

## Active Recombinant Human BRSK2, GST-tagged

**Cat. No.** BRSK2-257H    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| <b>Product Overview</b> | Recombinant full-length human BRSK2 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Source</b>           | Sf9 Cells                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Description</b>      | BRSK2 is a brain-selective serine/threonine kinase 2 that is mainly expressed in the brain, with weaker expression in testis and pancreas. BRSK2 expressed in insect cells specifically phosphorylates WEE1A, CDC25C and CDC25B in an in vitro assay. DNA damage induced by ultraviolet (UV) irradiation or methyl methane sulfonate, but not by ionizing radiation, enhanced endogenous BRSK2 kinase activity in a caffeine-sensitive manner and caused translocation of BRSK2 from the cytoplasm to the nucleus. Overexpression of BRSK2 induces G2/M arrest in HeLa cells while small interfering RNA against BRSK2 partly abrogated UV-induced G2/M arrest. Mammalian BRSK2 kinases are required for neuronal polarization. |
| <b>Form</b>             | Recombinant protein stored in 50mM Tris-HCl, pH 7.5, 150mM NaCl, 10mM glutathione, 0.1mM EDTA, 0.25mM DTT, 0.1mM PMSF, 25% glycerol.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Bio-activity</b>     | The specific activity of BRSK2 was determined to be 105 nmol /min/mg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Molecular Mass</b>   | ~108 kDa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Purity</b>           | >95% by densitometry                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

 Tel: 1-631-559-9269    1-516-512-3133

 Email: [info@creative-biomart.com](mailto:info@creative-biomart.com)     Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

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| <b>Applications</b>     | Kinase Assay, Western Blot                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Storage</b>          | Store product at –70 centigrade. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.                                                                                                                                                                        |
| <b>Concentration</b>    | 0.1 µg/µl                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>GENE INFORMATION</b> |                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Gene Name</b>        | BRSK2 BR serine/threonine kinase 2 [ Homo sapiens ]                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Official Symbol</b>  | BRSK2                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Synonyms</b>         | BRSK2; BR serine/threonine kinase 2; C11orf7, chromosome 11 open reading frame 7 , STK29; serine/threonine-protein kinase BRSK2; PEN11B; serine/threonine kinase 29; protein kinase SAD1B; brain-selective kinase 2; serine/threonine-protein kinase 29; BR serine/threonine-protein kinase 2; serine/threonine-protein kinase SAD-A; brain-specific serine/threonine-protein kinase 2; SAD1; STK29; C11orf7; FLJ41362; |
| <b>Gene ID</b>          | 9024                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>mRNA Refseq</b>      | NM_001256627                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Protein Refseq</b>   | NP_001243556                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>MIM</b>              | 609236                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>UniProt ID</b>       | Q8IWQ3                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Chromosome</b>       | 11p15.5                                                                                                                                                                                                                                                                                                                                                                                                                 |

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|-----------------|--------------------------------------------------------------------------------------------------------------------------------|
| <b>Location</b> |                                                                                                                                |
| <b>Pathway</b>  | LKB1 signaling events, organism-specific biosystem;                                                                            |
| <b>Function</b> | ATP binding; magnesium ion binding; nucleotide binding; protein serine/threonine kinase activity; tau-protein kinase activity; |

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