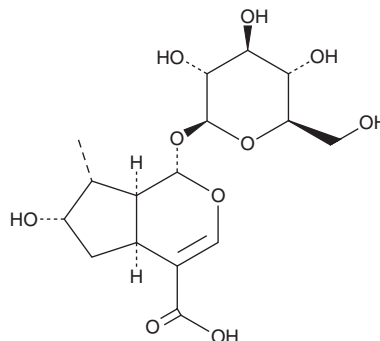


# PRODUCT INFORMATION



## Loganic Acid Item No. 28402

**CAS Registry No.:** 22255-40-9  
**Formal Name:** (1S,4aS,6S,7R,7aS)-1-(β-D-glucopyranosyloxy)-1,4a,5,6,7,7a-hexahydro-6-hydroxy-7-methylcyclopenta[c]pyran-4-carboxylic acid  
**Synonyms:** Loganate, Loganin Acid  
**MF:** C<sub>16</sub>H<sub>24</sub>O<sub>10</sub>  
**FW:** 376.4  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 234 nm  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years  
**Item Origin:** Plant/*Gentiana macrophyllae*



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

### Laboratory Procedures

Loganic acid is supplied as a solid. A stock solution may be made by dissolving the loganic acid in the solvent of choice, which should be purged with an inert gas. Loganic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of loganic acid in these solvents is approximately 20, 25, and 30 mg/ml, respectively.

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 loganic acid can be prepared by directly dissolving the solid in aqueous buffers. The solubility of loganic acid in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Loganic acid is an iridoid glycoside that has been found in *C. mas* and has diverse biological activities, including antidiabetic, antiadipogenic, anti-atherosclerotic, and anti-inflammatory properties.<sup>1-4</sup> Loganic acid (1 μM) stimulates glucagon-like peptide-1 (GLP-1) secretion by NCI H716 human enteroendocrine colorectal cancer cells.<sup>2</sup> It inhibits dexamethasone-, 3-isobutyl-1-methylxanthine-, and insulin-induced differentiation of mouse 3T3-L1 fibroblasts into adipocytes when used at a concentration of 10 μg/ml.<sup>3</sup> Loganic acid (20 mg/kg per day) decreases the plasma atherogenic index, a ratio of triglyceride to HDL cholesterol, and the cardiac risk ratio, a ratio of total cholesterol to HDL cholesterol, in a rabbit model of atherosclerosis induced by a cholesterol-rich diet.<sup>4</sup> It also decreases IL-6, TNF-α, and oxidized LDL (oxLDL) plasma levels in the same model.

### References

1. Coscia, C.J., Guarnaccia, R., and Botta, L. *Biochemistry* **8(12)**, 5036-543 (1969).
2. Suh, H.-W., Lee, K.-B., Kim, K.-S., et al. *J. Ethnopharmacol.* **172**, 219-226 (2015).
3. Park, E., Kim, J., Yeo, S., et al. *Molecules* **23(7)**, E1663 (2018).
4. Sozański, T., Kucharska, A.Z., Rapak, A., et al. *Atherosclerosis* **254**, 151-160 (2016).

#### 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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