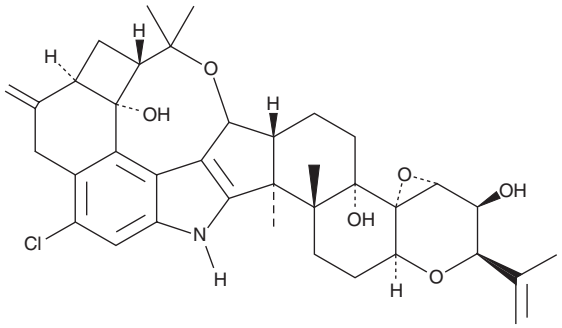
# PRODUCT INFORMATION

## Penitrem A

*Item No. 11347*

**CAS Registry No.:** 12627-35-9
**Formal Name:** (2R,3S,3aR,4aS,4bS,6aR,7S,7dR,8R,9aR, 14bS,14cR,16aS)-12-chloro-3,3a,6a,8,9,9a, 10,11,14,14b,14c,15,16,16a-tetradecahydro-14b,14c,17,17-tetramethyl-10-methylene-2-(1-methylethenyl)-7,8-(epoxymethano)-2H,6H-cyclobuta[5,6] benz[1,2-e]oxireno[4',4'a]-1-benzopyrano[5',6':6,7]indeno[1,2-b]indole-3,4b,7d(5H,7H)-triol
**Synonyms:** NSC 354845, Tremortin A
**MF:** $C_{37}H_{44}ClNO_6$
**FW:** 634.2
**Purity:** ≥95%
**UV/Vis.:** $\lambda_{max}$: 235, 302 nm
**Supplied as:** A crystalline solid
**Storage:** -20°C
**Stability:** ≥4 years
**Item Origin:** Fungus/*Penicillium palitans*




*Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.*

### Laboratory Procedures

Penitrem A is supplied as a crystalline solid. A stock solution may be made by dissolving the penitrem A in the solvent of choice, which should be purged with an inert gas. Penitrem A is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of penitrem A in ethanol is approximately 10 mg/ml and approximately 20 mg/ml in DMSO and DMF.

Penitrem A is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, penitrem A should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Penitrem A has a solubility of approximately 30 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Penitrem A is a tremorgenic fungal toxin that acts as an inhibitor of large-conductance calcium-activated potassium channels $K_{Ca}1.1$/BK, inhibiting the binding of charybdotoxin with an $IC_{50}$ value of 1.7 µM.[1] It is currently used to evaluate the role of $K_{Ca}1.1$-mediated potassium flux in various cell processes and responses.[2,3]

### References


1. Knaus, H.G., McManus, O.B., Lee, S.H., *et al.* Tremorgenic indole alkaloids potently inhibit smooth muscle high-conductance calcium-activated potassium channels. *Biochemistry* **33(19)**, 5819-5828 (1994).
2. Asano, S., Tune, J.D., and Dick, G.M. Bisphenol A activates Maxi-K ($K_{Ca}1.1$) channels in coronary smooth muscle. *Br. J. Pharmacol.* **160(1)**, 160-170 (2010).
3. Moldes-Anaya, A.S., Fonnum, F., Eriksen, G.S., *et al. In vitro* neuropharmacological evaluation of penitrem-induced tremorgenic syndromes: Importance of the GABAergic system. *Neurochem. Int.* **59(7)**, 1074-1081 (2011).





**CAYMAN CHEMICAL**
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
**PHONE:** [800] 364-9897
[734] 971-3335
**FAX:** [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM