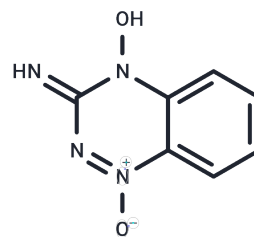


## Tirapazamine

## Chemical Properties

CAS No. :	27314-97-2
Formula:	C7H6N4O2
Molecular Weight:	178.15
Appearance:	no data available
Storage:	keep away from moisture,store at low temperature, keep away from direct sunlight Powder: -20°C for 3 years   In solvent: -80°C for 1 year



## Biological Description

Description	Tirapazamine (Win59075) is a potent cytotoxic agent under hypoxic conditions, can induce apoptosis by inducing breaks in single and double-stranded DNA, as well as chromosomal breaks. The compound sensitizes cells to other ionizing radiation and other cytotoxic agents like cisplatin.
Targets(IC50)	Others
In vitro	Tirapazamine could downregulate HIF-1 $\alpha$ expression by decreasing HIF-1 $\alpha$ protein synthesis. The enhanced apoptosis induced by tirapazamine plus SN-38 (the active metabolite of irinotecan) was accompanied by increased mitochondrial depolarization and caspase pathway activation [1].
In vivo	The increased the anticancer efficacy of tirapazamine combined with irinotecan was further validated in a human liver cancer Bel-7402 xenograft mouse model [1]. Rats were intraperitoneally injected six times once a week with tirapazamine in two doses, 5 (5TP) and 10 mg/kg (10TP), while doxorubicin was administered in dose 1.8 mg/kg (DOX). Subsequent two groups received both drugs simultaneously (5TP+DOX and 10TP+DOX). Tirapazamine reduced heart lipid peroxidation and normalized RyR2 protein level altered by doxorubicin [2].

## Solubility Information

Solubility	DMSO: 50 mg/mL (280.66 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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## Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.6132 mL	28.0662 mL	56.1325 mL
5 mM	1.1226 mL	5.6132 mL	11.2265 mL
10 mM	0.5613 mL	2.8066 mL	5.6132 mL
50 mM	0.1123 mL	0.5613 mL	1.1226 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.

## Reference

Cai T Y, Liu X W, Zhu H, et al. Tirapazamine sensitizes hepatocellular carcinoma cells to topoisomerase I inhibitors via cooperative modulation of hypoxia-inducible factor-1 $\alpha$ [J]. Molecular cancer therapeutics, 2013: molcanther. 0490.2013.

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Wu Z, Wang Y, Li L, et al. New insights into the antimicrobial action and protective therapeutic effect of tirapazamine towards Escherichia coli-infected mice. International Journal of Antimicrobial Agents. 2023: 106923. Sliwinska J, Dudka J, Korga A, et al. Tirapazamine-Doxorubicin Interaction Referring to Heart Oxidative Stress and Ca sup>2[J]. Oxidative medicine and cellular longevity, 2012, 2012.

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