



## Product Information

Product ID C3208

CAS No. 41621-49-2

Chemical Name

Synonym

Formula  $C_{12}H_{17}NO_2 \cdot C_2H_7NO$

Formula Wt. 268.36

Melting Point 143°C

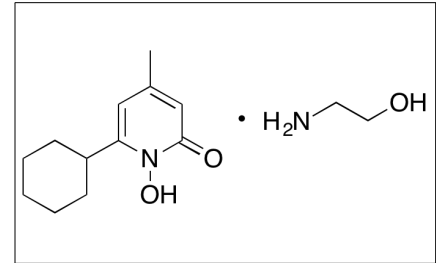
Purity ≥98%

Solubility DMSO (<1 mg/mL), Water (<1 mg/mL), Ethanol (50 mg/mL), Ethanol/Water 1:1 (100 mg/mL), Ethanol/Water 2:1 (200 mg/mL)

Store Temp Ambient

Ship Temp Ambient

**Description** Ciclopirox is a hydroxypyridone compound that exhibits antifungal, anti-inflammatory, anti-angiogenic, and anticancer chemotherapeutic activities. This compound acts as a metal ion chelator, preventing peroxide degradation. Ciclopirox modulates generation of ROS in a PKA/Ras1/Ras2-dependent manner, inducing DNA damage and cell death in *Candida* and *Saccharomyces*. Ciclopirox also inhibits mTOR, enhancing anticancer activity of other compounds. In breast cancer, colon adenocarcinoma, and rhabdomyosarcoma cells, this compound downregulates expression of cyclins A, B1, D1, and E, suppresses CDK2 and CDK4, and upregulates expression of p21, inducing G0/G1 phase cell cycle arrest and caspase-mediated apoptosis. In animal models, ciclopirox inhibits tumor growth of breast cancer xenografts. Additionally, ciclopirox inhibits expression of VEGFR3, preventing activation of ERK1/2 and tube formation in vitro.



**Bulk quantities available upon request**

Product ID	Size
C3208	1 g
C3208	5 g

**References** Sen S, Hassane DC, Corbett C, et al. Novel mTOR inhibitory activity of ciclopirox enhances parthenolide antileukemia activity. *Exp Hematol*. 2013 Sep;41(9):799-807.e4. PMID: 23660068.

Belenky P, Camacho D, Collins JJ. Fungicidal drugs induce a common oxidative-damage cellular death pathway. *Cell Rep*. 2013 Feb 21;3(2):350-8. PMID: 23416050.

Luo Y, Zhou H, Liu L, et al. The fungicide ciclopirox inhibits lymphatic endothelial cell tube formation by suppressing VEGFR-3-mediated ERK signaling pathway. *Oncogene*. 2011 May 5;30(18):2098-107. PMID: 21217783.

Subissi A, Monti D, Togni G, et al. Ciclopirox: recent nonclinical and clinical data relevant to its use as a topical antimycotic agent. *Drugs*. 2010 Nov 12;70(16):2133-52. PMID: 20964457.

Zhou H, Shen T, Luo Y, et al. The antitumor activity of the fungicide ciclopirox. *Int J Cancer*. 2010 Nov 15;127(10):2467-77. PMID: 20225320.

**Caution:** This product is intended for laboratory and research use only. It is not for human or drug use.