Natural Products

ChemFaces

Bufotaline Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Bufotaline

Catalog No.: CFN98545

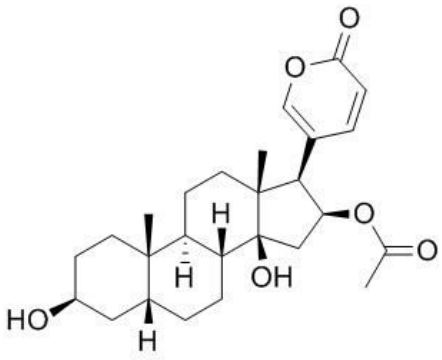
Cas No.: 471-95-4

Purity: > 98%

M.F: $C_{26}H_{36}O_6$

M.W: 444.56

Physical Description: Powder



Synonyms:

16-Acetoxy-3,14-dihydroxy-5-bufa-20,22-dienolide; (3β,5β,16β)-; 5β-Bufa-20,22-dienolide

[Intended Use]

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

[Source]

The parotoid glands of *Bufo formosus.*

[Biological Activity or Inhibitors]

Bufotalin is one of the bufadienolides isolated from Formosan Ch'an Su, which is made of the skin and parotid glands of toads, bufotalin can induce apoptosis in Hep 3B cells, and caspase-8 inhibitor (Z-IETD) or wide-ranging caspase inhibitor (Z-VAD) significantly suppresses the bufotalin-induced apoptosis, while the anti-Fas neutralization antibody has no effect; suggests that bufotalin-induced apoptosis in Hep 3B cells might involve caspases and AIF.[1]

Bufotalin significantly inhibits the growth of xenografted R-HepG2 cells, without body weight loss or marked toxicity towards the spleen, indicates that bufotalin has a promising potential to become a novel anti-cancer agent for the treatment of liver cancer with multidrug resistance.[2]

Bufotalin promotes death receptor-mediated cell death, especially TRAIL-induced apoptosis, through activation of caspase-3 and PARP-1;cotreatment of bufotalin with TRAIL resulted in the downregulation of anti-apoptotic proteins, including Bcl-XL, Mcl-1, survivin and XIAP, and the up-regulation of MAPKs and TRAIL receptor DR5; demonstrates that bufotalin is a powerful sensitizer of death receptor-induced apoptosis in cancer cells.[3]

[Solvent]

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

[HPLC Method][4]

Mobile phase: Acetonitrile- 0.3% Aqueous acetic acid, gradient elution;

Flow rate: 0.8 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 296 nm.

[Storage]

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

[References]

[1] Su C L, Lin T Y, Lin C N, *et al. J. Agr. Food Chem., 2009, 57(1):55-61.*

[2] Zhang D M, Liu J S, Tang M K, *et al. Eur. J. Pharmacol., 2012, 692(1-3):19-28.*

[3] Waiwut P, Inujima A, Inoue H, *et al. Int. J. Oncol., 2011, 40(1):203-8.*

[4] Ma X C, Zhang B J, Xin X L, *et al. Nat. Prod. Commun., 2009, 4(4):179-84.*

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