss-Prot Function]

Transcript Variant: This variant (3) differs in the 3' UTR and contains an alternate exon in the 3' coding region, which results in a frameshift, compared to variant 1. The encoded isoform (3) is shorter and has a distinct C-terminus, compared to isoform 1. Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.