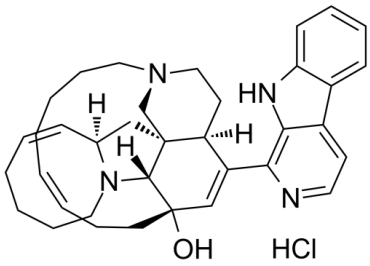
Data Sheet

Product Name:	Manzamine A (hydrochloride)
Cat. No.:	CS-0179261
CAS No.:	104264-80-4
Molecular Formula:	$C_{36}H_{45}ClN_4O$
Molecular Weight:	585.22
Target:	Autophagy; CDK; GSK-3; HSV; Parasite; Proton Pump
Pathway:	Anti-infection; Autophagy; Cell Cycle/DNA Damage; Membrane Transporter/Ion Channel; PI3K/Akt/mTOR; Stem Cell/Wnt
Solubility:	DMSO : 5.88 mg/mL (10.05 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

Manzamine A hydrochloride, an orally active beta-carboline alkaloid, inhibits specifically **GSK-3β** and **CDK-5** with **IC_{50}**s of 10.2 μM and 1.5 μM, respectively. Manzamine A hydrochloride targets **vacuolar ATPases** and inhibits **autophagy** in pancreatic cancer cells. Manzamine A hydrochloride has antimalarial and anticancer activities. Manzamine A hydrochloride also shows potent activity against **HSV-1**[1][2][3][4]. **In Vitro:** Manzamine A increases acidity in pancreatic cancer cells and non-malignant Vero cells. manzamine A is a potential inhibitor of autophagy by preventing autophagosome turnover. Manzamine A (10 μM; 2 hours; AsPC-1 cells) clearly induced an accumulation of p62 confirming an inhibition of autophagosome turnover[2].
Manzamine A represents an important lead structure for the development of novel antimalarial chemotherapies[3].

References:

[1]. Hamann M, et al. Glycogen synthase kinase-3 (GSK-3) inhibitory activity and structure-activity relationship (SAR) studies of the manzamine alkaloids. Potential for Alzheimer's disease. J Nat Prod. 2007;70(9):1397-1405.

[2]. Winkler JD, et al. Antimalarial activity of a new family of analogues of manzamine A. Org Lett. 2006;8(12):2591-2594.

[3]. Kallifatidis G, et al. The marine natural product manzamine A targets vacuolar ATPases and inhibits autophagy in pancreatic cancer cells [published correction appears in Mar Drugs. 2014;12(4):2305-7]. Mar Drugs. 2013;11(9):3500-3516. Published 2013 Sep 17.

[4]. Palem JR, et al. Manzamine A as a novel inhibitor of herpes simplex virus type-1 replication in cultured corneal cells. Planta Med. 2011;77(1):46-51.

CAIndexNames:

3H-2,7-[3]Octeno-1H-azocino[1′,2′:1,5]pyrrolo[2,3-i]isoquinolin-7(7aH)-ol, 4,4a,9,10,11,12,14a,15-octahydro-5-(9H-pyrido[3,4-b]indol-1-yl)-, hydrochloride (1:1), (2S,4aR,7S,7aR,14aR,15aR)-

SMILES:

O[C@]1(CC/C=C\CCCC2)[C@@]3([H])[C@@](C[C@@]4([H])N3CCCC/C=C\4)(C[N@@]2CC5)[C@]5([H])C(C6=C(NC7=CC=CC=C87)C8=CC=N6)=C1.Cl

Caution: Product has not been fully validated for medical applications. For research use only.

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