

# MAPKII Kinase Inhibitor

(Hsp25 Kinase Inhibitor)

Catalog# SIH-120

Size: 1mg

PO Box 30244, Suite 405,  
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This product is for *in vitro* research use only and is not intended for use in humans or animals

# StressMarq

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Product	MAPKII Kinase Inhibitor (Hsp25 Kinase Inhibitor), Unconjugated
Formula	C <sub>61</sub> H <sub>113</sub> N <sub>21</sub> O <sub>6</sub>
MW	1396.7
Source/Host	Synthetic
Purity	95%
Solubility	Soluble in DMSO or H <sub>2</sub> O
Appearance	White lyophilized solid
Storage and stability	-20°C; 1 year+; shipped ambient

### Scientific Background

The MAPK (mitogen activated protein kinase) comprises a family of ubiquitous praline-directed, protein serine/threonine kinases which signal transduction pathways that control intracellular events including acute responses to hormones and major developmental changes in organisms (1). This super family consists of stress activated protein kinases (SAPKs); extracellular signal-regulated kinases (ERKs); and p38 kinases, each of which forms a separate pathway (2).

In particular, MAPKAP-kinase II (or otherwise known as MK2) is involved in inflammation, and is considered a target for therapeutic intervention for inflammation and cancer (3). MK2 is a member of the p38 MAPKinase pathway, and is activated by a variety of chemical stress inducers including hydrogen peroxide, heavy metals, anisomycin, sodium salicylate, LPS, and biological stress signals such as tumor necrosis factor, interleukin-1,

ionizing and UV irradiation, hyperosmotic stress and chemotherapeutic drugs (4).

The MAPKAP-kinase II inhibitor binds deeply within the ATP pocket and is coordinated via a series of hydrogen bonds and van der Waals interactions. The structures reveal plasticity of the nucleotide-binding loop which allows conformational flexibility in the binding site, adding potential to this drug target (3).

### Selected References

1. Pearson G. *et al.* (2001). *Endocrine Reviews* 22 (2): 153-183.
2. Fan Y., *et al.* (2007) *Mol. Cells* 23 (1): 30-38.
3. Hillig R.C., *et al.* (2007) *J Mol Biol.* 369: 735-745.
4. Deng *et al.* (2003) *Cell* 115: 61-70.

# Material Safety Data Sheet

This product is for *in vitro* research use only and is not intended for use in humans or animals

The below information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. StressMarq shall not be held liable for any damage resulting from handling or from contact with the above product. See the Technical Specification, Packing Slip, Invoice, and Product Catalogue for additional terms and conditions of sale.

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## Hazardous Ingredients

The physical, chemical and toxicological properties of these components have not been fully investigated. It is recommended that all laboratory personnel follow standard laboratory safety procedures when handling this product. Safety procedures should include wearing OSHA approved safety glasses, gloves and protective clothing. Direct physical contact with this product should be avoided.

<u>Known Hazardous Components</u>	<u>CAS Number</u>	<u>Percent</u>
None		

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## Physical Data

This product consists of powder shipped at ambient temperatures. The physical properties of this product have not been investigated thoroughly.

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## Fire and Explosion Hazard and Reactivity Data

NOT APPLICABLE

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## Toxicological Properties

May be harmful by inhalation, ingestion, or skin absorption. The toxicological properties of this product have not been investigated thoroughly. Exercise due caution.

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## Preventative Measures

Wear chemical safety goggles and compatible chemical-resistant gloves. Avoid inhalation, contact with eyes, skin or clothing.

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## Spill and Leak Procedures

Observe all federal, state and local environmental regulations.

- Wear protective equipment.
- Absorb on sand or vermiculite and place in closed containers for disposal.
- Dispose or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

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## First Aid Measures

- If swallowed, wash out mouth with water, provided person is conscious. Call a physician.
- In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. If a rash or other irritation develops, call a physician.
- If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.
- In case of eye contact, flush with copious amounts of water for at least 15 minutes while separating the eyelids with fingers. Call a physician.

Authorized: StressMarq Biosciences Inc.  
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