Natural Products

ChemFaces

Arenobufagin Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Arenobufagin

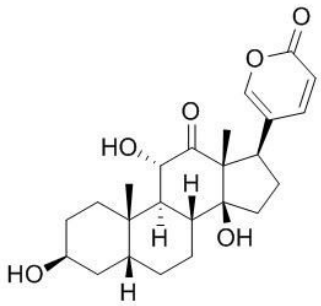
Catalog No.: CFN98578

Cas No.: 464-74-4

Purity: >=98%

M.F: $C_{24}H_{32}O_6$

M.W: 416.51



Physical Description: Powder

Synonyms: 3β,11α,14-Trihydroxy-12-oxo-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 glandular body of *Bufo bufo gargarizans Cantor.*

[Biological Activity or Inhibitors]

Arenobufagin, a bufadienolide from toad venom, had potent antineoplastic activity against

hepatocellular carcinoma (HCC) HepG2 cells as well as corresponding multidrug-resistant HepG2/ADM cells; the underlying antineoplastic mechanisms of arenobufagin that involve cross talk between apoptosis and autophagy via inhibition of the PI3K/Akt/mTOR pathway, this finding may provide a rationale for future clinical application using arenobufagin as a chemotherapeutic agent for HCC.[1]

Arenobufagin is a specific inhibitor of vascular endothelial growth factor (VEGF)-mediated angiogenesis, it can inhibit VEGF-induced viability, migration, invasion and tube formation in human umbilical vein endothelial cells (HUVECs) in vitro, also can suppress sprouting formation from VEGF-treated aortic rings in an ex vivo model, block angiogenesis in a matrigel plugs assay.[2]

Arenobufagin is a potent Na + /K + pump inhibitor, has depressive effects on the delayed rectifier K + current of guinea-pig cardiac myocytes. [3]

[Solvent]

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

[HPLC Method][4]

Mobile phase: Acetonitrile- 0.1% Acetic acid-0.5% KH2PO4 aqueous solution (adjusted to pH 2.4 with H3PO4),gradient elution ;

Flow rate: 0.8 ml/min;

Column temperature: 30 ℃;

The wave length of determination: 299 nm.

[Storage]

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

[References]

[1] Zhang D M, Liu J S, Deng L J, *et al. Carcinogenesis, 2013, 34(6):1331-42.*

[2] Li M, Wu S, Liu Z, *et al. Biochem. Pharmacol., 2012, 83(9):1251-60.*

[3] Cruz J D S, Matsuda H. *Eur.J. Pharmacol., 1994, 266(3):317-25.*

[4] Wang SW, Duan LR, Cao W, *et al. Pharm. Anal. Acta. 2015, 6(3):345-51.*

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