Data Sheet (Cat.No.TN1805)

TargetMol
A DRUG SCREENING EXPERT

Isosilybin B

Chemical Properties

CAS No.:	142796-22-3
Formula:	C25H22O10
Molecular Weight:	482.4
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	Isosilybin B causes androgen receptor degradation in human prostate carcinoma cells via PI3K-Akt-Mdm2-mediated pathway, it has anti-prostate cancer (PCA) activity that is mediated via cell cycle arrest and apoptosis induction. Isosilybin B showed inhibitory effect on CYP2C8 activity. It inhibited both monophenolase (IC50=1.7-7.6μM) and diphenolase (IC50=12.1-44.9μM) of tyrosinase.
Targets(IC_{50})	PI3K: None Akt: None Mdm2: None
In vitro	The rationale of the present study was to compare the anti-angiogenic potential of four pure diastereoisomeric flavonolignans, namely silybin A, silybin B, isosilybin A and Isosilybin B, which we established previously as biologically active constituents in Milk Thistle extract. Results showed that oral feeding of these flavonolignans (50 and 100 mg/kg body weight) effectively inhibit the growth of advanced human PCA DU145 xenografts. Immunohistochemical analyses revealed that these flavonolignans inhibit tumor angiogenesis biomarkers (CD31 and nestin) and signaling molecules regulating angiogenesis (VEGF, VEGFR1, VEGFR2, phospho-Akt and HIF-1α±) without adversely affecting the vessel-count in normal tissues (liver, lung, and kidney) of tumor bearing mice. These flavonolignans also inhibited the microvessel sprouting from mouse dorsal aortas ex vivo, and the VEGF-induced cell proliferation, capillary-like tube formation and invasiveness of human umbilical vein endothelial cells (HUVEC) in vitro. Further studies in HUVEC showed that these diastereoisomers target cell cycle, apoptosis and VEGF-induced signaling cascade. Three dimensional growth assay as well as co-culture invasion and in vitro angiogenesis studies (with HUVEC and DU145 cells) suggested the differential effectiveness of the diastereoisomers toward PCA and endothelial cells[1]

Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.073 mL	10.365 mL	20.73 mL
5 mM	0.415 mL	2.073 mL	4.146 mL
10 mM	0.207 mL	1.036 mL	2.073 mL
50 mM	0.041 mL	0.207 mL	0.415 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. Angiopreventive efficacy of pure flavonolignans from milk thistle extract against prostate cancer: targeting VEGF-VEGFR signaling.PLoS One. 2012;7(4):e34630.

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