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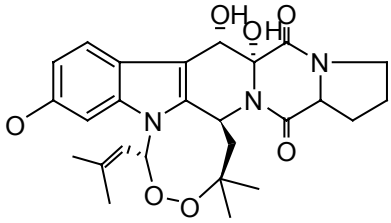
PRODUCT DATA SHEET

# Verruculogen

Code: **BIA-V1191**

Pack sizes: **1 mg, 5 mg**



Synonyms :

## Specifications

| | | |
|---|---|---|
| CAS # | : | **12771-72-1** |
| Molecular Formula | : | **$C_{27}H_{33}N_3O_7$** |
| Molecular Weight | : | **511.6** |
| Source | : | ***Aspergillus fumigatus* MST-FP1133** |
| Appearance | : | **White solid** |
| Purity | : | **>95%** |
| Long Term Storage | : | **-20°C** |
| Solubility | : | **Soluble in ethanol, methanol, DMF or DMSO. Limited water solubility** |

## Application Notes

Verruculogen is a tremorgenic mycotoxin first isolated from *Penicillium verruculosum* in 1972 and the structure resolved as an indole alkaloid in 1974. Subsequent investigations have shown that verruculogen is produced by several species of Penicillium and Aspergillus and its presence is a useful taxonomic phenotypic marker. The tremorgenic action of verruculogen is complex but is associated with increases in spontaneous glutamate and aspartate release, decreases in GABA levels and, at toxic doses, an increase in the number and decrease in the affinity of DHP receptors in rat cortex. In *in vitro* guinea pig ileum preparations, verruculogen causes an increase in contractile responses due to electrical field stimulation, attributed to enhancement of acetylcholine from presynaptic nerve terminals. Verruculogen also inhibits $Ca^{2+}$-activated $K^+$ channels and is a cell cycle inhibitor blocking division at the M phase.

## References


1. Tremorgenic toxin from *Penicillium veruculosum*. Cole R.J. et al., Appl. Microbiol. 1972, 24, 248.
2. The structure of verruculogen. A tremor producing epoxide from *Penicillium verruculosum*. Fayos J. et al., J. Am. Chem. Soc. 1974, 96, 6785.
3. Actions of tremorgenic fungal toxins on neurotransmitter release. Norris P.J. et al., J. Neurochem. 1980, 34, 33.
4. Tremorgenic indole alkaloids potently inhibit smooth muscle high-conductance calcium-activated potassium channels. Knaus H.H. et al., Biochemistry 1994, 33, 5819.
5. Novel mammalian cell cycle inhibitors, tryprostatins A, B and other diketopiperazines produced by *Aspergillus fumigatus*. II. Physico-chemical properties and structures. Cui C.B. et al., J. Antibiot. 1996, 49, 534.
6. *In vitro* effects of tremorgenic mycotoxins. Selala M.I. et al., J. Nat. Prod. 1991, 54, 207.



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