

# JNK1 (Mouse), Active

## Full-length recombinant protein expressed in Sf9 cells

Cat# CY-SPM33

Lot No. K110-1  
5 µg 0.1 µg/µl

### Background:

JNK1 is a member of the MAP kinase group that is activated by dual phosphorylation at thr and tyr residues during exposure to stress such as UV irradiation. JNK1 binds to the c-Jun transactivation domain and phosphorylates it on Ser-63 and Ser-73 (1). JNK1 has been shown to play an important role in disease processes. Activation of JNK1 results in defects in myotube viability and integrity leading to dystrophic myofiber destruction (2). JNK1 activity is also abnormally elevated in obesity and removal of JNK1 results in decreased adiposity and significantly improved insulin sensitivity.

### Product Description:

Recombinant full-length mouse JNK1 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag. The gene accession number is NM\_016700.

### Gene Aliases:

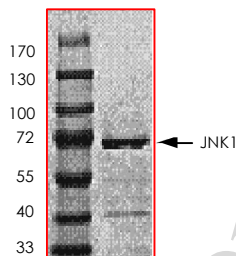
JNK; JNK1; PRKM8; SAPK1; JNK1A2; JNK21B1/2

### Formulation:

Recombinant protein is 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 71kDa.



### Storage:

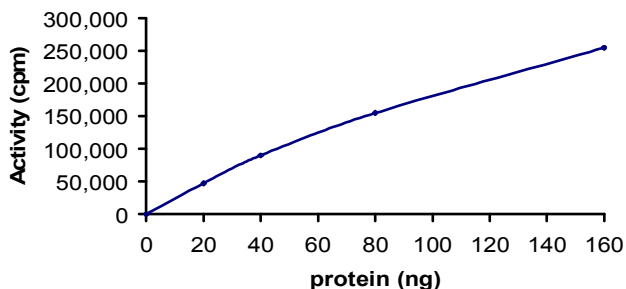
Store product at -70 °C. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

### Stability:

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

**Specific Activity:**

The specific activity was determined to be 124 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 0.5 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:**

N-terminal GST tagged recombinant human ATF2 (1-254) prepared in buffer (50mM Tris-HCl, pH 7. 2, 50mM NaCl<sub>2</sub>, 5mM EDTA and 0.25mM DTT) to a final concentration of 0.5 mg/ml.

**5 X Kinase Assay Buffer:**

25mM MOPS, 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. Derijard, B. et al: JNK1: a protein kinase stimulated by UV light and Ha-Ras that binds and phosphorylates the c-Jun activation domain. Cell. 1994 Mar 25;76(6):1025-37.
2. Kolodziejczyk, S M. et al: Activation of JNK1 contributes to dystrophic muscle pathogenesis. Curr Biol. 2001 Aug 21;11(16):1278-82.

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