



LKT Laboratories, Inc.

Penicillic Acid

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Product Information

Product ID P1854

CAS No. 90-65-3

Chemical Name

Synonym

Formula $C_8H_{10}O_4$

Formula Wt. 170.16

Melting Point 83-87°C

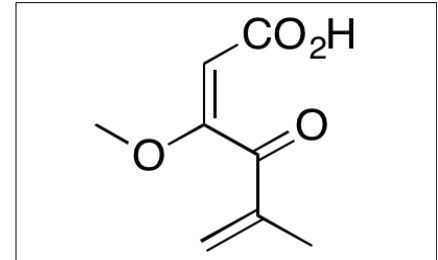
Purity $\geq 98\%$

Solubility Water, Ethanol,
Dichloromethane.

Store Temp 4°C

Ship Temp Ambient

Description Penicillic acid is a neuroactive mycotoxin initially produced by species of *Penicillium* and *Aspergillus*. In vitro and in vivo, penicillic acid inhibits Ca^{2+} -sensitive (BK) K^+ channels as well as Na^+ , K^+ , and Ca^{2+} channels in cardiac tissue. Penicillic acid exhibits antifungal and anti-apoptotic activities. In vitro, penicillic acid increases expression of histone demethylase JMJD-3 and decreases expression of histone deacetylase 3 (HDAC3), inhibiting proliferation of macrophages. Penicillic acid inhibits FasL-induced apoptosis, preventing activation of caspases 3 and 9 through inhibition of upstream signaling and also preventing activation of caspase 8 through direct inhibition. Additionally, this compound induces abnormal branching and swelling in species of *Phytophthora*.



Bulk quantities available upon request

Product ID	Size
P1854	5 mg
P1854	10 mg
P1854	50 mg

References Oh SY, Balch CG, Cliff RL, et al. Exposure to Penicillium mycotoxins alters gene expression of enzymes involved in the epigenetic regulation of bovine macrophages (BoMacs). *Mycotoxin Res.* 2013 Nov;29(4):235-43. PMID: 23893597.

Kang SW, Kim SW. New antifungal activity of penicillic acid against *Phytophthora* species. *Biotechnol Lett.* 2004 May;26(9):695-8. PMID: 15195966.

Bando M, Hasegawa M, Tsuboi Y, et al. The mycotoxin penicillic acid inhibits Fas ligand-induced apoptosis by blocking self-processing of caspase-8 in death-inducing signaling complex. *J Biol Chem.* 2003 Feb 21;278(8):5786-93. PMID: 12482880.

Pandiyan V, Nayeem M, Nanjappan K, et al. Penicillic acid as Na^+ , K^+ and Ca^{2+} channel blocker in isolated frog's heart at toxic levels. *Indian J Exp Biol.* 1990 Mar;28(3):295-6. PMID: 2163978.

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