

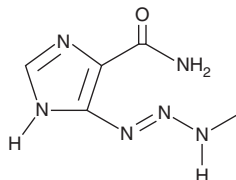
PRODUCT INFORMATION



MTIC

Item No. 18863

CAS Registry No.: 3413-72-7
Formal Name: 5-[2-(methylimino)hydrazinyl]-1H-imidazole-4-carboxamide
Synonym: NSC 407347
MF: C₅H₈N₆O
FW: 168.2
Purity: ≥98%
UV/Vis.: λ_{max}: 230, 315 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

MTIC is supplied as a crystalline solid. A stock solution may be made by dissolving the MTIC in the solvent of choice, which should be purged with an inert gas. MTIC is slightly soluble in DMSO and methanol (heated).

Description

MTIC is a DNA alkylating agent, an active metabolite of dacarbazine (DTIC; Item No. 21877), and an active degradation product of temozolomide (Item No. 14163).¹⁻³ MTIC is cytotoxic to L-cells and decreases thymidine and uridine uptake by 55 and 65%, respectively, when used at a concentration of 1 mM.² It is also cytotoxic to TLX5 murine lymphoma cells in a concentration-dependent manner.³ *In vivo*, MTIC induces formation of mammary adenofibromas in rats when administered at a cumulative dose of 890 mg per animal over 14 weeks.⁴

References

1. Nagasawa, H.T., Shirota, F.N., and Mizuno, N.S. 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.* **8(6)**, 403-413 (1974).
2. Beal, D.D., Skibba, J.L., Whitnable, K.K., *et al.* Effects of 5-(3,3-dimethyl-1-triazeno)imidazole-4-carboxamide and its metabolites on Novikoff hepatoma cells. *Cancer Res.* **36(8)**, 2827-2831 (1976).
3. Tsang, L.L.H., Quarterman, C.P., Gescher, A., *et al.* Comparison of the cytotoxicity *in vitro* of temozolomide and dacarbazine, prodrugs of 3-methyl-(triazeno-1-yl)imidazole-4-carboxamide. *Cancer Chemother. Pharmacol.* **27(5)**, 342-346 (1991).
4. Beal, D.D., Skibba, J.L., Croft, W.A., *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.* **54(4)**, 951-957 (1975).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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