

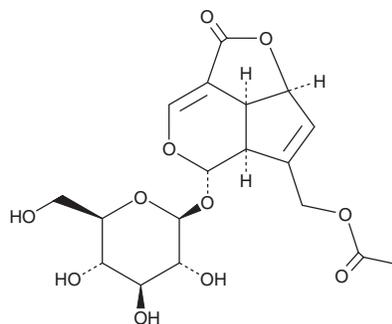
# PRODUCT INFORMATION



## Asperuloside

Item No. 29439

**CAS Registry No.:** 14259-45-1  
**Formal Name:** 4-[(acetyloxy)methyl]-5-(β-D-glucopyranosyloxy)-2aS,4aS,5S,7bS-tetrahydro-1H-2,6-dioxacyclopent[cd]inden-1-one  
**MF:** C<sub>18</sub>H<sub>22</sub>O<sub>11</sub>  
**FW:** 414.4  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 231 nm  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years  
**Item Origin:** Plant/*Oldenlandia diffusa*



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

### Laboratory Procedures

Asperuloside is supplied as a solid. A stock solution may be made by dissolving the asperuloside in the solvent of choice, which should be purged with an inert gas. Asperuloside is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of asperuloside in ethanol is approximately 2 mg/ml and approximately 5 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 asperuloside can be prepared by directly dissolving the solid in aqueous buffers. The solubility of asperuloside in PBS, pH 7.2, is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Asperuloside is an iridoid glycoside that has been found in *G. tunetanus* and has diverse biological activities, including anti-angiogenic, anti-inflammatory, and anti-obesity properties.<sup>1-3</sup> It reduces microvessel formation by 67% in a chick embryo chorioallantoic membrane assay when used at a concentration of 2 μg/egg.<sup>1</sup> Asperuloside (20, 40, and 80 mg/L) inhibits LPS-induced increases in TNF-α, IL-1β, and IL-6 production in RAW 264.7 macrophages in a concentration-dependent manner.<sup>2</sup> It reduces lung myeloperoxidase (MPO) activity and bronchoalveolar lavage fluid (BALF) levels of TNF-α, IL-1β, and IL-6 in a mouse model of LPS-induced acute lung injury when administered at doses of 20, 40, and 80 mg/kg. Dietary administration of asperuloside decreases body weight gain, white adipose tissue (WAT) weight, and the ratio of WAT weight to body weight in a high-fat diet-induced mouse model of metabolic syndrome.<sup>3</sup>

### References

1. Camero, C.M., Germanò, M.P., Rapisarda, A., et al. *Braz. J. Pharmacognosy* **28**(3), 374-377 (2018).
2. Qiu, J., Chi, G., Wu, Q., et al. *Int. Immunopharmacol.* **31**, 109-115 (2016).
3. Hirata, T., Kobayashi, T., Wada, A., et al. *Bioorg. Med. Chem. Lett.* **21**(6), 1786-1791 (2011).

#### 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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