

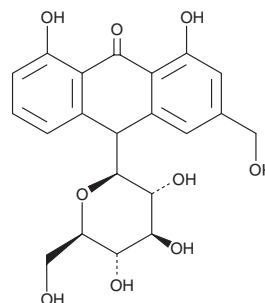
PRODUCT INFORMATION



Aloin

Item No. 22435

CAS Registry No.: 452311-56-7
Formal Name: 10-β-D-glucopyranosyl-1,8-dihydroxy-3-(hydroxymethyl)-9(10H)-anthracenone
MF: C₂₁H₂₂O₉
FW: 418.4
Purity: ≥95%
UV/Vis.: λ_{max}: 245, 261, 269, 297, 361 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Aloin is supplied as a crystalline solid. A stock solution may be made by dissolving the aloin in the solvent of choice. Aloin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of aloin in ethanol is approximately 0.25 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of aloin can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of aloin in PBS, pH 7.2, is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Aloin is a mixture of aloin A and aloin B (Item No. 23321), anthraquinones found in *Aloe vera*, and has diverse biological activities.¹⁻³ It reduces IL-6 and TNF-α expression as well as nitric oxide (NO) production and COX-2 and inducible NO synthase (iNOS) expression in LPS-stimulated RAW 264.7 cells when used at concentrations ranging from 100 to 400 mM.¹ Aloin inhibits LPS-induced p65 acetylation, nuclear translocation of NF-κB, and apoptosis in RAW 264.7 cells. It reduces motility of *T. congolense* *in vitro* and reduces the number of parasites in *T. congolense*-infected mice when administered at a dose of 400 mg/kg.² Aloin (50 and 100 mg/kg) also reduces activity of glutathione peroxidase (GPX), glutathione-S-transferase (GST), and glutathione reductase (GR), the level of colonic malondialdehyde (MDA), and the number of aberrant crypt foci and mucin-depleted foci in a rat model of 1,2-dimethylhydrazine-induced colon cancer.³

References

1. Luo, X., Zhang, H., Wei, X., *et al. Molecules* **23**(3), E517 (2018).
2. Tewabe, Y., Bisrat, D., Terefe, G., *et al. BMC Vet. Res.* **10**, 61 (2014).
3. Hamiza, O.O., Rehman, M.U., Khan, R., *et al. Hum. Exp. Toxicol.* **(33)**2, 148-163 (2014).

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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