Product Data Sheet

Product Name: Aerothionin
Cat. No.: GC15759

Chemical Properties

Cas. No.	28714-26-3
Chemical Name	(5S,5'S,10R,10'R)-N,N'-1,4-butanediylbis[7,9-dibromo-10-hydroxy-8-methoxy-1-oxa-2-azaspiro[4.5]deca-2,6,8-triene-3-carboxamide
SMILES	O=C(NCCCCNC(C1=NO[C@@]2([C@@H](O)C(Br)=C(OC)C(Br)=C2)C1)=O)C3=NO[C@@]4([C@@H](O)C(Br)=C(OC)C(Br)=C4)C3
Formula	$C_{24}H_{26}Br_4N_4O_8$
M.Wt	818.1
Solubility	Soluble in ethanol;Soluble in DMSO
Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.
Structure	Aerothionin

Background

IC50: 29 μM for HeLa cells proliferation

Aerothionin is derived from marine sponges with an antimycobacterial activity.

Antimycobacterial drugs are used in the treatment of diseases caused by Mycobacterium genus, such as tuberculosis and leprosy.

In vitro: In a continuation of efforts to identify bioactive compounds from Red Sea Verongid sponges, the organic extract of the sponge Suberea species afforded seven compounds including aerothionin, together with two new dibrominated alkaloids and four known compounds. In-vitro cytotoxicity study showed that aerothionin and subereaphenol C had potent cytotoxic activity against HeLa cell line with IC50 values of 29 and 13.3 μM, respectively. [1].

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In vivo: Red Sea Suberea mollis sponge extract (SMSE), which contains aerothionin, was evaluated for its protective effect on carbon tetrachloride- (CCl4-) induced acute liver injury in rats. Rats were orally administered three different concentrations of SMSE along with CCl4 for 14 days. SMSE could significantly reduce liver enzyme activities and hepatic MDA formation. In addition, SMSE was able to restore NO, SOD, GSH, GPx, and CAT. The histopathological results further confirmed these in-vivo findings [2].

Clinical trial: So far, no clinical study has been conducted.

References:
[1] Shaala, L. A.,Youssef, D.T.A.,Badr, J.M., et al. Bioactive secondary metabolites from the read sea marine verongid sponge Suberea species. Mar.Drugs 13, 1621-1631 (2015).
[2] Abbas AT, El-Shitany NA, Shaala LA, Ali SS, Azhar EI, Abdel-Dayem UA, Youssef DT. Red Sea Suberea mollis Sponge Extract Protects against CCl4-Induced Acute Liver Injury in Rats via an Antioxidant Mechanism. Evid Based Complement Alternat Med. 2014;2014:745606.

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