Natural Products

ChemFaces

Borneol Datasheet

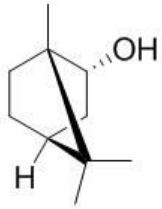
4th Edition (Revised in July, 2016)

[Product Information]

Name: Borneol

Catalog No.: CFN98116

Cas No.: 507-70-0



Purity: >=98%

M.F: $C_{10}H_{18}O$

M.W: 154.25

Physical Description: Oil

Synonyms: 1,7,7-Trimethyl-bicyclo(2.2.1)heptan-2-ol, endo-;2-endo-Borneol; 1,7,7-Trimethyl-endo-Bicyclo[2.2.1]heptan-2-ol;2-endo-Bornylalcohol; 2-Hydroxy-camphan.

[Intended Use]

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

[Source]

The branch of *Cinnamomum camphora (L) presl.*

[Biological Activity or Inhibitors]

(+)-Borneol is a bicyclic monoterpene used for analgesia and anaesthesia in traditional Chinese and Japanese medicine, it and its enantiomer (-)-borneol have a highly efficacious positive modulating action at GABA(A) receptors at human recombinant alpha1beta2gamma2L GABA(A) receptors.[1]

Borneol can depress P-glycoprotein function by a NF-κB signaling mediated mechanism in a blood brain barrier in vitro model.[2]

Borneol specifically inhibits the nicotinic acetylcholine receptor (nAChR)-mediated effects in a noncompetitive way, the inhibitory effect by borneol is more potent than the effect by lidocaine, a commonly used local anesthetic. [3]

Borneol can easily penetrate the blood-brain barrier (BBB) and helps the absorption of many agents through BBB in the brain; borneol can reverse OGD/R-induced neuronal injury, nuclear condensation, intracellular reactive oxygen species (ROS) generation, and mitochondrial membrane potential dissipation, suggests that it has neuroprotection through the inhibition of IκBα-NF-κB and translocation signaling pathway.[4]

Borneol is able to significantly suppress proinflammatory cytokine mRNA expression in colonic inflammation.[5]

[Solvent]

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

[HPLC Method][6]

Mobile phase: 0.1% Formic acid in water- Methanol,gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: 30 ℃;

The wave length of determination: 300 nm.

[Storage]

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

[References]

[1]Granger R E, Campbell E L, Johnston G A. *Biochem. Pharmacol., 2005, 69(7):1101-11.*

[2] Xiang F, Chai L, Han Z, *et al. Int. J. Mol. Sci., 2015, 16(11):27576-88.*

[3] Park T J, Park Y S, Lee T G, *et al. Biochem. Pharmacol., 2003, 65(1):83-90.*

[4] Liu R, Zhang L, Lan X, *et al. Neuroscience, 2011, 176:408-19.*

[5] Juhás S, Cikos S, Czikková S, *et al. Folia Biologica, 2008, 54(1):1-7.*

[6] Liu M T, Fang J, Tang L Y, *et al. Chinese Journal of Pharmacovigilance, 2016,13(1):94-7.*

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