Tentoxin from *Alternaria tenuis*

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

**Product Description**
- Molecular Formula: C_{22}H_{3}N_{4}O_{4}
- Molecular Weight: 414.5
- CAS Number: 28540-82-1
- Melting Point: 168-172 °C
- λ_{max}: 285 nm (H_{2}O); 285 nm (95% ethanol)
- Extinction Coefficient: E_{mm} = 17.5 (285 nm, H_{2}O); 20.7 (282 nm, 95% ethanol)
- Synonym: cyclo-(L-MeAla<sub>1</sub>-L-Leu<sub>2</sub>-MePhe[(Z)\Delta<sub>3</sub>]-Gly<sub>4</sub>; 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.\textsuperscript{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<sub>1</sub> moiety of photosynthetic H<sup>+</sup>-ATPases.\textsuperscript{3,4} A kinetic analysis of the action of tentoxin on the chloroplast F<sub>1</sub> H<sup>+</sup>-ATPase (CF<sub>1</sub>) portion of chloroplast ATP synthase has been reported.\textsuperscript{5}

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