

Gliotoxin- bane or boon?

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Abstract

Gliotoxin (GT) is the most important epidithiodioxopiperazine (ETP)-type fungal toxin. Gliotoxin was originally isolated from *Trichoderma* species as an antibiotic substance involved in biological control of plant pathogenic fungi. A few isolates of gliotoxin-producing *Trichoderma virens* are commercially marketed for biological control and widely used in agriculture. Furthermore, gliotoxin is long known as an immunosuppressive agent and also reported to have anti-tumor properties. However, recent publications suggest that gliotoxin is a virulence determinant of the human pathogen *Aspergillus fumigatus*. This compound is thus important on several counts - it has medicinal properties, is a pathogenicity determinant, is a potential diagnostic marker and is important in biological crop protection. The present article addresses this paradox and the ecological role of gliotoxin. We discuss the function of gliotoxin as defense molecule, the role in aspergillosis and suggest solutions for safe application of *Trichoderma*-based biofungicides.

Involved units

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Leibniz-HKI-Authors



Axel A. Brakhage

[Details](#)



Daniel H. Scharf

[Details](#)

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