

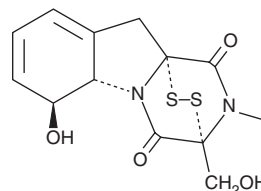
PRODUCT INFORMATION



Gliotoxin

Item No. 11433

CAS Registry No.: 67-99-2
Formal Name: 2,3R,5aS,6S-tetrahydro-6-hydroxy-3-(hydroxymethyl)-2-methyl-10H-3,10aR-epidithiopyrazino[1,2-a]indole-1,4-dione
Synonym: Aspergillin
MF: C₁₃H₁₄N₂O₄S₂
FW: 326.4
Purity: ≥98%
UV/Vis.: λ_{max}: 202, 269 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

Gliotoxin is supplied as a crystalline solid. A stock solution may be made by dissolving the gliotoxin in the solvent of choice. Gliotoxin is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of gliotoxin in these solvents is approximately 5 mg/ml.

Gliotoxin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, gliotoxin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Gliotoxin has a solubility of approximately 0.5 mg/ml in a 1:5 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Gliotoxin is an immunosuppressive mycotoxin produced by pathogenic strains of *Aspergillus* and other fungi with diverse biological activities.¹⁻⁸ It inhibits 20S proteasomal chymotrypsin activity (IC₅₀ = 10 μM), blocking the degradation of IκBα and preventing the activation of NF-κB.^{2,3} Gliotoxin induces apoptosis in monocytes and dendritic cells and reduces phagocytosis by neutrophils.^{4,5} It suppresses viral infection by Nipah and Hendra virus in HEK293T cells (IC₅₀s = 149 and 579 nM, respectively).⁶ Under reducing conditions, gliotoxin inhibits leukotriene A₄ hydrolase (LTA₄H; Item No. 10007817) epoxide hydrolase activity, but not aminopeptidase activity, and leukotriene B₄ (LTB₄; Item No. 20110) synthesis in neutrophils and monocytes.⁷ *In vivo*, gliotoxin (5 mg/kg) reduces LTB₄ plasma levels and blocks peritoneal neutrophil infiltration in a mouse model of peritonitis induced by zymosan A (Item No. 21175). It also inhibits geranylgeranyltransferase I and farnesyltransferase (IC₅₀s = 17 and 80 μM, respectively).⁸

References

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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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