

PRODUCT INFORMATION



JNK2 α 2 Isoform (human, recombinant)

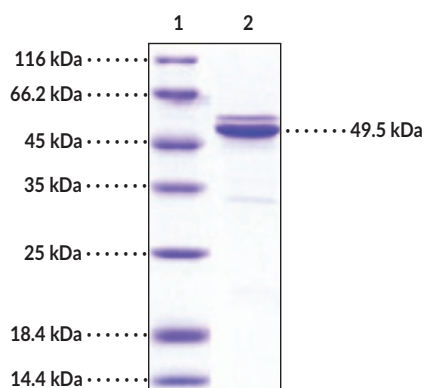
Item No. 43699

Overview and Properties

Synonyms:	JNK-55, c-Jun N-terminal Kinase 2, MAPK9, Mitogen-activated Protein Kinase 9, SAPK1a, Stress-activated Protein Kinase 1a
Source:	Recombinant human C-terminal His-tagged JNK2 α 2 isoform expressed in insect cells
Amino Acids:	1-424 (full length)
Uniprot No.:	P45984
Molecular Weight:	49.5 kDa
Storage:	-80°C (as supplied)
Stability:	\geq 1 year
Purity:	\geq 90% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile 50 mM Tris, with 100 mM sodium chloride, pH 8.0, 10% glycerol, 0.5 mM EDTA, and 0.5 mM PMSF
Endotoxin Testing:	<1.0 EU/ μ g, determined by the LAL endotoxin assay
Bioactivity:	See figure for details

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: JNK2 α 2 Isoform

SDS-PAGE Analysis of JNK2 α 2 Isoform. This protein has an apparent molecular weight of approximately 49.5 kDa by SDS-PAGE under reducing conditions.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 06/24/2025

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION



Description

JNK2 is a stress-activated serine/threonine protein kinase and member of the MAPK family.^{1,2} It is composed of a short N-terminal helical domain, a flexible connector that contains the active site, and a large helical C-terminal domain.³ JNK2 is encoded by MAPK9, which produces four isoforms via alternative splicing.⁴ JNK2 is ubiquitously expressed and is found in the cytoplasm.^{1,4} JNKs are activated by phosphorylation at threonine 183 (Thr183) and tyrosine 185 (Tyr185) by MAP kinase kinase 7 (MKK7) and MKK4, respectively, in response to stress stimuli, such as cellular stress, radiation, inflammation, or oxidative stress.^{1,5} After activation, JNKs localize to the nucleus where they phosphorylate transcription factors, nuclear receptors, and adaptor proteins that broadly regulate cell proliferation, cell survival, and apoptosis.⁶ JNK2 $\alpha 2$ isoform has been found to be constitutively active in tumor samples isolated from patients with glioma.⁷ Cayman's JNK2 $\alpha 2$ Isoform (human, recombinant) protein consists of 435 amino acids. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is 49.5 kDa.

References

1. Kumar, A., Singh, U.K., Kini, S.G., *et al.* JNK pathway signaling: A novel and smarter therapeutic target for various biological diseases. *Future Med. Chem.* **7(15)**, 2065-2086 (2015).
2. Bogoyevitch, M.A. and Kobe, B. Uses for JNK: The many and varied substrates of the c-Jun N-terminal kinases. *Microbiol. Mol. Biol. Rev.* **70(4)**, 1061-1095 (2006).
3. Shaw, D., Wang, S.M., Villaseñor, A.G., *et al.* The crystal structure of JNK2 reveals conformational flexibility in the MAP kinase insert and indicates its involvement in the regulation of catalytic activity. *J. Mol. Biol.* **383(4)**, (2008).
4. Zhang, T., Inesta-Vaquero, F., Niepel, M., *et al.* Discovery of potent and selective covalent inhibitors of JNK. *Chem. Biol.* **19(1)**, 140-154 (2012).
5. Thévenin, A.F., Zony, C.L., Bahnson, B.J., *et al.* Activation by phosphorylation and purification of human c-Jun N-terminal kinase (JNK) isoforms in milligram amounts. *Protein Expr. Purif.* **75(2)**, 138-146 (2011).
6. Bogoyevitch, M.A. and Kobe, B. Uses for JNK: The many and varied substrates of the c-Jun N-terminal kinases. *Microbiol. Mol. Biol. Rev.* **70(4)**, 1061-1095 (2006).
7. Tsuiki, H., Tnani, M., Okamoto, I., *et al.* Constitutively active forms of c-Jun NH₂-terminal kinase are expressed in primary glial tumors. *Cancer Res.* **63(1)**, 250-255 (2003).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM