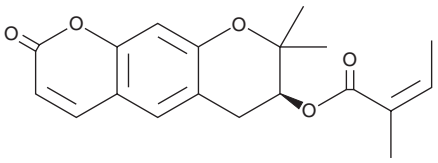
PRODUCT INFORMATION

Decursinol angelate

Item No. 25212

CAS Registry No.: 130848-06-5
Formal Name: (2Z)-2-methyl-2-butenoic acid, (7S)-7,8-dihydro-8,8-dimethyl-2-oxo-2H,6H-benzo[1,2-b:5,4-b']dipyran-7-yl ester
MF: $C_{19}H_{20}O_5$
FW: 328.4
Purity: ≥98%
UV/Vis.: λ_{max}: 220, 329 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Plant/*Angelicae sinensis Radix*



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Decursinol angelate is supplied as a crystalline solid. A stock solution may be made by dissolving the decursinol angelate in the solvent of choice. Decursinol angelate is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of decursinol angelate in these solvents is approximately 1, 2, and 10 mg/ml, respectively.

Decursinol angelate is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, decursinol angelate should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Decursinol angelate has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Decursinol angelate is a pyranocoumarin that has been found in the Korean medicinal herb *A. gigas* and has diverse biological activities.[1-5] It inhibits the growth of K562, HL-60, KG-1, SK-BR-3, AGS, A549, HeLa, HepG2, and G-361 cancer cells (ED_{50}s = 24-56 µM) and decreases estrogen-stimulated growth of MCF-7 breast cancer cells in a concentration-dependent manner *via* decreased estrogen receptor α (ERα) protein levels and signaling activity.[1,2] Decursinol angelate (30 µM) activates PKC purified from rat brain.[1] It selectively inhibits the cytochrome P450 (CYP) isoform CYP1A1/2 over CYP2D15 and CYP3A12 in canine liver microsomes (K_is = 67.56, 872.5, and 853.9 µM, respectively).[3] Decursinol angelate (0.01-10 µM) reduces cytotoxicity and malondialdehyde (MDA) production induced by amyloid-β (23-35) (Aβ25-35) and increases superoxide dismutase (SOD) and glutathione peroxidase (Gpx) activities in PC12 cells.[4] In mice, decursinol angelate (200 mg/kg) has antinociceptive activity in the tail flick and hot plate tests and reduces acetic acid-induced writhing as well as decreases production of the pro-inflammatory cytokines TNF-α and IL-1β.[5]

References

1. Ahn, K.-S., Sim, W.-S., Lee, I.-K., *et al. Planta Med.* **63(4)**, 360-361 (1997).
2. Jiang, C., Guo, J., Wang, Z., *et al. Breast Cancer Res.* **9(6)**, R77 (2007).
3. Abd El-Aty, A.M., Shah, S.S., Kim, B.M., *et al. Arch. Pharm. Res.* **31(11)**, 1425-1435 (2008).
4. Li, L., Li, W., Jung, S.-W., *et al. Biosci. Biotech. Biochem.* **75(3)**, 343-342 (2011).
5. Choi, S.-S., Han, K.-J., Lee, J.-K., *et al. Life Sci.* **73(4)**, 471-485 (2003).

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