

Theobromine Datasheet

5th Edition (Revised in January, 2017)

[Product Information]

Name: Theobromine

Catalog No.: CFN99737

Cas No.: 83-67-0

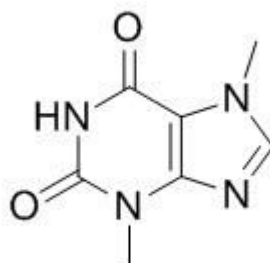
Purity: >=99%

M.F: C₇H₈N₄O₂

M.W: 180.16

Physical Description: Powder

Synonyms: 3,7-Dimethyl-3,7-dihydro-1H-purine-2,6-dione;



[Intended Use]

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

[Source]

The fruits of *Theobroma cacao* L.

[Biological Activity or Inhibitors]

Theobromine and theophylline occur in plants used in the preparation of a number of widely consumed drinks, chromosome abnormalities are caused by both theobromine and theophylline in plant cells and in mammalian cells in culture, and both have anti-mitotic activity.^[1]

Theobromine is a novel and promising treatment, which may form the basis for a new class of antitussive drugs, it can suppress capsaicin-induced cough with no adverse effects, it also can directly inhibit capsaicin-induced sensory nerve depolarization of guinea-pig and human vagus nerve suggestive of an inhibitory effect on afferent nerve activation.^[2]

Theobromine, caffeine, and xanthine have a quenching effect on the production of hydroxyl radicals, as well as on oxidative DNA breakage by hydroxyl radicals, they have antioxidants and also capable of prooxidant action. ^[3]

[Solvent]

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

[HPLC Method]^[4]

Mobile phase: Methanol -H₂O=20:80 ;

Flow rate: 1.4 ml/min;

Column temperature: 30 °C;

The wave length of determination: 274 nm.

[Storage]

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

[References]

[1] Timson J. *Mut. Res.*, 1975, 32(2):169-78.

[2] Usmani O S, Belvisi M G, Patel H J, *et al. FASEB J.* ,2005 ,19(2):231-3.

[3] Azam S, Hadi N, Khan N U, *et al. Med. Sci. Monit.*, 2003,9(9):325-30.

[4] Brunetto M D R, Gutiérrez L, Delgado Y, *et al. Food Chem.*, 2007, 100(2):459-67.

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