Natural Products

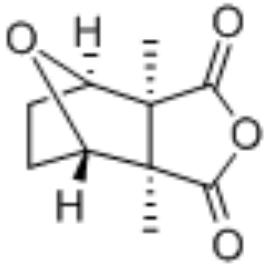
ChemFaces

Cantharidin Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Cantharidin



Catalog No.: CFN99790

Cas No.: 56-25-7

Purity: >=98%

M.F: $C_{10}H_{12}O_4$

M.W: 196.20

Physical Description: Powder

Synonyms: Dimethyl-3,6-epoxyperhydrophthalic anhydride; (1R,2S,3R,6S)-1,2-Dimethyl-3,6-epoxycyclohexane-1,2-dicarboxylic anhydride; 3a,7a-dimethylhexahydro-4,7-epoxy-2-benzofuran-1,3-dione;(3aR,4S,7R,7aS)-3a,7a-dimethylhexahydro-4,7-epoxy-2-benzofuran-1,3-dione;(3aR,4R,7S,7aR)-3a,7a-dimethylhexahydro-4,7-epoxy-2-benzofuran-1,3-dione; (3aR,7aS)-3a,7a-dimethylhexahydro-4,7-epoxy-2-benzofuran-1,3-dione.

[Intended Use]

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

[Source]

The polypides of *Mylabris phalerata Pallas.*

[Biological Activity or Inhibitors]

Cantharidin, a natural toxicant of blister beetles, is a strong inhibitor of protein phosphatases types 1 (PP1) and 2A (PP2A), it is economical and readily available, may be useful as an additional probe for studying the functions of serine/threonine protein phosphatases.[1]

Cantharidin has anti-tumor activity, it induces apoptosis by a p53-dependent mechanism in leukemia cells, it also causes both DNA single- and double-strand breaks, suggests that cantharidin treatment causes oxidative stress that provokes DNA damage and p53-dependent apoptosis.[2]

Cantharidin is a novel and potent multidrug resistance (MDR) reversal agent and may be a potential adjunctive agent for tumor chemotherapy. [3]

[Solvent]

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

[HPLC Method][4]

Mobile phase: Methanol- H2O=30:70 ;

Flow rate: 1.0 ml/min;

Column temperature: 35 ℃;

The wave length of determination: 230 nm.

[Storage]

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

[References]

[1] Honkanen R E. *Febs Lett., 1993, 330(3):283–6.*

[2] Efferth T, Rauh R, Kahl S, *et al. Biochem. Pharmacol., 2005, 69(5):811-8.*

[3] Zheng L H, Bao Y L, Wu Y, *et al. Cancer Lett., 2008, 272(1):102-9.*

[4] Liu Y F, Zhao L N, Zhang Z L.*Chinese Archives of Traditional Chinese Medicine, 2010(3):487-8.*

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