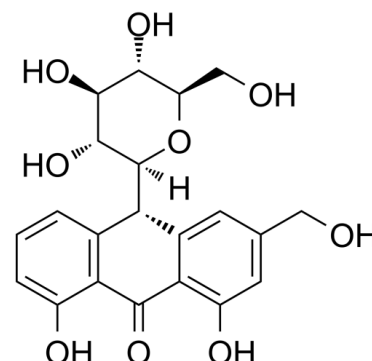


Data Sheet

Product Name:	Aloin
Cat. No.:	CS-3707
CAS No.:	1415-73-2
Molecular Formula:	C ₂₁ H ₂₂ O ₉
Molecular Weight:	418.39
Target:	Others
Pathway:	Others
Solubility:	DMSO : ≥ 27 mg/mL (64.53 mM)



BIOLOGICAL ACTIVITY:

Aloin (Aloin-A; Barbaloin-A) is a natural antitumor anthraquinone glycoside with iron chelating and non-atherogenic activities. IC₅₀ value: Target: in vitro: Aloin significantly inhibited HUVECs proliferation, migration and tube formation in vitro. suppressed activation of VEGF receptor (VEGFR) 2 and STAT3 phosphorylation in endothelial cells. In addition, the constitutively activated STAT3 protein, and the expression of STAT3-regulated antiapoptotic (Bcl-xL), proliferative (c-Myc), and angiogenic (VEGF) proteins were also down-regulated in response to AL in human SW620 cancer cells [1]. aloin exerted inhibition of cell proliferation, adhesion and invasion abilities of B16-F10 melanoma cells under non-cytotoxic concentrations. Furthermore, aloin induced melanoma cell differentiation through the enhancement of melanogenesis and transglutaminase activity [2]. in vivo: Aloin substantially reduced tumor volumes and weight in vivo mouse xenografts, without obviously toxicity [1]. Aloin (10, 30 mg/kg bw) or vehicle was given by gavage to mice after each alcohol administration. Alcohol elevated the serum transaminases alanine aminotransferase, aspartate aminotransferase, total cholesterol and triglyceride levels which were significantly attenuated by the co-administration of aloin (p < 0.05) [3].

References:

- [1]. Pan Q, et al. Inhibition of the angiogenesis and growth of Aloin in human colorectal cancer in vitro and in vivo. Cancer Cell Int. 2013 Jul 12;13(1):69.
- [2]. Tabolacci C, et al. Aloin enhances cisplatin antineoplastic activity in B16-F10 melanoma cells by transglutaminase-induced differentiation. Amino Acids. 2013 Jan;44(1):293-300.
- [3]. Cui Y, et al. Aloin protects against chronic alcoholic liver injury via attenuating lipid accumulation, oxidative stress and inflammation in mice. Arch Pharm Res. 2014 Dec;37(12):1624-33.

CAIndexNames:

9(10H)-Anthracenone, 10-β-D-glucopyranosyl-1,8-dihydroxy-3-(hydroxymethyl)-, (10S)-

SMILES:

O=C1C2=C(C(=CC=C2O)[C@H]([C@]3([H])O[C@H](CO)[C@@H](O)[C@H](O)[C@H]3O)C4=CC(CO)=CC(O)=C14

Caution: Product has not been fully validated for medical applications. For research use only.

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