

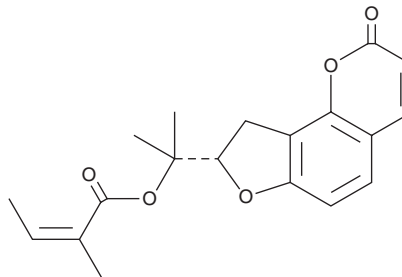
PRODUCT INFORMATION



Columbianadin

Item No. 27661

CAS Registry No.: 5058-13-9
Formal Name: (2Z)-2-methyl-2-butenoic acid, 1-[(8S)-8,9-dihydro-2-oxo-2H-furo[2,3-h]-1-benzopyran-8-yl]-1-methylethyl ester
Synonym: Columbianetin
MF: C₁₉H₂₀O₅
FW: 328.4
Purity: ≥98%
UV/Vis.: λ_{max}: 325 nm
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Plant/*Angelicae pubescentis radix*



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

Laboratory Procedures

Columbianadin is supplied as a solid. A stock solution may be made by dissolving the columbianadin in the solvent of choice, which should be purged with an inert gas. Columbianadin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of columbianadin in these solvents is approximately 2, 20, and 25 mg/ml, respectively.

Columbianadin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, columbianadin should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Columbianadin has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Columbianadin is a coumarin that has been found in *A. pubescens* and has diverse biological activities.¹⁻⁴ It inhibits depolarization-induced calcium uptake in GH3 rat pituitary cells.¹ Columbianadin inhibits HIV-1 replication in H9 cells (EC₅₀ = 4.6 μM).² It inhibits IL-1β-induced production of IL-6 in A549 cells and reduces inducible nitric oxide synthase (iNOS) levels and LPS-induced NO production in MH-S cells.³ Columbianadin (20-60 mg/kg) decreases the number of alveolar and interstitial macrophages and alveolar wall thickness in a mouse model of LPS-induced lung inflammation. It also reduces formalin-induced paw licking in mice when administered at a dose of 10 mg/kg.⁴

References

1. Törnquist, K. and Vuorela, H. The furanocoumarin columbianadin inhibits depolarization induced Ca²⁺ uptake in rat pituitary GH₃ cells. *Planta Med.* **56(1)**, 127-129 (1990).
2. Lee, T.T.-Y., Kashiwada, Y., Huang, L., et al. Suksdorfii: An anti-HIV principle from *Lomatium suksdorfii*, its structure-activity correlation with related coumarins, and synergistic effects with anti-AIDS nucleosides. *Bioorg. Med. Chem.* **2(10)**, 1051-1056 (1994).
3. Lim, H.J., Lee, J.H., Choi, J.S., et al. Inhibition of airway inflammation by the roots of *Angelica decursiva* and its constituent, columbianadin. *J. Ethnopharmacol.* **155(2)**, 1353-1361 (2014).
4. Chen, Y.-F., Tsai, H.-Y., and Wu, T.-S. Anti-inflammatory and analgesic activities from roots of *Angelica pubescens*. *Planta Med.* **61(1)**, 2-8 (1995).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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