



Product Information

MST2

Rat, Recombinant
Expressed in *E. coli*

Product Number **M 2189**

Storage Temperature $-70\text{ }^{\circ}\text{C}$

Synonyms: Krs1

Product Description

Recombinant rat MST2 is produced from a cDNA sequence corresponding to full-length rat MST2 that is histidine tagged at the carboxyl terminus and Trx- and S tagged at the amino terminus. It is expressed in *E. coli* as a 76 kDa fusion protein and is purified by affinity chromatography on Ni-NTA agarose. The molecular weight of MST2 is 56 kDa. The recombinant protein is active, and will phosphorylate protein kinase C ϵ (PKC ϵ) substrate. One unit of MST2 activity will incorporate 1 pmol phosphate into PKC ϵ substrate per minute at pH 7.2 and 30 $^{\circ}\text{C}$ using radiolabelled ATP.

MST1 and MST2 belong to the mammalian Ste20-like kinase family of serine/threonine kinases. Both proteins have an amino-terminal catalytic domain and a carboxyl-terminal regulatory region. Unlike other Ste20 kinases, there is no known interaction motif for the regulatory region, although it is required for dimerization. The enzyme is activated by proteolytic cleavage by caspase-3 and is involved in both upstream and downstream apoptotic events. Cleaved MST translocates from the cytoplasm into the nucleus prior to initiation of nuclear fragmentation. MST also appears to sensitize cells to death receptor-induced apoptosis by accelerating caspase-3 activation.

Reagent

Recombinant rat MST2 is supplied as a solution in 50 mM Tris-HCl buffer, pH 7.5, containing 1 mM EDTA, and 10% glycerol.

Storage/Stability

Recombinant rat MST2 is stable for at least six months if stored at $-70\text{ }^{\circ}\text{C}$. For maximum recovery of product, centrifuge the original vial after thawing and prior to removing the cap. Avoid repeated freeze-thaw cycles. Do not store in a frost-free freezer.

References

1. Lee, K. K. et al., MST, a physiological caspase substrate, highly sensitizes apoptosis both upstream and downstream of caspase activation. *J. Biol. Chem.*, **276**, 19276-19285 (2001).
2. Wang, H-C. and Fecteau, K., Detection of a novel quiescence-dependent protein kinase. *J. Biol. Chem.*, **275**, 25850-25857 (2000).
3. Sabourin, L. et al., Caspase 3 cleavage of the Ste20-related kinase SLK releases and activates an apoptosis-inducing kinase domain and an actin-disassembling region. *Mol. Cell. Biol.*, **20**, 684-696 (2000).
4. Watabe, M. et al., Activation of MST/Krs and c-Jun N-terminal kinases by different signaling pathways during cytotriecin A-induced apoptosis. *J. Biol. Chem.*, **275**, 8766-8771 (2000).

JLH 12/01

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