



LKT Laboratories, Inc.

Silybin

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## Product Information

Product ID S3343

CAS No. 22888-70-6

Chemical 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 AND (2R,3R)-2-[(2S,3S)-2,3-Dihydro-3-(4-

Synonym Silibinin, Silybum substance E6, Silymarin I

Formula  $C_{25}H_{22}O_{10}$

Formula Wt. 482.44

Melting Point 167°C or 180°C(dec.)

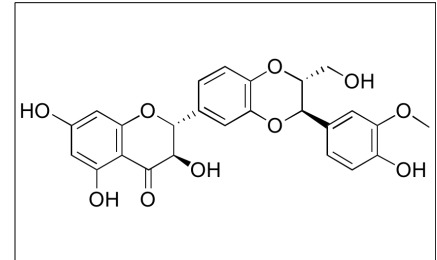
Purity ≥97%

Solubility Soluble in acetone, ethyl acetate, methanol or ethanol. Practically insoluble in water.

Store Temp -20°C

Ship Temp Ambient

Description Silybin is a phytoestrogen and flavonoid originally found in the seeds of the milk thistle plant (*Silybum*). Silybin exhibits anti-diabetic, anti-inflammatory, anti-angiogenic, anticancer chemotherapeutic, and chemopreventive activities. In cellular and animal models of hepatocellular carcinoma, silybin increases expression of TRAIL and DR-5, activates caspase signaling, and decreases tumor growth and inflammatory cytokine release. In animal models of diabetes, silybin decrease Hb1Ac levels as well as serum triglycerides, cholesterol, and glucose in pancreatic  $\beta$  cells. Additionally, silybin inhibits IL-1 $\beta$ -induced pro-inflammatory cytokine expression and suppresses translocation of NF- $\kappa$ B in vitro. In animal models, this compound suppresses expression of HIF-1 $\alpha$  and VEGF, decreases microvessel density, and delays UV-induced carcinogenesis. Stimulates vascular differentiation in mouse embryonic stem cells.



**Bulk quantities available upon request**

Product ID	Size
S3343	500 mg
S3343	1 g
S3343	5 g

References Sato M, Murakami K, Uno M, et al. Structure-activity relationship for (+)-taxifolin isolated from silymarin as an inhibitor of amyloid-beta aggregation. *Biosci Biotechnol Biochem.* 2013;77(5):1100-1103. PMID: 23649236.

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Wang Q, Liu M, Liu WW, et al. In vivo recovery effect of silibinin treatment on streptozotocin-induced diabetic mice is associated with the modulations of Sirt-1 expression and autophagy in pancreatic  $\beta$ -cell. *J Asian Nat Prod Res.* 2012;14(5):413-23. PMID: 22423887.

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Gu M, Singh RP, Dhanalakshmi S, et al. Silibinin inhibits inflammatory and angiogenic attributes in photocarcinogenesis in SKH-1 hairless mice. *Cancer Res.* 2007 Apr 1;67(7):3483-91. PMID: 17409458.

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Ali E, Sharifpanah F, et al. Silibinin from *Silybum marianum* Stimulates Embryonic Stem Cell Vascular Differentiation via the

**Caution:** This product is intended for laboratory and research use only. It is not for human or drug use.