[Product Information]

Name: Polyphyllin D

Catalog No.: CFN90255

Cas No.: 50773-41-6

Purity: > 98%

M.F: $C_{44}H_{70}O_{16}$

M.W: 855.02

Physical Description: Yellow powder

Synonyms: 1,3,6-Trihydroxy-7-methoxy-2,8-bis(3-methylbut-2-enyl)-9-xanthenone.

[Intended Use]

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

[Source]

The roots of Polygonatum polyphylla.

[Biological Activity or Inhibitors]
Polyphyllin D(PD), isolated from a traditional medicinal herb Paris polyphylla, it is a potent anticancer agent, it can overcome drug resistance in R-HepG2 cells and elicit programmed cell death via mitochondrial dysfunction; it induces apoptosis in human erythrocytes through Ca 2+ rise and membrane permeabilization.[1,2]

Polyphyllin D induces the cytotoxic effect through a mechanism initiated by ER stress followed by mitochondrial apoptotic pathway, the ability of activating two major pathways of apoptosis makes PD an attractive drug lead for anticancer therapeutics.[3]

Polyphyllin D elicits apoptosis through mitochondria dysfunction, daily administration of PD (2.73 mg/kg body weight) through intravenous injection for ten days in nude mice bearing MCF-7 cells can effectively reduce tumor growth for 50% in terms of tumor weight and size, give no significant toxicity in heart and liver to the host, suggests that it can serve as a candidate in breast cancer treatment.[4]

Polyphyllin D has anti-angiogenic effects, it can inhibit endothelial cell functions in vitro and angiogenesis in zebrafish embryos in vivo, the anti-angiogenic effects of PD have been explored in the study which implied a potential therapeutic development of PD in cancer treatment. [5]

Polyphyllin D induces apoptosis in U87 human glioma cells through the c-Jun NH2-terminal kinase pathway.[6]

[ Solvent ]

Pyridine, Methanol, Ethanol, Hot water, etc.

[HPLC Method][7]

Mobile phase: Acetonitrile- H2O, gradient elution;
Flow rate: 1.0 ml/min;
Column temperature: 25 °C;
The wave length of determination: 203 nm.
2-8°C, Protected from air and light, refrigerate or freeze.

[ References ]

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