TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713
INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM
FOR GLOBAL CONTACT DETAILS VISIT WWW.STEMCELL.COM

JNK-IN-8

JNK pathway inhibitor; Inhibits JNK1, JNK2, and JNK3

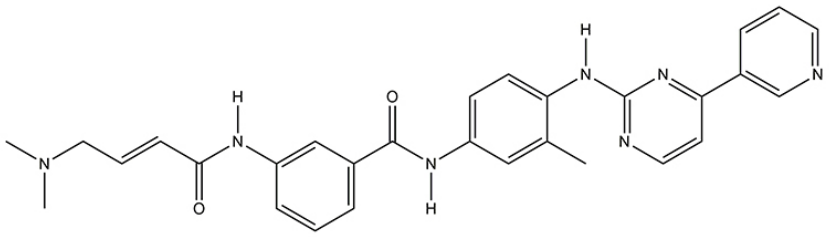
Catalog #100-1654 5 mg

Product Description

JNK-IN-8 is an irreversible inhibitor of c-Jun N-terminal kinase 1 (JNK1; IC_{50} = 4.67 nM), JNK2 (IC_{50} = 18.7 nM), and JNK3 (IC_{50} = 0.98 nM). JNK-IN-8 inhibits JNK signaling by inhibiting phosphorylation of the JNK substrate, c-Jun (Zhang et al.). JNKs are involved in regulating cell proliferation, differentiation, survival, and inflammation. Dysregulated JNK signaling has been associated with cancer, inflammatory, and neurodegenerative diseases (Hammouda et al.).

Alternative Names:	JNK Inhibitor XVI
CAS Number:	1410880-22-6
Chemical Formula:	$C_{29}H_{29}N_7O_2$
Molecular Weight:	507.6 g/mol
Purity:	≥ 98%
Chemical Name:	3-[[4-(Dimethylamino)-1-oxo-2-buten-1-yl]amino]-N-[3-methyl-4-[[4-(3-pyridinyl)-2-pyrimidinyl]amino] phenyl]-benzamide

Structure:



Properties

Product Format: A pale-yellow powder

Stability and Storage: Product stable at -20°C as supplied. As a precaution, STEMCELL recommends storing all small molecules away from direct light. For long-term storage, store with a desiccant. Stable as supplied for 12 months from date of receipt.

Preparation:

• DMSO ≤ 85 mM
For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 197 µL of DMSO.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported; however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

Published Applications

CANCER RESEARCH

• Suppresses colony formation and cell viability in human triple-negative breast cancer (TNBC) organoids and slows tumor growth in a mouse xenograft model (Soleimani et al.).
• Promotes apoptosis and reduces clonogenic survival in human colorectal cancer organoids (Sun et al.).
• Reduces tumor growth and regulatory T cell infiltration and increases infiltration of CD8+ T cells in a TNBC mouse model (Semba et al.).
• Reduces cell viability of human and mouse B-lymphoblastic leukemia cells and slows leukemia progression in a mouse model (Xiao et al.).

References

Hammouda MB et al. (2020) The JNK signaling pathway in inflammatory skin disorders and cancer. Cells 9(4): 857.
Semba T et al. (2022) Identification of the JNK-active triple-negative breast cancer cluster associated with an immunosuppressive tumor microenvironment. J Natl Cancer Inst 114(1): 97–108.
Soleimani M et al. (2022) Covalent JNK inhibitor, JNK-IN-8, suppresses tumor growth in triple-negative breast cancer by activating TFEB- and TFE3-mediated lysosome biogenesis and autophagy. Mol Cancer Ther 21(10): 1547–60.
Sun L et al. (2021) Irreversible JNK blockade overcomes PD-L1-mediated resistance to chemotherapy in colorectal cancer. Oncogene 40(32): 5105–15.
Xiao X et al. (2020) Combination therapy of BCR-ABL-positive B cell acute lymphoblastic leukemia by tyrosine kinase inhibitor dasatinib and c-JUN N-terminal kinase inhibition. J Hematol Oncol 13(1): 80.
Zhang T et al. (2012) Discovery of potent and selective covalent inhibitors of JNK. Chem Biol 19(1): 140–54.

Related Products

For a complete list of small molecules available from STEMCELL Technologies, visit www.stemcell.com/smallmolecules or contact us at techsupport@stemcell.com.