

Pironetin

Chemical Properties

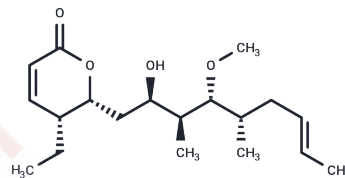
CAS No. : 151519-02-7

Formula: C₁₉H₃₂O₄

Molecular Weight: 324.45

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	Pironetin binds to α -tubulin and is an effective inhibitor of microtubule polymerization. It also has cell cycle arrest and antitumor activity. Pironetin is an α/β unsaturated lactone isolated from Streptomyces species.
Targets(IC50)	Microtubule Associated
In vitro	Pironetin (1-10000 ng/mL; 3 days; HeLa, A2780, and K-NRK cells) treatment suppresses cell proliferation. Pironetin (20-100 ng/mL; 24 hours; 3Y1 cells) treatment arrests the cell cycle progression at G2/M in 3Y1 cells. The IC50 values against these cell lines are almost 10 ng/mL[1].
In vivo	Pironetin (0.78-6.25 mg/kg; intraperitoneal injection; daily; for 5 days; female CDF1-SLC mice) treatment exhibits moderate antitumor activity but is associated with severe weight loss as a side effect[1].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.0821 mL	15.4107 mL	30.8214 mL
5 mM	0.6164 mL	3.0821 mL	6.1643 mL
10 mM	0.3082 mL	1.5411 mL	3.0821 mL
50 mM	0.0616 mL	0.3082 mL	0.6164 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

Kondoh M, et al. Cell cycle arrest and antitumor activity of pironetin and its derivatives. Cancer Lett. 1998 Apr 10; 126(1):29-32.

Yang J, et al. Pironetin reacts covalently with cysteine-316 of α -tubulin to destabilize microtubule. J Nat Commun. 2016 Jun 30;7:12103.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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