



trans-caryophyllene Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: trans-caryophyllene

Catalog No.: CFN90502

Cas No.: 87-44-5

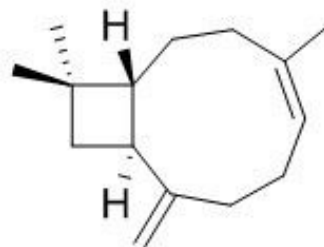
Purity: > 98%

M.F: C₁₅H₂₄

M.W: 204.36

Physical Description: Powder

Synonyms: (1R,4E,9S)-4,11,11-trimethyl-8-methylenebicyclo[7.2.0]undec-4-ene.



[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Food research;
4. Synthetic precursor compounds;
5. Care and daily chemicals;
6. Intermediates & Fine Chemicals;
7. Others.

[Source]

The leaves of *Cinnamomum cassia Presl*.

[Biological Activity or Inhibitors]

Trans-caryophyllene (TC), a component of essential oil found in many flowering plants, has shown its neuroprotective effects in various neurological disorders, TC has effect on kainic acid-induced seizure activity caused by oxidative stress and pro-inflammation, and significantly inhibits KA-induced generation of malondialdehyde, TC exerts cerebral anti-inflammatory effects by mitigating the expression of proinflammatory cytokines, such as TNF- α and IL-1 β ; suggests that TC has a potential protective effect on chemical induced seizure and brain damage.^[1]

Trans-caryophyllene and alpha-humulene from *Salvia officinalis* have cytotoxic activity in animal and human tumor cells.^[2]

Trans-caryophyllene has anti-spasmodic activity on rat tracheal smooth muscle which could be explained, at least in part, by the voltage-dependent Ca² channels blockade.^[3]

Trans-caryophyllene can reduce both acute and chronic pain in mice, which may be mediated through the opioid and endocannabinoid systems.^[4]

Trans-caryophyllene possesses anti-inflammatory and analgesic properties, has the prevention of leukopenia in an experimental chemotherapy model in Wistar rats, exerts anti-inflammatory effects in TNF- α -stimulated chondrocyte models.^[5,6]

[Solvent]

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

[HPLC Method]^[7]

HPTLC:

Pre-coated silica gel 60F-254 plates: 10 × 10 cm² ;

Solvent : Toluene–Ethyl acetate = 9 : 3;

The wave length of determination: 260 nm.

[Storage]

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

[References]

- [1] Liu H, Song Z, Liao D, *et al. Neurochem. Res.*, 2015, 40(1):118-23.
- [2] Hadri A E, Rio M A G D, Sanz J, *et al. An Real. Acad .F*, 2010, 76(3):343-56.
- [3] Pinho-Da-Silva L, Mendes-Maia P V, Teófilo T M, *et al. Molecules*, 2012, 17(10): 11965-77.
- [4] Paula-Freire L I G, Andersen M L, Gama V S, *et al. Phytomed. Int. J. Phytother. Phytopharmacol.*, 2013, 21(3):356-62.
- [5] Campos M I, Campos C N, Aarestrup F M. *Mol. Clin. Oncol.*, 2015, 3(4):825-8.
- [6] Campos M I C, Vieira W D A, Aarestrup F M, *et al. Int. J. Mol. Med.*, 2014, 34:S31.
- [7] Patra K C, Singh B, Pareta S, *et al. Nat.Prod. Res.*, 2010, 24(20):1933-8.

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