Data Sheet (Cat.No.T2730)

TargetMol

Gossypol (acetic acid)

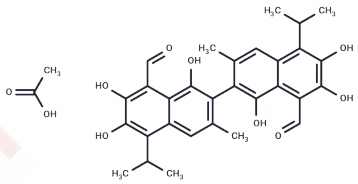
Chemical Properties

CAS No. : 12542-36-8

Formula: C32H34O10

Molecular Weight: 578.61

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.



Biological Description

Description	Gossypol acetic acid (AT101), a polyphenolic compound isolated from cottonseeds, binds with Bcl-2, Bcl-xL, Mcl-1, and does not inhibit BIR3 domain and BID.
Targets(IC50)	Bcl-2 Family
In vitro	Gossypol, a known antispermatogenic agent from the cotton plant genus Gossypium, was found to inhibit yellow perch sperm motility in vitro and lactate dehydrogenase activity in spermatozoa when used in a dose-dependent manner[1]. Gossypol has been approved to have antiproliferative and apoptosis-inducing effects on some kinds of cancer cell lines in vitro[2].
In vivo	Gossypol acetate is able to inhibit tumor growth in Wus1-bearing mice, but the survival of mice is not prolonged, and tumor grows rapidly after short inhibition. Gossypol has now been found to have inhibitory effects on proliferation or to induce apoptosis in ovarian cancer, endometrial cancer, adrenal cortical tumor, thyroid cancer, lung cancer, colon carcinoma, leukemia, pancreatic cancer, melanoma and lymphoma. In addition, gossypol can increase the sensitivity of drug-resistant tumor cells to chemotherapy and radiotherapy. Some Clinicalal trials showed gossypol is well-tolerated, and partial responses are observed in some patients[4].
Cell Research	MM(Multiple myeloma) cells are plated in 24-cell culture clusters at a density of 1x105 viable cells/l per well. Triplicate wells are treated with 1, 5, 10, 25 and 50 μmol/l gossypol acetate, and the negative control group is supplemented with 0.1% DMSO. Then, cell numbers at different treatment time points (0, 24, 48 and 72 h) are determined by using a hemocytometer and the trypan blue dye-exclusion method. The trypan blue dye-exclusion method is used to evaluate the cell viability. The cells are examined in a counting chamber under a light microscope. Only viable cells are recorded. (Only for Reference)

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble), DMSO: 100 mg/mL (172.83 mM),Sonication is recommended. Ethanol: 2 mg/mL (3.46 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4 mg/mL (6.91 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.7283 mL	8.6414 mL	17.2828 mL
5 mM	0.3457 mL	1.7283 mL	3.4566 mL
10 mM	0.1728 mL	0.8641 mL	1.7283 mL
50 mM	0.0346 mL	0.1728 mL	0.3457 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Ciereszko A, et al. Aquat Toxicol, 2000,49(3):181-187.
Zhang H, Liang B, Sang X, et al.Discovery of Potential Inhibitors of SARS-CoV-2 Main Protease by a Transfer Learning Method.Viruses.2023, 15(4): 891.
Yongqiang Zhao, et al. Blood. 2005, 106:4405.
Udoh P, et al. Contraception. 1992, 45(5):493-509.
Lin J, et al. Oncol Rep. 2013, 30(2):731-738.
Tang J, et al. Int J Clin Exp Med. 2015, 8(6):9079-85.