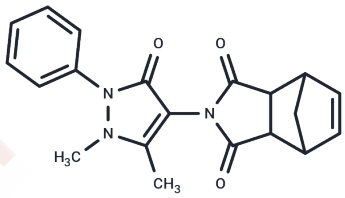
Data Sheet (Cat.No.T72024)

TargetMol

ZIM

Chemical Properties



CAS No. :	301298-87-3
Formula:	C20H19N3O3
Molecular Weight:	349.38
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	ZIM, a norbornene derivative of 4-Aminoantipyrine, effectively induces DNA damage, leading to genomic and chromosomal alterations, cell death, and phagocytosis activation. Its properties highlight its potential as a chemotherapeutic agent in cancer research.
Targets(IC50)	DNA/RNA Synthesis
In vivo	ZIM (i.p., 12, 24, and 48 mg/kg) significantly reduces chromosomal micronucleus frequency at all doses in adult male Swiss mice, exhibiting a chemopreventive effect within 24 to 72 hours, and achieving damage reduction between 38.36% and 83.26%.[1] Additionally, ZIM at these concentrations lowers liver and kidney cell death induced by cisplatin-CIS and doxorubicin-DOX, with a decrease in liver damage in the CIS group of 79.27%, 75.20%, and 52.84%, respectively, and 62.06%, 59.44%, and 77.80% in the DOX group. The reduction in kidney damage in the CIS group is 45.29%, 36.09%, and 41.61%, respectively, and in the DOX group, it is 28.00%, 21.41%, and 30.82%.[1]

Solubility Information

Solubility	DMSO: 10 mg/mL (28.62 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.8622 mL	14.3111 mL	28.6221 mL
5 mM	0.5724 mL	2.8622 mL	5.7244 mL
10 mM	0.2862 mL	1.4311 mL	2.8622 mL
50 mM	0.0572 mL	0.2862 mL	0.5724 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

Oliveira RJ, et al. ZIM, a Norbornene Derived from 4-Aminoantipyrine, Induces DNA Damage and Cell Death but in Association Reduces the Effect of Commercial Chemotherapeutics. Chem Res Toxicol. 2023;36(1):66-82.
Shikata M, et al. Characterization of Arabidopsis ZIM, a member of a novel plant-specific GATA factor gene family. J Exp Bot. 2004;55(397):631-639.
Chung HS, et al. A critical role for the TIFY motif in repression of jasmonate signaling by a stabilized splice variant of the JASMONATE ZIM-domain protein JAZ10 in Arabidopsis. Plant Cell. 2009;21(1):131-145.