

Product Name:	Cerulenin
Product Number:	C151
CAS Number:	17397-89-6
Molecular Formula:	$C_{12}H_{17}NO_3$
Molecular Weight:	223.3
Appearance:	Off-white powder
Storage Conditions:	-20°C
Description:	<p>Cerulenin is an epoxy fatty acid amide isolated from the fungus <i>Cephalosporium caerulens</i> identified as an antifungal in the 1960s. Over the past 40 years, cerulenin has found broad application in lipid biochemistry as an inhibitor fatty acid and sterol biosynthesis.</p> <p>Cerulenin is soluble in ethanol, methanol, DMF and DMSO.</p>
Mechanism of Action:	<p>Cerulenin binds to β-keto-acyl-ACP synthase blocking the interaction of malonyl CoA. Cerulenin also an inhibits bacterial fatty acid synthesis, acting on the FabH, FabB and FabF condensation enzymes. Cerulenin stimulates fatty acid oxidation and inhibits HMG-CoA synthetase activity.</p>
References:	<p>Studies on cerulenin, III. Isolation and physico-chemical properties of cerulenin. Sano Y. et al. , J. Antibiot. 1967, 200, 344.</p> <p>Preparation of ^{13}C and 3H-labelled cerulenin and biosynthesis with ^{13}C NMR. Awaya J., J. Antibiot. 1975, 28, 824.</p> <p>The antibiotic cerulenin, a novel tool for biochemistry as an inhibitor of fatty acid synthesis. Omura S., Bact. Rev. 1976, 40, 681.</p> <p>Inhibition of the phosphatidylinositol 3-kinase/Akt pathway sensitizes MDA-MB468 human breast cancer cells to cerulenin-induced apoptosis. Liu X. et al. , Mol Cancer Ther. 2006, 5, 494.</p>