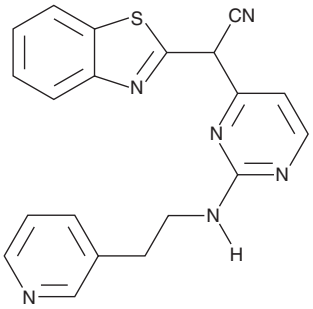
PRODUCT INFORMATION

JNK Inhibitor V

Item No. 17542

CAS Registry No.:	345987-15-7
Formal Name:	a-[2-[[2-(3-pyridinyl)ethyl]amino]-4-pyrimidinyl]-2-benzothiazoleacetonitrile
Synonyms:	AS-601245, c-Jun N-terminal Kinase Inhibitor V
MF:	$C_{20}H_{16}N_6S$
FW:	372.5
Purity:	≥98% (sum of isomers)
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

JNK inhibitor V is supplied as a crystalline solid. A stock solution may be made by dissolving the JNK inhibitor V in the solvent of choice, which should be purged with an inert gas. JNK inhibitor V is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of JNK inhibitor V in these solvents is approximately 2 mg/ml.

Description

c-Jun N-terminal kinases (JNKs) phosphorylate c-Jun and regulate transcription in response to an array of inflammatory signals.[1] JNK inhibitor V is an ATP-competitive inhibitor of JNK1, JNK2, and JNK3 (IC_{50}s = 150, 220, and 70 nM, respectively).[2,3] While initial studies demonstrated 10- to 100-fold selectivity for JNK isoforms over a panel of 25 other kinases, strong interactions of JNK inhibitor V with GSK3B, Pim-1, Pim-3, and other kinases, evaluated as a shift in thermal melting point, suggest additional targets exist.[2,4] *In vivo* efficacy of JNK inhibitor V against JNK isoforms has been demonstrated in gerbils, mice, and rats *via* oral, intravenous, or intraperitoneal administration.[4,5] This compound is commonly used to investigate the role of JNK signaling in cells and animals.[6,7]

References

1. Johnson, G.L. and Lapadat, R. Mitogen-activated protein kinase pathways mediated by ERK, JNK, and p38 protein kinases. *Science* **298(5600)**, 1911-1912 (2002).
2. Gaillard, P., Jeanclaude-Etter, I., Ardissone, V., *et al.* Design and synthesis of the first generation of novel potent, selective, and in vivo active (benzothiazol-2-yl)acetonitrile inhibitors of the c-Jun N-terminal kinase. *J. Med. Chem.* **48(14)**, 4596-4607 (2005).
3. Carboni, S., Hiver, A., Szyndralewiez, C., *et al.* AS601245 (1,3-benzothiazol-2-yl (2-[[2-(3-pyridinyl) ethyl] amino]-4 pyrimidinyl) acetonitrile): A c-Jun NH2-terminal protein kinase inhibitor with neuroprotective properties. *J. Pharmacol. Exp. Ther.* **310(1)**, 25-32 (2004).
4. Fedorov, O., Marsden, B., Pogacic, V., *et al.* A systematic interaction map of validated kinase inhibitors with Ser/Thr kinases. *Proc. Natl. Acad. Sci. USA* **104(51)**, 20523-20528 (2007).
5. Ferrandi, C., Ballerio, R., Gaillard, P., *et al.* Inhibition of c-Jun N-terminal kinase decreases cardiomyocyte apoptosis and infarct size after myocardial ischemia and reperfusion in anaesthetized rats. *Br. J. Pharmacol.* **142(6)**, 953-960 (2004).
6. Oktem, O., Buyuk, E., and Oktay, K. Preantral follicle growth is regulated by c-Jun-N-terminal kinase (JNK) pathway. *Reprod.Sci.* **18(3)**, 269-276 (2011).
7. Tu, Y.F., Tsai, Y.S., Wang, L.W., *et al.* Overweight worsens apoptosis, neuroinflammation and blood-brain barrier damage after hypoxic ischemia in neonatal brain through JNK hyperactivation. *J. Neuroinflammation* **8:40**, (2011).

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