

# PRODUCT INFORMATION



## Isoastragaloside I

Item No. 40279

**CAS Registry No.:** 84676-88-0  
**Formal Name:** (3 $\beta$ ,6 $\alpha$ ,16 $\beta$ ,20R,24S)-3-[(2,4-di-O-acetyl- $\beta$ -D-xylopyranosyl)oxy]-20,24-epoxy-16,25-dihydroxy-9,19-cyclolanostan-6-yl- $\beta$ -D-glucopyranoside

**MF:** C<sub>45</sub>H<sub>72</sub>O<sub>16</sub>

**FW:** 869.1

**Purity:**  $\geq$ 98%

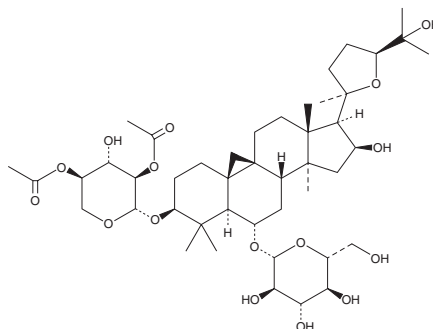
**Supplied as:** A solid

**Storage:** -20°C

**Stability:**  $\geq$ 4 years

**Item Origin:** Plant/*Astragalus membranaceus* (Fisch.) Bunge

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



### Laboratory Procedures

Isoastragaloside I is supplied as a solid. A stock solution may be made by dissolving the isoastragaloside I in the solvent of choice, which should be purged with an inert gas. Isoastragaloside I is soluble in acetonitrile and DMSO.

### Description

Isoastragaloside I is a saponin that has been found in *A. membranaceus* and has diverse biological activities.<sup>1-3</sup> It inhibits LPS-induced production of nitric oxide (NO), TNF- $\alpha$ , and IL-1 $\beta$ , as well as inhibits NF- $\kappa$ B phosphorylation in BV-2 microglia when used at concentrations ranging from 25 to 100  $\mu$ M.<sup>1</sup> Isoastragaloside I (2-10  $\mu$ g/ml) induces adiponectin production in 3T3-L1 adipocytes.<sup>2</sup> It induces the expression of  $\beta$ -cell differentiation genes and increases mRNA levels of the endocrine progenitor marker *Ngn3* and the  $\beta$ -cell markers *insulin1* and *insulin2* in mouse pancreatic ductal organoids (mPDOs).<sup>3</sup>

### References

1. Liu, H., Huang, F., Wu, H., *et al.* Isoastragaloside I inhibits NF- $\kappa$ B activation and inflammatory responses in BV-2 microglial cells stimulated with lipopolysaccharide. *Int. J. Mol. Med.* **40(4)**, 1270-1276 (2017).
2. Xu, A., Wang, H., Hoo, R.L., *et al.* Selective elevation of adiponectin production by the natural compounds derived from a medicinal herb alleviates insulin resistance and glucose intolerance in obese mice. *Endocrinology* **150(2)**, 625-633 (2009).
3. Yu, W., Wang, Y., Jiang, D., *et al.* A saponin from astragalus promotes pancreatic ductal organoids differentiation into insulin-producing cells. *Phytomedicine* **102:154190**, (2022).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 02/08/2024

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897

[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM