MTIC

Cat. No.: HY-119696

CAS No.: 3413-72-7

Molecular Formula: $C_5H_8N_6O$

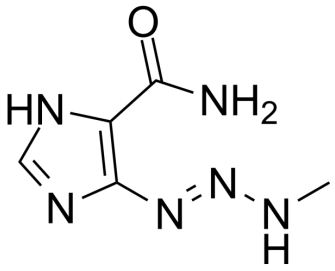
Molecular Weight: 168.16

Target: Drug Metabolite

Pathway: Metabolic Enzyme/Protease

Storage: -20°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 25 mg/mL (148.67 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	5.9467 mL	29.7336 mL	59.4672 mL
	5 mM	1.1893 mL	5.9467 mL	11.8934 mL
	10 mM	0.5947 mL	2.9734 mL	5.9467 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

MTIC, the active metabolite of Temozolomide (TMZ), is a DNA alkylating agent. MTIC has antitumor activity[1][2][3][4].

In Vivo

MTIC (cumulative dose=890 mg/rat/14 wk) can induce a high incidence of breast adenofibroma and a low incidence of uterine leiomyosarcoma[4].

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

REFERENCES

[1]. Nagasawa HT, et al. The mechanism of alkylation of DNA by 5-(3-methyl-1-triazeno)imidazole-4-carboxamide (MIC), a metabolite of DIC (NSC-45388). Non-involvement of diazomethane. Chem Biol Interact. 1974 Jun;8(6):403-13.

[2]. Tsang LL, et al. Comparison of the cytotoxicity in vitro of temozolomide and dacarbazine, prodrugs of 3-methyl-(triazen-1-yl)imidazole-4-carboxamide. Cancer Chemother Pharmacol. 1991;27(5):342-6.

[3]. Beal DD, et al. Carcinogenicity of the antineoplastic agent, 5-(3,3-dimethyl-1-triazeno)-imidazole-4-carboxamide, and its metabolites in rats. J Natl Cancer Inst. 1975 Apr;54(4):951-7.

[4]. Ramalho MJ, et al. Biophysical interaction of temozolomide and its active metabolite with biomembrane models: The relevance of drug-membrane interaction for Glioblastoma Multiforme therapy. Eur J Pharm Biopharm. 2019;136:156-163.

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