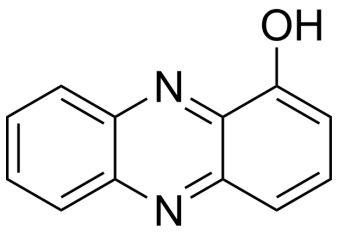
1-Hydroxyphenazine

Cat. No.:	HY-W068682
CAS No.:	528-71-2
Molecular Formula:	$C_{12}H_8N_2O$
Molecular Weight:	196.2
Target:	Amylases; Bacterial
Pathway:	Metabolic Enzyme/Protease; Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

1-Hydroxyphenazine (Hemipyocyanine; 1-Phenazinol; Hemi-pyocyanin) is an inhibitor for α-Amylase with an IC_{50} of 3.1 μg/mL[1]. 1-Hydroxyphenazine exhibits anticancer and anti-inflammatory activity against cells A549, 1321N1 and RAW264.7, antifungal and antibacterial activity against strains Candida albicans, Aspergillus fumigatus, Escherichia coli and Xanthomonas campestris[2][3][4][5].

In Vitro

1-Hydroxyphenazine (0.1-100 μM) inhibits proliferation against brain astrocytoma 1321N1 cells through formation of acidic vesicular organelle, which is a hallmark of cell autophagy, exhibits potential toxicity in central nervous system (CNS)[2]. Hydroxyphenazine (0-10 μg/mL) inhibits secretion of TNF-α and M1 cell polarization, inhibits LPS induced inflammation in RAW264.7 cells without significant toxicity[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[3]

Cell Line:	RAW264.7
Concentration:	0-10 μg/mL
Incubation Time:	24 h
Result:	Inhibited proliferation of RAW264.7 in a dose-dependent maner.

RT-PCR[3]

Cell Line:	RAW264.7
Concentration:	0-10 μg/mL
Incubation Time:	24 h
Result:	Decreased levels of TNF-α, IL-1β and IL-6 mRNA expressions.

REFERENCES

[1]. Nguyen TH, et al., Novel α-Amylase Inhibitor Hemi-Pyocyanin Produced by Microbial Conversion of Chitinous Discards. Mar Drugs. 2022 Apr 23;20(5):283.

[2]. McFarland AJ, et al., Inhibition of autophagy by 3-methyladenine protects 1321N1 astrocytoma cells against pyocyanin- and 1-hydroxyphenazine-induced toxicity. Arch Toxicol. 2012 Feb;86(2):275-84

[3]. Xiao J, et al., Anti-Inflammatory Effects of an Extract from Pseudomonas aeruginosa and Its Purified Product 1-Hydroxyphenazine on RAW264.7 Cells. Curr Microbiol. 2021 Jul;78(7):2762-2773.

[4]. Prabhu MS, et al., Purification and molecular and biological characterisation of the 1-hydroxyphenazine, produced by an environmental strain of Pseudomonas aeruginosa. World J Microbiol Biotechnol. 2014 Dec;30(12):3091-9.

[5]. Kerr JR, et al., Pseudomonas aeruginosa pyocyanin and 1-hydroxyphenazine inhibit fungal growth. J Clin Pathol. 1999 May;52(5):385-7.

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