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ProductInformation

Tentoxin
from *Alternaria tenuis*

Product Number **T 8019**
Storage Temperature 2-8 °C

Product Description

Molecular Formula: $C_{22}H_3N_4O_4$
Molecular Weight: 414.5
CAS Number: 28540-82-1
Melting Point: 168-172 °C[1]
λ_{max}: 285 nm (H_2O); 285 nm (95% ethanol)[1]
Extinction Coefficient: E^{mM} =
17.5 (285 nm, H_2O); 20.7 (282 nm, 95% ethanol)[1]
Synonym: cyclo-(L-MeAla[1]-L-Leu[2]-MePhe[(Z)Δ][3]-Gly[4;]TTX

Tentoxin is a naturally occurring phytotoxic cyclic tetrapeptide that is excreted by the fungi *Alternaria alternata* and *Alternaria tenuis*. It induces chlorosis in germinating seedlings of many dicotyledonous plants.[1,2] Tentoxin has been postulated to inhibit cyclic photophosphorylation by acting as an energy transfer inhibitor at the terminal steps of ATP synthesis and to target the F_1 moiety of photosynthetic H^+-ATPases.[3,4] A kinetic analysis of the action of tentoxin on the chloroplast F_1 H^+-ATPase (CF_1) portion of chloroplast ATP synthase has been reported.[5]

The biosynthesis of tentoxin in *Alternaria alternata* has been studied.[6] Several *in vitro* syntheses of tentoxin have been published.[7,8] The metabolism of tentoxin by rat liver microsomes and by human P-450 isozymes expressed in yeast has been probed.[9] Several NMR studies have investigated the structure of tentoxin.[1,10]

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in ethanol (10 mg/ml), with heat as needed, yielding a clear, colorless solution.

References

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7. Loiseau, N., et al., High yield synthesis of tentoxin, a cyclic tetrapeptide. J. Pept. Sci., **8(7)**, 335-346 (2002).
8. Jimenez, J. C., et al., Tentoxin as a scaffold for drug discovery. Total solid-phase synthesis of tentoxin and a library of analogues. Org. Lett., **5(12)**, 2115-2118 (2003).
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