PRODUCT INFORMATION

JNK1 α2 Isoform (human, recombinant)

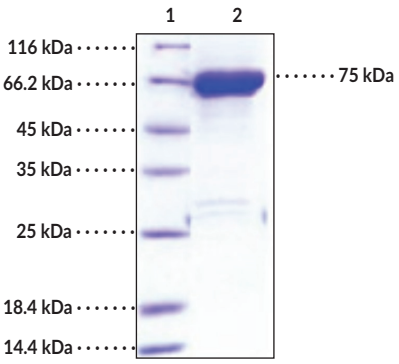
Item No. 43698

Overview and Properties

Synonyms:	c-Jun N-terminal Kinase 1, JNK-46, MAPK8, MAP Kinase 8, Mitogen-activated Protein Kinase 8, SAPK1C, Stress-activated Protein Kinase 1C
Source:	Recombinant human N-terminal GST-tagged JNK1 α2 isoform expressed in insect cells
Amino Acids:	1-427 (full length)
Uniprot No.:	P45983
Molecular Weight:	75 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥90% estimated by SDS-PAGE
Supplied in:	Sterile 50 mM Tris, with 100 mM sodium chloride, pH 8.0, and 25% glycerol
Endotoxin Testing:	<1.0 EU/µg, 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: JNK1 α2 Isoform

SDS-PAGE Analysis of JNK1 α2 Isoform. This protein has a calculated molecular weight of 75 kDa. It has an apparent molecular weight of approximately 65 kDa by SDS-PAGE under reducing conditions.

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Description

JNK1 is a stress-activated serine/threonine protein kinase and member of the MAPK family.[1] 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.[2] JNK1 is encoded by *MAPK8*, which produces four isoforms *via* alternative splicing.[3] JNK1 is ubiquitously expressed and is found in the cytoplasm.[1,3,4] 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.[4] Increased intratumoral levels of JNK1 are associated with decreased survival in patients with hepatocellular carcinoma (HCC).[6] Cayman's JNK1 α2 Isoform (human, recombinant) protein consists of 652 amino acids and has a calculated molecular weight of 75 kDa. This protein migrates at approximately 65 kDa by SDS-PAGE under reducing conditions.

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. Heo, Y.S., Kim, S.K., Seo, C.I., *et al.* Structural basis for the selective inhibition of JNK1 by the scaffolding protein JIP1 and SP600125. *EMBO J.* **23(11)**, 2185-2195 (2004).
3. 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).
4. 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).
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. Chang, Q., Chen, J., Beezhold, K.J., *et al.* JNK1 activation predicts the prognostic outcome of the human hepatocellular carcinoma. *Mol. Cancer* **8**, 64 (2009).

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