



LKT Laboratories, Inc.

Gliotoxin

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Product Information

Product ID G4434

CAS No. 67-99-2

Chemical Name

Synonym

Formula $C_{13}H_{14}N_2O_4S_2$

Formula Wt. 326.39

Melting Point 200-202 °C

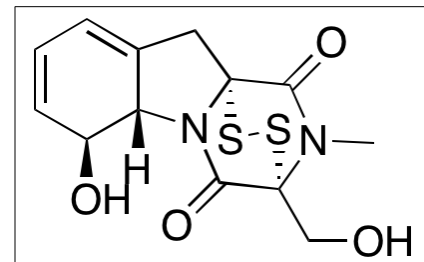
Purity ≥98%

Solubility CHCl₃, DMSO, Methanol,
Ethanol, Ethyl acetate,
Petrol-ether,
Dichloromethane. Water
insoluble

Store Temp 4 °C

Ship Temp Ambient

Description Gliotoxin was initially produced by the marine fungus *Aspergillus* and exhibits anticancer, immunosuppressive, and anti-fibrotic activities. In cervical cancer and chondrosarcoma cells, gliotoxin increases activation of caspases 3, 8, and 9, upregulates Bax, and downregulates Bcl-2, resulting in release of cytochrome c and apoptosis. In hepatoma cells, gliotoxin inhibits activation of NF-κB, p38, and Gadd45a, potentiating the effects of radiation and inhibiting cell proliferation. Gliotoxin also suppresses the adaptive immune response, decreasing ROS generation, inhibiting phagocytosis, and inducing apoptosis in leukocytes. Gliotoxin induces a thiol redox-dependent alteration in adenine nucleoside transporter (ANT) mobility and increases activation of caspase 3 and release of cytochrome c, resulting in mitochondria-mediated apoptosis in hepatic stellate cells. This compound also displays anti-parasitic and antimalarial activities against *Plasmodium falciparum*, inhibiting the proteasome.



Bulk quantities available upon request

Product ID	Size
G4434	1 mg
G4434	5 mg
G4434	10 mg

References Nguyen VT, Lee JS, Qian ZJ, et al. Gliotoxin Isolated from Marine Fungus *Aspergillus* sp. Induces Apoptosis of Human Cervical Cancer and Chondrosarcoma Cells. *Mar Drugs*. 2013 Dec 24;12(1):69-87. PMID: 24368570.

Hur JM, Yun HJ, Yang SH, et al. Gliotoxin enhances radiotherapy via inhibition of radiation-induced GADD45a, p38, and NFκappaB activation. *J Cell Biochem*. 2008 Aug 15;104(6):2174-84. PMID: 18425744.

Orciuolo E, Stanzani M, Canestraro M, et al. Effects of *Aspergillus fumigatus* gliotoxin and methylprednisolone on human neutrophils: implications for the pathogenesis of invasive aspergillosis. *J Leukoc Biol*. 2007 Oct;82(4):839-48. PMID: 17626149.

Hatabu T, Hagiwara M, Taguchi N, et al. *Plasmodium falciparum*: the fungal metabolite gliotoxin inhibits proteasome proteolytic activity and exerts a plasmodicidal effect on *P. falciparum*. *Exp Parasitol*. 2006 Mar;112(3):179-83. PMID: 16384554.

Orr JG, Leel V, Cameron GA, et al. Mechanism of action of the antifibrogenic compound gliotoxin in rat liver cells. *Hepatology*. 2004 Jul;40(1):232-42. PMID: 15239107.

Kweon YO, Paik YH, Schnabl B, et al. Gliotoxin-mediated apoptosis of activated human hepatic stellate cells. *J Hepatol*. 2003 Jul;39(1):38-46. PMID: 12821042.

Caution: This product is intended for laboratory and research use only. It is not for human or drug use.