

Toosendanin Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Toosendanin

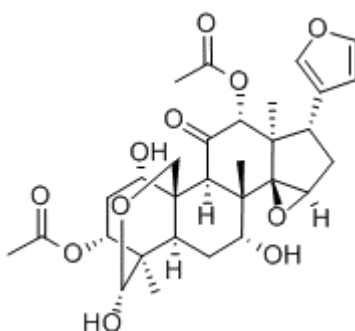
Catalog No.: CFN99908

Cas No.: 58812-37-6

Purity: ≥98%

M.F: C₃₀H₃₈O₁₁

M.W: 574.62



Physical Description: White powder

Synonyms: 24-Norchola-20,22-diene-4-carboxaldehyde, 3,12-bis(acetyloxy)-14,15:21,23-diepoxy-1,7,19-trihydroxy-4,8-dimethyl-11-oxo-, cyclic 4,19-hemiacetal, [C(R), 1 α , 3 α , 4 β , 5 α , 7 α , 12 α , 13 α , 14 β , 15 β , 17 α]-; Chuanliansu; 28-DeacetylSENDANIN; 12-AcetoxyMoorastatin.

[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Synthetic precursor compounds;
4. Intermediates & Fine Chemicals;
5. Agricultural research;
6. Others.

[Source]

The barks of *Melia toosendan Sieb. et Zucc.*

[Biological Activity or Inhibitors]

Toosendanin (TSN) is a triterpenoid extracted from *Melia toosendan Sieb et Zucc*, which was used as a digestive tract-parasiticide and agricultural insecticide in ancient China; TSN is a selective presynaptic blocker and an effective antitubulin agent, by interfering with neurotransmitter release through an initial facilitation followed by a subsequent depression, TSN eventually blocks synaptic transmission at both the neuro-muscular junction and central synapses, the antitubulin effect of TSN is achieved by preventing BoNT from approaching its enzymatic substrate, the SNARE protein; TSN also can induce differentiation and apoptosis in several cell lines, and suppress proliferation of various human cancer cells. ^[1]

Toosendanin has antifeedant and growth inhibitory effects, it can significantly deter feeding of 2nd- and 4th-instar larvae in diet choice and leaf disc choice bioassays, resp. ^[2]

Toosendanin can induce outgrowth of neuronal processes and apoptosis in PC12 cells. ^[3]

Toosendanin to be a novel L-type Ca²⁺ channel agonist, which possesses a distinct binding site from BayK8644. ^[4]

[Solvent]

Chloroform, Dichloromethane, Ethyl Acetate, DMSO, Acetone, etc.

[HPLC Method]^[5]

Mobile phase: Acetonitrile- H₂O=28:72;

Flow rate: 1.0 ml/min;

Column temperature: 35 °C;

The wave length of determination: 210 nm.

[Storage]

2-8°C, Protected from air and light, refrigerate or freeze.

[References]

- [1] Shi Y L, Li M F. *Prog. Neurobiol.*, 2007, 82(1):1-10.
- [2] Chen W, Isman M B, Chiu S F. *J. Appl. Entomol.*, 1995, 119(1-5):367-70.
- [3] Tang M Z, Wang Z F, Shi Y L. *Neurosci. Res.*, 2003, 45(2):225-31.
- [4] Li M F, Shi Y L. *Eur.J. Pharmacol.*, 2004, 501(1-3):71-8.
- [5] Li J Y , Shen L, Zhou N, *et al. Chinese Journal of Spectroscopy Laboratory*, 2013, 30(1):294-7.

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