

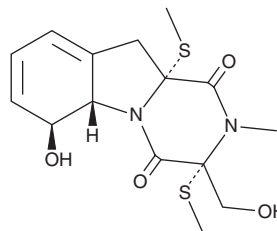
PRODUCT INFORMATION



Bis(methylthio)gliotoxin

Item No. 26271

CAS Registry No.: 74149-38-5
Formal Name: (3R,5aS,6S,10aR)-2,3,5a,6,10,10a-hexahydro-6-hydroxy-3-(hydroxymethyl)-2-methyl-3,10a-bis(methylthio)-pyrazino[1,2-a]indole-1,4-dione
Synonyms: Bisdethiobis(methylthio)gliotoxin, FR 49175
MF: C₁₅H₂₀N₂O₄S₂
FW: 356.5
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Synthetic



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

Laboratory Procedures

Bis(methylthio)gliotoxin is supplied as a solid. A stock solution may be made by dissolving the bis(methylthio)gliotoxin in the solvent of choice. Bis(methylthio)gliotoxin is soluble in organic solvents such as ethanol and DMSO, which should be purged with an inert gas. The solubility of bis(methylthio)gliotoxin in these solvents is approximately 25 mg/ml.

Description

Bis(methylthio)gliotoxin is a fungal metabolite originally isolated from *G. deliquescens* that has diverse biological activities.¹ It inhibits PAF- and collagen-induced platelet aggregation in rabbit platelet-rich plasma (IC₅₀s = 8.4 and 84.2 μM, respectively) but has no effect on arachidonic acid- or ADP-induced platelet aggregation (IC₅₀s = >400 μM).² Bis(methylthio)gliotoxin inhibits growth of HCT116 colon cancer cells (IC₅₀ = 23.56 μM).³ It inhibits PAF-induced bronchoconstriction in guinea pigs when administered at a dose of 0.1 mg/kg and is less toxic to mice (LD₅₀ = >500 mg/kg) than gliotoxin (Item No. 11433).^{2,4} Bis(methylthio)gliotoxin has been used as a serum biomarker in patients infected with invasive aspergillosis.⁵

References

1. Kirby, G.W., Robins, D.J., Sefton, M.A., *et al.* Biosynthesis of bisdethiobis (methylthio) gliotoxin, a new metabolite of *Gliocladium deliquescens*. *J. Chem. Soc. Perkin Trans. 1* **1(1)**, 119-121 (1980).
2. Okamoto, M., Yoshida, K., Uchida, I., *et al.* Studies of platelet activating factor (PAF) antagonists from microbial products. I. Bisdethiobis(methylthio)gliotoxin and its derivatives. *Chem. Pharm. Bull. (Tokyo)* **34(1)**, 340-344 (1986).
3. Rodrigues, B.S., Sahn, B.D., Jimenez, P.C., *et al.* Bioprospection of cytotoxic compounds in fungal strains recovered from sediments of the Brazilian coast. *Chem. Biodivers.* **12(3)**, 432-442 (2015).
4. Okamoto, M., Yoshida, K., Uchida, I., *et al.* Studies of platelet activating factor (PAF) antagonists from microbial products. II. Pharmacological studies of FR-49175 in animal models. *Chem. Pharm. Bull. (Tokyo)* **34(1)**, 345-348 (1986).
5. Domingo, M.P., Colmenarejo, C., Martínez-Lostao, L., *et al.* Bis(methyl)gliotoxin proves to be a more stable and reliable marker for invasive aspergillosis than gliotoxin and suitable for use in diagnosis. *Diagn. Microbiol. Infect. Dis.* **73(1)**, 57-64 (2012).

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.

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