

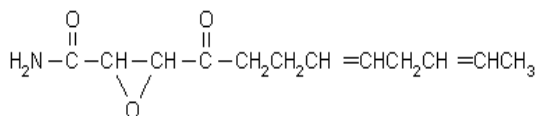
Product Information

Cerulenin from *Cephalosporium caerulens*

Product Number **C 2389**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

CAS RN: 17397-89-6

Synonym: (2R,3S,E,E)-2,3-Epoxy-4-oxo-7,10-dodecadienamide



Molecular Formula: C₁₂H₁₇NO₃
Molecular Weight: 223.27

Product Description

Cerulenin, a fungal metabolite, is an antifungal antibiotic, having strong inhibitory activity against *Candida albicans* and *Saccharomyces sp.* (MIC of approximately 0.8-1.5 $\mu\text{g/ml}$) and other fungi.^{1,2} Cerulenin also inhibits the growth of mycobacteria (except *Mycobacterium tuberculosis*), *Nocardia*, and *Streptomyces sp.*¹

It has been shown to be an inhibitor of different types of fatty acid synthetases, preventing yeast-type fungal growth by inhibiting the biosynthesis of sterols and fatty acids.^{1,3-5}

Cerulenin also induces apoptosis in tumor cell lines^{6,7} and it was shown to suppress Mayaro virus replication in *Aedes albopictus* cells at non-cytotoxic doses.⁸

Cerulenin can be a useful biochemical tool with applications for the study of metabolism and function of fatty acids in the bacterial cell membrane and in yeast. An extensive review including the properties, uses, mechanism of action and structure has been reported.¹

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

The product is soluble in acetone (20 mg/ml). It is also soluble in ethanol, benzene, chloroform, ethyl acetate, and is not soluble in petrol ether.²

Storage/Stability

Store at $-20\text{ }^{\circ}\text{C}$. Cerulenin is air and light sensitive.

Solutions of cerulenin are stable at 100 $^{\circ}\text{C}$ for 1 hour at pH 2-7 (at least 50% of the activity remained), but complete loss of activity is seen at pH 9 after only 10 minutes at 100 $^{\circ}\text{C}$. Solutions in methanol are not very stable. While approximately 100% of the activity remained after heating aqueous solutions for 30 minutes at 37 $^{\circ}\text{C}$, there was only 37% activity remaining under the same conditions for methanolic solutions.²

References

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NDH/PHC 12/04

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