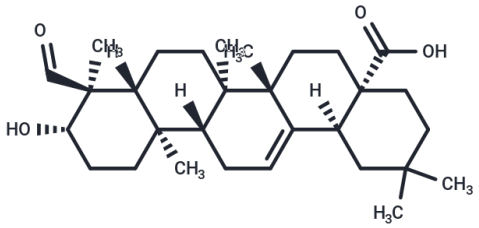
Product Data Sheet

Product Name: Gypsogenin
Cat. No.: GC26662

Chemical Properties

Cas. No.	639-14-5		
SMILES	[H][C@@]12CC(C)(C)CC[C@@]1(CC[C@]1(C)C2=CC[C@]2([H])[C@@]3(C)CC[C@H](O)[C@@](C)(C=O)[C@]3([H])CC[C@@]12C)C(O)=O		
Formula	$C_{30}H_{46}O_4$	M.Wt	470.68
Solubility	DMSO: 27.5 mg/ml (58.42 mM)	Storage	-20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		

Structure



Protocol

Cell experiment [1]:

Cell lines	HeLa, MCF-7, K562 and Jurkat cell lines

Product Data Sheet

Preparation Method	Gypsogenin was dissolved in the culture medium with 1% DMSO to give various concentrations (0.1, 1, 10, and 100μM, respectively). The resulted solutions were subsequently added to cell culture medium. Control group contained supplemented media with 1% DMSO. The cytotoxic effect of Gypsogenin was measured using the 3-(4,5-dimethylthiazol-2-yl)-2,5-di-phenyltetrazolium bromide (MTT) assay.
Reaction Conditions	0.1, 1, 10, and 100μM; 72h
Applications	Gypsogenin displayed good cytotoxicity for several cancer cells and the values of IC_{50} ranged from 3.25 to 13.68μM.

Animal experiment [2]:

Animal models	Male inbred C57BL/6J mice
Preparation Method	The mice inoculated with a solid tumor (Lewis lung cancer) were received a high, medium or low dose of Gypsogenin (10.0, 7.5, 5.0mg/kg) for 8d. After the mice were dissected, the tumors were removed, cleaned, weighed and a tumor control rate calculated.
Dosage form	5.0, 7.5, 10.0mg/kg; 8d; i.p.
Applications	Gypsogenin reduced the tumor weight and the tumor control rate was 49.6% in the high-dose group.

Caution: Product has not been fully validated for medical applications. For research use only.
Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

References:
[1] Emirdağ S, Ulusoy N G, Aksel M. Design, synthesis and biological evaluation of novel gypsogenin derivatives as potential anticancer and antimicrobial agents [J]. Chemistry & biodiversity, 2024, 21(6): e202400471.
[2] Tian G, Zhou L, Zhong Y, et al. Experimental studies of the therapeutic effect of Gypsophila oldhamiana gypsogenin on Lewis lung cancer in mice [J]. Chinese Journal of Clinical Oncology, 2008, 5(3): 206-210

Background

Gypsogenin is a well-known natural saponin which has marked anticancer effects towards various types of cancer cell lines [1]. Gypsogenin can inhibit the growth and metastasis of Lewis lung cancer and triggers apoptosis by increasing Bax levels and possesses anticancer activities against L1210, CCER-CEM and Ls174T cancer cells [2]. Gypsogenin derivatives possess great potential as important pharmacophores.

Gypsogenin (0.1, 1, 10 and 100μM; 72h) displayed good cytotoxicity in the low concentration for several cancer cells (MCF-7, HeLa, Jurkat and K562), the values of IC_{50} ranged from 3.25 to 13.68μM [1]. Gypsogenin (5, 10, 20 and 40μM; 72h) showed a strong antiproliferative effect, with an IC_{50} between 5 and 10μM on HL-60 cells [3].

Gypsogenin (5.0, 7.5, 10.0mg/kg; 8d; i.p.) reduced the tumor weight and showed a preliminary anti-metastatic role on Lewis lung cancer in C57BL/6J mice [2].

References:
[1] Emirdağ S, Ulusoy N G, Aksel M. Design, synthesis and biological evaluation of novel gypsogenin derivatives as potential anticancer and antimicrobial agents [J]. Chemistry & biodiversity, 2024, 21(6): e202400471.
[2] Tian G, Zhou L, Zhong Y, et al. Experimental studies of the therapeutic effect of Gypsophila oldhamiana gypsogenin on Lewis lung cancer in mice [J]. Chinese Journal of Clinical Oncology, 2008, 5(3): 206-210.
[3] Ozturk S E, Babahan I, Ozmen A. Synthesis, characterization and in vitro anti-neoplastic activity of gypsogenin derivatives [J]. Bioorganic chemistry, 2014, 52/54: 15-23.

Caution: Product has not been fully validated for medical applications. For research use only.
Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet