

PRODUCT INFORMATION

Silydianin

Item No. 39248

CAS Registry No.: 29782-68-1

Formal Name: (3R,3aR,6R,7aR,8R)-4-[(2R,3R)-3,4-dihydro-3,5,7-trihydroxy-4-oxo-2H-1-benzopyran-2-yl]-2,3,3a,7a-tetrahydro-7a-hydroxy-8-(4-hydroxy-3-methoxyphenyl)-3,6-methanobenzofuran-7(6H)-one

Synonym: Silidianin

MF: C₂₅H₂₂O₁₀

FW: 482.4

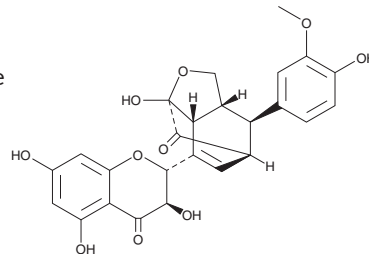
Purity: ≥95%

Supplied as: A solid

Storage: -20°C

Stability: ≥4 years

Item Origin: Plant/*Silybum marianum* (L.) Gaertn



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

Laboratory Procedures

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

Description

Silydianin is a flavonolignan that has been found in *S. marianum* and has diverse biological activities.¹⁻⁴ It inhibits tyrosinase (IC₅₀ = 2.6 μM for the mushroom enzyme) and scavenges DPPH (Item No. 14805) radicals in a cell-free assay (IC₅₀ = 66.8 μM).^{1,2} Silydianin (100 μM) protects against cytotoxicity induced by allyl alcohol, carbon tetrachloride, paracetamol (acetaminophen; Item No. 10024), or D-galactosamine (Item No. 22981) in primary human hepatocytes.² It inhibits the proliferation of DU145 and PC3 prostate cancer cells when used at a concentration of 90 μM.³ Silydianin (1%) prevents methacholine-induced airway hyperresponsiveness (AHR) and reduces blood and bronchoalveolar lavage fluid (BALF) levels of eosinophils in an ovalbumin-sensitized mouse model of allergic asthma when administered *via* inhalation.⁴

References

- Kim, J.Y., Kim, J.Y., Jenis, J., *et al.* Tyrosinase inhibitory study of flavonolignans from the seeds of *Silybum marianum* (Milk thistle). *Bioorg. Med. Chem.* **27**(12), 2499-2507 (2019).
- Dvorák, Z., Kosina, P., Walterová, D., *et al.* Primary cultures of human hepatocytes as a tool in cytotoxicity studies: Cell protection against model toxins by flavonolignans obtained from *Silybum marianum*. *Toxicol. Lett.* **137**(3), 201-2012 (2003).
- Davis-Searles, P.R., Nakanishi, Y., Kim, N.C., *et al.* Milk thistle and prostate cancer: Differential effects of pure flavonolignans from *Silybum marianum* on antiproliferative end points in human prostate carcinoma cells. *Cancer Res.* **65**(10), 4448-4457 (2005).
- Nasab, E.M., Athari, S.M., Ghafarzade, S., *et al.* Immunomodulatory effects of two silymarin isomers in a Balb/c mouse model of allergic asthma. *Allergol. Immunopathol. (Madr)* **48**(6), 646-653 (2020).

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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