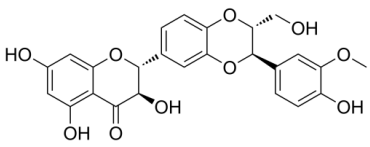
Data Sheet

Product Name:	Silybin A
Cat. No.:	CS-2128
CAS No.:	22888-70-6
Molecular Formula:	$C_{25}H_{22}O_{10}$
Molecular Weight:	482.44
Target:	Autophagy; Reactive Oxygen Species
Pathway:	Autophagy; Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB
Solubility:	DMSO : 250 mg/mL (518.20 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

Silybin A (Silibinin A), an effective anti-cancer and chemopreventive agent, has been shown to exert multiple effects on cancer cells, including inhibition of both cell proliferation and migration. ***In Vitro:*** Silybin A (Silybin) significantly induced the expression of the non-steroidal anti-inflammatory drug-activated gene-1 (NAG-1) in both p53 wild-type and p53-null cancer cell lines[1].
Silybin A (Silybin) induced cell death in human breast cancer cell lines MCF7 and MDA-MB-231[2].
Silybin A (Silybin) treatment resulted in a dose- and time-dependent inhibition of HCC cell viability[3].
Silybin A (Silybin) treatment decreased the expression of the Notch1 intracellular domain (NICD), RBP-Jκ, and Hes1 proteins, upregulated the apoptosis pathway-related protein Bax, and downregulated Bcl2, survivin, and cyclin D1[3].
In Vivo: Topical application of Silibinin At the dose of 9 mg/mouse effectively suppressed oxidative stress and deregulated activation of inflammatory mediators and tumorigenesis[4].
The kidney cortex of vehicle-treated control OVE26 mice displayed greater Nox4 expression and twice as much superoxide production than cortex of silybin-treated mice. The glomeruli of control OVE26 mice displayed 35% podocyte drop out that was not present in the silybin-treated mice[5].

References:

[1]. Woo SM, et al. Silibinin induces apoptosis of HT29 colon carcinoma cells through early growth response-1 (EGR-1)-mediated non-steroidal anti-inflammatory drug-activated gene-1 (NAG-1) up-regulation. Chem Biol Interact. 2014 Jan 16;211C:36-43.

[2]. Kim TH, et al. Silibinin induces cell death through ROS-dependent down-regulation of Notch-1/ERK/Akt signaling in human breast cancer cells. J Pharmacol Exp Ther. 2014 Jan 28.

[3]. Zhang S, et al. Silybin-mediated inhibition of Notch signaling exerts antitumor activity in human hepatocellular carcinoma cells. PLoS One. 2013 Dec 27;8(12):e83699.

[4]. Khan AQ, et al. Silibinin Inhibits Tumor Promotional Triggers and Tumorigenesis Against Chemically Induced Two-Stage Skin Carcinogenesis in Swiss Albino Mice: Possible Role of Oxidative Stress and Inflammation. Nutr Cancer. 2013 Dec 23.

[5]. Khazim K, et al. The antioxidant silybin prevents high glucose-induced oxidative stress and podocyte injury in vitro and in vivo. Am J Physiol Renal Physiol. 2013 Sep 1;305(5):F691-700.

CAIndexNames:

4H-1-Benzopyran-4-one, 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-, (2R, 3R)-

SMILES:

O=C1[C@H](O)[C@@H](C2=CC=C(O[C@H](CO)[C@@H](C3=CC=C(O)C(OC)=C3)O4)C4=C2)OC5=CC(O)=CC(O)=C15

Caution: Product has not been fully validated for medical applications. For research use only.

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