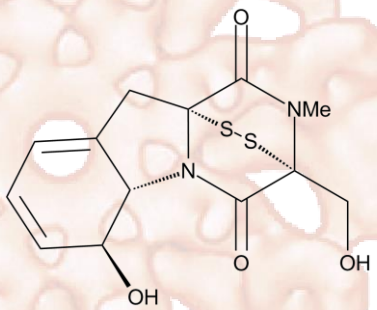
Product Data Sheet

Gliotoxin



Cat. No.: A4443

CAS No.: 67-99-2

Formula: C13H14N2O4S2

M.Wt: 326.38

Synonyms:

Target: Ubiquitination/ Proteasome

Pathway: Proteasome

Storage: Desiccate at -20°C

Solvent & Solubility

Soluble in DMSO

In Vitro — Preparing Stock Solutions

Concentration \ Mass / Solvent	1mg	5mg	10mg
1 mM	3.0639 mL	15.3196 mL	30.6391 mL
5 mM	0.6128 mL	3.0639 mL	6.1278 mL
10 mM	0.3064 mL	1.5320 mL	3.0639 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary	20S proteasome inhibitor
IC_{50} & Target	

In Vitro

Cell Viability Assay

Cell Line:	breast cancer cell lines (MCF-7 and MDA-MB-231 cells)
Preparation method:	The solubility of this compound in DMSO is >10mM. General tips for obtaining a higher concentration: Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
Reacting conditions:	1 nM to 10 μM
Applications:	Gliotoxin inhibited proliferation of six breast cancer cell lines in culture and

		protein prenylation over the same range of concentrations. Treatment with gliotoxin for 24 h led to a clear dose-dependent inhibition of Lamin B farnesylation and Rap1A geranylgeranylation in breast cancer cell lines. Taken together these findings indicated that the observed antitumor activity of gliotoxin in breast cancer cell lines was most likely due to prenyltransferase inhibition.
In Vivo	**Animal experiment**	
	Animal models:	Inbred virgin female (Ludwig/Wistar/Olac) rats bearing tumors induced with N-methyl-Nnitrosourea (NMU)
	Dosage form:	from 1.25 to 25 mg/kg ; subcutaneous injection; weekly for 4 wk.
	Applications:	In all rats, all five gliotoxin-treated rats completing the study responded to treatment, three of which had >50% tumor regression (partial response) and two others with stable disease (<50% tumor regression) and the antitumor effects of gliotoxin were manifest within the first week of treatment.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

1.Angelina C, Tan ISY, et al. "KIF1Bβ increases ROSto mediate apoptosis and reinforces its protein expression through O (2)(-) in apositive feedback mechanism in neuroblastoma." Sci Rep. 2017 Dec 4;7(1):16867.PMID:29203804

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References

[1]. Vigushin DM, Mirsaidi N, Brooke G., et al. Gliotoxin is a dual inhibitor of farnesyltransferase and geranylgeranyltransferase I with antitumor activity against breast cancer in vivo. MEDICAL ONCOLOGY, 2004, 21(1):21-30.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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