

Pseudolaric Acid B Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Pseudolaric Acid B

Catalog No.: CFN99527

Cas No.: 82508-31-4

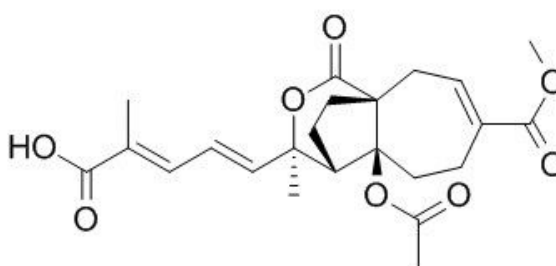
Purity: > 98%

M.F: C₂₃H₂₈O₈

M.W: 432.46

Physical Description: White cryst.

Synonyms:



[Intended Use]

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

[Source]

The bark of *Pseudolarix kaempferi* Gordon.

[Biological Activity or Inhibitors]

Pseudolaric acid B (PAB) is the major bioactive constituent in the root bark of *Pseudolarix kaempferi* that has been used as an antifungal remedy in traditional Chinese medicine; PAB exhibits substantial cytotoxicity, PAB circumvents P-glycoprotein overexpression -induced drug resistance and is effective in inhibiting tumor growth in vivo.^[1]

Pseudolaric acid B can dramatically suppress the AGS cell growth by inducing apoptosis after G2/M phase arrest, the G2/M phase arrest is mediated by the down-regulation of cdc2 levels, suggests that pseudolaric acid B can trigger apoptosis by decreasing Bcl-2 levels and activating caspase-3 protease.^[2]

Pseudolaric acid B promotes apoptosis in several cancer cell lines, it is able to enhance the apoptosis of U937 cells, at least in part, through the activation of the mitochondrial death pathway, and the activation of caspase3 and -9 mediated the apoptotic induction.^[3]

Pseudolaric acid B significantly inhibits nuclear translocation of NF- κ B p65 and phosphorylation and degradation of I κ B- α evoked by co-stimulation of PMA plus ionomycin, it could also suppress the phosphorylation of p38 in the MAPKs pathway; suggests that PAB suppresses T lymphocyte activation through inhibition of NF- κ B and p38 signaling pathways, this would make PAB a strong candidate for further study as an anti-inflammatory agent.^[4]

Pseudolaric acid B displays the dual antiangiogenic activities of directly inhibiting endothelial cells and abrogating paracrine stimulation of VEGF from tumor cells due to reducing HIF-1 α protein by promoting its proteasome-mediated degradation in MDA-MB-468 cells, which has potential clinical relevance.^[5]

Pseudolaric acid B inhibits cell proliferation and induces apoptosis in HeLa cells, and that the anti-tumor effects of PAB are associated with inhibition of the Akt pathway, suggests that PAB may represent a novel therapeutic strategy for the treatment of human cervical cancer. ^[6]

[Solvent]

Pyridine, DMSO, Methanol, Acetone, etc.

[HPLC Method]^[7]

Mobile phase: Methanol : 1% Acetic acid H₂O=65:35;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 322 nm.

[Storage]

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

[References]

[1] Wong V K W, Chiu P, Chung S S M, *et al. Clin. Cancer Res.*, 2005, 11(16):6002-11.

[2] Li K S, Gu X F, Li P, *et al. World J. Gastroentero.*, 2006, 11(48):7555-9.

[3] Wang J H, Kan L, Shu L H, *et al. Mol. Med. Rep.*, 2013, 8(3):787-93.

[4] Li T, Wong V K W, Xiao Q Y, *et al. J. Cell Biochem.*, 2009, 108(1):87–95.

[5] Li M H, Miao Z H, Tan W F, *et al. Clinical Cancer Research An Official Journal of the American Association for Cancer Research*, 2004, 10(24):8266-74.

[6] Li M, Hong L. *Mol. Med. Rep.*, 2015, 12(2):2021-6.

[7] Li W, Shi J, He F. *China Pharmacist*, 2011, 14(6):811-2.

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