

PRODUCT INFORMATION



Silybin

Item No. 10006211

CAS Registry No.: 22888-70-6

Formal Name: (2R,3R)-2-[(2R,3R)-2,3-dihydro-3-(4-hydroxy-3-methoxyphenyl)-2-(hydroxymethyl)-1,4-benzodioxin-6-yl]-2,3-dihydro-3,5,7-trihydroxy-4H-1-benzopyran-4-one

Synonyms: Silibinin, Silibinin A, Silybin A

MF: $C_{25}H_{22}O_{10}$

FW: 482.4

Purity: $\geq 98\%$

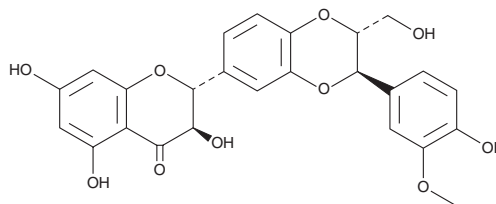
UV/Vis.: λ_{max} : 229, 288 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥ 4 years

Item Origin: Plant/*Silybum marianum*



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

Laboratory Procedures

Silybin is supplied as a crystalline solid. A stock solution may be made by dissolving the silybin in the solvent of choice, which should be purged with an inert gas. Silybin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of silybin in these solvents is approximately 0.1, 10, and 20 mg/ml, respectively.

Silybin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, silybin should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Silybin has a solubility of approximately 0.5 mg/ml in a 1:9 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Silybin is the major flavonolignan found in milk thistle (*S. marianum*).¹ It inhibits wild mushroom tyrosinase ($IC_{50} = 1.7 \mu\text{M}$).² Silybin scavenges superoxide radicals ($IC_{50} = 55.2 \mu\text{M}$) and inhibits lipid peroxidation *in vitro* ($IC_{50} = 73.92 \mu\text{M}$).³

References

1. Dehmlow, C., Erhard, J., and de Groot, H. Inhibition of kupffer cell functions as an explanation for the hepatoprotective properties of silibinin. *Hepatology* **23**(4), 749-754 (1996).
2. 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.* **S0968-0896(19)**, 30173-30177 (2019).
3. Trouillas, P., Marsal, P., Svobodová, A., et al. Mechanism of the antioxidant action of silybin and 2,3-dehydrosilybin flavonolignans: A joint experimental and theoretical study. *J. Phys. Chem. A.* **112**(5), 1054-1063 (2008).

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, 12/16/2022

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