

Palmatine Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Palmatine

Catalog No.: CFN98459

Cas No.: 3486-67-7

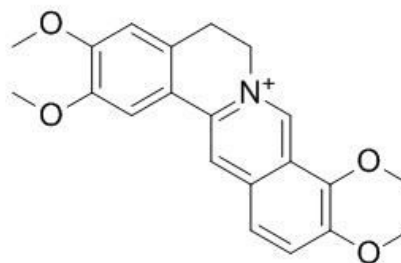
Purity: > 98%

M.F: C₂₁H₂₂NO₄

M.W: 352.4

Physical Description: White powder

Synonyms: 7,8,13,13a-Tetrahydro-2,3,9,10-tetramethoxyberbinium berbericine.



[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Food research;
4. Cosmetic research;
5. Synthetic precursor compounds;
6. Intermediates & Fine Chemicals;
7. Ingredient in supplements, beverages;
8. Others.

[Source]

The rhizomes of *Coptis chinensis* Franch.

[Biological Activity or Inhibitors]

Palmatine, a protoberberine alkaloid, is present in preparations from medicinal plants such as *Coptis chinensis* and *Corydalis yanhusuo*, palmatine activates the AhR-CYP1A pathway in HepG2 monolayer, while the potential for CYP1A induction is irrelevant in cell systems which are closer to the in vivo situation, i.e. in HepG2 spheroids and primary cultures of human hepatocytes. ^[1]

Palmatine exerts protective effect on hepatocytes, the inhibitory effects on I(K) and I(CRAC) could be one of the mechanisms.^[2]

The alkaloids berberine, palmatine and sanguinarine are toxic to insects and vertebrates and inhibit the multiplication of bacteria, fungi and viruses; berberine and palmatine were most active at the alpha 2-receptor (binding with IC₅₀ 476 and 956 nM, respectively). ^[3]

Palmatine at a low concentration (50 µg/mL) begins to inhibit the growth of *T. thermophila* BF5, and when the concentration of palmatine reached 600 µg/mL, *T. thermophila* BF5 could not grow at all, shows the strong toxic action of palmatine on *T. thermophila* BF5 growth. ^[4]

[Solvent]

Pyridine, DMSO, Ethanol, Methanol and Hot water.

[HPLC Method]^[5]

Mobile phase: Acetonitrile- Phosphate buffer (pH 3.0) =40:60 ;

Flow rate: 1.0 ml/min;

Column temperature: 40 °C;

The wave length of determination: 345 nm.

[Storage]

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

[References]

- [1] Vrba J, Havlikova M, Gerhardova D, *et al.* *Toxicol.In Vitro*, 2014, 28(4):693-9.
- [2] Fang W, Zhou H Y, Lan C, *et al.* *World J. Gastroentero.*, 2003, 9(2):329-33.
- [3] Schmeller T, Latz-Brüning B, Wink M. *Phytochemistry*, 1997, 44(2):257-66.
- [4] Kong W J, Zhao Y L, Xiao X H, *et al.* *J. Hazard Mater*, 2009, 168(168):609-13.
- [5] Huang J, Weng W, Cao D, *et al.* *Chromatographia*, 2005, 62(62):471-4.

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