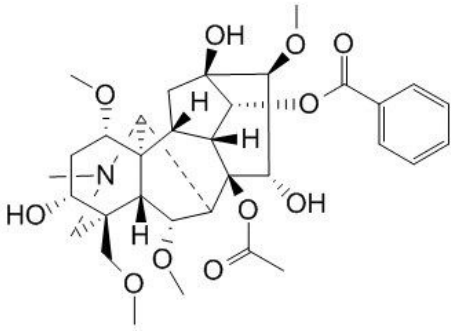
Natural Products

ChemFaces

Mesaconitine Datasheet

4th Edition (Revised in July, 2016)

[Product Information]



Name: Mesaconitine

Catalog No.: CFN99199

Cas No.: 2752-64-9

Purity: > 98%

M.F: $C_{33}H_{45}NO_{11}$

M.W: 631.71

Physical Description: Yellow powder

Synonyms:4-(Methoxymethyl)-20-methyl-1α,6α,16β-trimethoxyaconitane-3α,8,13,14α,15α-pentol 8-acetate 14-benzoate.

[Intended Use]

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

[Source]

The root of *Aconitum carmichaeli Debx*.

[Biological Activity or Inhibitors]

Mesaconitine increases the [Ca^{2+}]i level in endothelial cells by influx of Ca^{2+} from extracellular spaces, suggests that mesaconitine-induced Ca^{2+} influx and activation of nitric-oxide synthase in endothelial cells and, thus, induced vasorelaxation in rat aorta.[1]

Mesaconitine is highly toxic, can inhibit Efflux transporters, including P-glycoprotein (P-gp), breast cancer resistance protein (BCRP), and multidrug resistance-associated protein isoform 2 (MRP2).[2]

Mesaconitine has antinociceptive activity, has inhibition of stimulus-triggered and spontaneous epileptiform activity in rat hippocampal slices.[3,4]

Mesaconitine has antiinflammatory activity, can inhibit carrageenin-induced hind-paw edema in sham-operated mice as well as adrenalectomized mice, it do not affect the biosynthesis of the prostaglandins. [5]

[Solvent]

Chloroform, Dichloromethane, DMSO, Acetone.

[HPLC Method][6]

Mobile phase: Methanol- 10mM Ammonium bicarbonate(pH=9.8 ± 0.2),gradient elution;

Flow rate: 1.0 ml/min;

Column temperature: 30 ℃;

The wave length of determination: 240 nm.

[Storage]

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

[References]

[1] Mitamura M, Horie S, Sakaguchi M, *et al. Eur. J. Pharmacol., 2013, 436(3):217-25.*

[2] Ling Y, Yang X, Zhen Y, *et al. Toxicol. Lett., 2013, 216(2-3):86-99.*

[3] Suzuki Y, Oyama T, Ishige A, *et al. Planta Med., 1994, 60(5):391-4.*

[4] Ameri A. *Eur. J. Pharmacol., 1998, 342(2-3):183-91.*

[5] Hiroshi H, Hiroshi T, Mitsuo F, *et al. Eur. J. Pharmacol., 1982, 82(1-2):65-71.*

[6] Zhou J, Ling Y E, Tang L, *et al. China Journal of Traditional Chinese Medicine & Pharmacy, 2013, 38(10):1521-5.*

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