

## Certificate of Analysis

### MKK3, active

**Expression System:** (Recombinant enzyme expressed in Sf21 insect cells)

**Catalog Numbers:** 16-037, 16-037-K, 16-037M

**Parent Lot Number:** 208841

### Product Description

N-terminal GST-tagged, recombinant, full length, human MKK3 expressed by baculovirus in Sf21 insect cells. Purified using glutathione agarose. Molecular Weight = 63 kDa.

### Purity

85% by SDS-PAGE and Coomassie blue staining.

### Specific Activity

Parent lot# 208841: 143 U/mg, where one unit of MKK3, active activity is defined as the amount of MKK3 which activates 0.3  $\mu$ M inactive p38a/SAPK2a (cat# 14-252) by 1 unit per minute at 30°C using 100  $\mu$ M ATP. One unit of SAPK2a activity is defined as 1 nmole of phosphate incorporated into 0.50 mg/ml myelin basic protein per minute at 30°C with a final ATP concentration of 100  $\mu$ M.

### Formulation

1.21 mg/ml of enzyme in 50 mM Tris/HCl pH 7.5, 300 mM NaCl, 0.1 mM EGTA, 0.03% Brij-35, 270 mM sucrose, 1 mM benzamidine, 0.2 mM PMSF, 0.1% 2-mercaptoethanol. Frozen solution.

### Storage and Stability

On receipt of material store at -70°C. Unopened reagent is stable for a minimum of 1 year from date of shipment when stored at recommended storage temperature. Avoid repeat freeze/thaw cycles. For maximum recovery of product, centrifuge original vial prior to removing the cap.

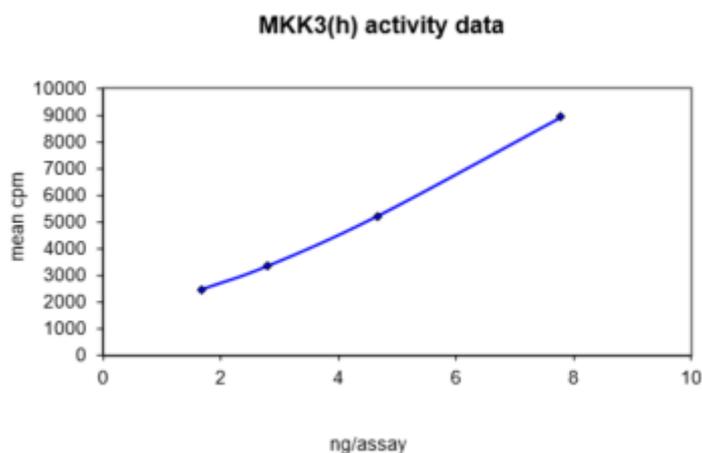
### Handling Recommendations

Rapidly thaw the vial under cold water and immediately place on ice. Aliquot unused material into pre-chilled micro-centrifuge tubes and immediately snap-freeze the vials in liquid nitrogen prior to re-storage at -70°C.

### Quality Control Testing

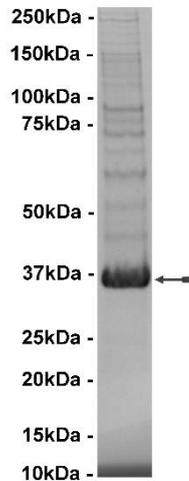
#### Kinase Assay:

1.7–7.8 ng of this lot of enzyme phosphorylated 0.3  $\mu$ M inactive p38a/SAPK2a in a radiometric kinase assay. Assay background was subtracted from the actual counts to yield the results shown below.



MS Tryptic Fingerprint: Confirmed identity as MKK3, active with the translated sequence.

SDS-PAGE and Coomassie Stain: Purity was assessed by SDS-PAGE and Coomassie blue staining using 3 µg of MKK3, active.



The data presented in this document apply to the parent lot shown above and to all pack sizes derived from subsequent vialling runs of this parent lot. An alphabetical suffix after the parent lot number is used to denote each vialling run.

## Sequence Information

<b>Protein</b>	Human MKK3
<b>Tags</b>	N-terminal GST
<b>Native sequence</b>	M230 of the recombinant sequence is equivalent to M1 of native MKK3
<b>Accession number</b>	GenBank NM_002756.4

### ***For Research Use Only***

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