

## MST3 (Human), Active

### Recombinant protein expressed in Sf9 cells

Cat# CY-SPS42

Lot No. P180-2  
5 µg 0.1 µg/µl

#### Background:

MST3 or Mammalian Sterile 20-like kinase 3 is a member of the germinal center kinase-III family. MST3 contains a conserved kinase domain at its NH<sub>2</sub>-terminus and a regulatory domain at its COOH-terminus. Caspase-mediated cleavage of the regulatory domain of MST3 activates its intrinsic kinase activity and leads to nuclear translocation. Expression of COOH-terminal truncated MST3 in cells results in DNA fragmentation and induction of apoptosis (1). MST3 can inhibit cell migration in a fashion dependent on autophosphorylation and can regulate paxillin phosphorylation through tyrosine phosphatase PTP-PEST (2).

#### Product Description:

Recombinant human MST3 (1-311) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag. The gene accession number is NM\_001032296.

#### Gene Aliases:

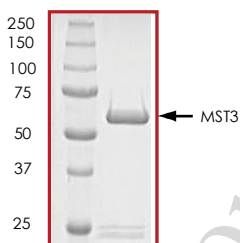
STK24, MST-3, STK3, MST3B, RP11-111L24.5

#### Formulation:

Recombinant protein stored in 50mM Tris-HCl, pH 7.5, 150mM NaCl, 0.25mM DTT, 0.1mM EGTA, 0.1mM EDTA, 0.1mM PMSF, 25% glycerol.

#### Purity & Molecular Weight:

The purity was determined to be >90% by densitometry. Approx. MW 63kDa.



#### Storage:

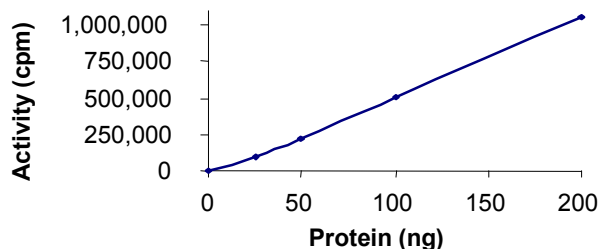
Store product at -70 °C. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

#### Stability:

1 year at -70 °C from date of shipment.

**Specific Activity:**

The specific activity was determined to be 265 nmol /min/mg as per Activity Assay Protocol.

**Activity Assay Protocol:**

Assay activity of the kinase in a 25  $\mu$ L reaction consisting of 5  $\mu$ L of 5 X Kinase Assay Buffer, 10  $\mu$ L of 1 mg/ml the Substrate Solution, 5  $\mu$ L of diluted kinase and 5  $\mu$ L of 250  $\mu$ M ATP solution containing [ $\gamma$   $^{32}$ P] ATP (0.167  $\mu$ Ci/ $\mu$ L). Start the reaction by adding the ATP solution. Incubate for 15 minutes at 30°C. Terminate the reaction by spotting 20  $\mu$ L of the reaction mixture onto phosphocellulose P81 paper. Air-dry the P81 paper and sequentially wash 4 times for approximately 10 minutes each in 1% phosphoric acid with constant gentle stirring. Count the P81 paper in a liquid scintillation counter.

**Substrate Solution:**

PKCtide synthetic peptide substrate (ERM<sub>R</sub>PRKRQGSVRRRV) diluted in distilled H<sub>2</sub>O to a final concentration of 1mg/ml.

**5 X Kinase Assay Buffer:**

25mM MOPS, pH 7.2, 12.5mM  $\beta$ -glycerol-phosphate, 25mM MgCl<sub>2</sub>, 5mM EGTA, 2mM EDTA. Add 0.25mM DTT to Kinase Assay Buffer prior to use.

**References:**

- 1.Huang, C Y. et al: Caspase activation of mammalian sterile 20-like kinase 3 (Mst3). Nuclear translocation and induction of apoptosis. J Biol Chem. 2002 Sep 13;277(37):34367-74.
- 2.Lu, T J.: Inhibition of Cell Migration by Autophosphorylated Mammalian Sterile 20-Like Kinase 3 (MST3) Involves Paxillin and Protein-tyrosine Phosphatase-PEST. J Biol Chem. 2006 Dec 15;281(50):38405-17.

**CycLex Co., Ltd**

**1063-103 Tera-Sawaoka, Ina, Nagano, Japan 396-0002**

**Fax: 81-265-76-7618**

**e-mail: [info@cyclex.co.jp](mailto:info@cyclex.co.jp)**

**URL: <http://www.cyclex.co.jp>**