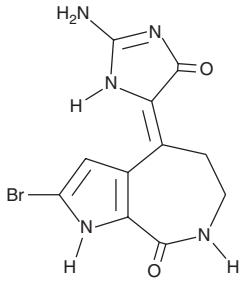
PRODUCT INFORMATION

10Z-Hymenialdisine

Item No. 14198

CAS Registry No.: 82005-12-7
Formal Name: (4Z)-4-(2-amino-1,5-dihydro-5-oxo-4H-imidazol-4-ylidene)-2-bromo-4,5,6,7-tetrahydro-pyrrolo[2,3-c]azepin-8(1H)-one
MF: $C_{11}H_{10}BrN_5O_2$
FW: 324.1
Purity: ≥97%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Special Conditions: Light sensitive
Item Origin: Sponge/*Axinella carteri*



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

Laboratory Procedures

10Z-Hymenialdisine is supplied as a solid. A stock solution may be made by dissolving the 10Z-hymenialdisine in the solvent of choice, which should be purged with an inert gas. 10Z-Hymenialdisine is soluble in the organic solvent DMSO.

Description

10Z-Hymenialdisine is a natural marine sponge alkaloid with numerous cellular actions. Most notably, it blocks signaling through the Raf-1/MEK-1/MAPK pathway by potently inhibiting MEK-1 (IC_{50} = 9 nM).[1] Hymenialdisine also inhibits numerous kinases *in vitro*, most notably GSK3β, CDK1/cyclin B, CDK5/p25, CK1, and CDK2/cyclin E (IC_{50}s = 10, 22, 28, 35, and 40 nM, respectively), as well as, less potently, ERK1/2 and several isoforms of PKC.[2,3] Early studies demonstrated that it suppresses inflammatory gene expression by blocking signaling through NF-κB at micromolar concentrations.[4] At similar concentrations, hymenialdisine also blocks bacterial quorum sensing.[5]

References

1. Tasdemir, D., Mallon, R., Greenstein, M., *et al.* Aldisine alkaloids from the Philippine sponge Stylissa massa are potent inhibitors of mitogen-activated protein kinase kinase-1 (MEK-1). *J. Med. Chem.* **45(2)**, 529-532 (2002).
2. Meijer, L., Thunnissen, A.M.W.H., White, A.W., *et al.* Inhibition of cyclin-dependent kinases, GSK-3β and CK1 by hymenialdisine, a marine sponge constituent. *Chem. Biol.* **7(1),** 51-63 (2000).
3. Curman, D., Cinel, B., Williams, D.E., *et al.* Inhibition of the G2 DNA damage checkpoint and of protein kinases Chk1 and Chk2 by the marine sponge alkaloid debromohymenialdisine. *J. Biol. Chem.* **276(21)**, 17914-17919 (2001).
4. Breton, J.J. and Chabot-Fletcher, M.C. The natural product hymenialdisine inhibits interleukin-8 production in U937 cells by inhibition of nuclear factor-κB. *J. Pharmacol. Exp. Ther.* **282(1),** 459-466 (1997).
5. Dobretsov, S., Teplitski, M., Bayer, M., *et al.* Inhibition of marine biofouling by bacterial quorum sensing inhibitors. *Biofouling* **27(8)**, 893-905 (2011).

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
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