

Certificate of Analysis

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Product Name: Temozolomide

Catalog No.: 2706

Batch No.: 2

CAS Number: 85622-93-1

IUPAC Name: 3,4-Dihydro-3-methyl-4-oxoimidazo[5,1-d]-1,2,3,5-tetrazine-8-carboxamide

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₆H₆N₆O₂·0.2H₂O

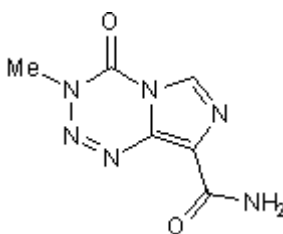
Batch Molecular Weight: 197.75

Physical Appearance: Beige solid

Solubility: DMSO to 50 mM

Storage: Store at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 100% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	36.44	3.26	42.5
Found	36.71	3.15	42.52

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

DNA methylating, chemotherapeutic agent. Displays antitumor activity against a board spectrum of tumors, including leukemias, lymphomas and solid tumors (IC₅₀ = 5.0 μM for cytotoxicity against mouse TLX5 lymphoma cells). Induces autophagy in malignant glioma cells. Exhibits enhanced activity when used in combination with CHC (Cat No. 5029).

Physical and Chemical Properties:

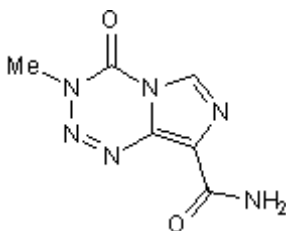
Batch Molecular Formula: C₆H₆N₆O₂.0.2H₂O

Batch Molecular Weight: 197.75

Physical Appearance: Beige solid

Minimum Purity: >99%

Batch Molecular Structure:



References:

Plowman et al (1994) Preclinical antitumor activity of temozolomide in mice: efficacy against human brain tumor xenografts and synergism with 1,3-bis(2-chloroethyl)-1-nitrosourea. *Cancer Res.* **54** 3793. PMID: 8033099.

Clark et al (1995) Antitumor imidazotetraazines. 32. Synthesis of novel imidazotetrazinones and related bicyclic heterocycles to probe the mode of action of the antitumor drug temozolomide. *J.Med.Chem.* **38** 1493. PMID: 7739008.

Bodell et al (2003) Formation of DNA adducts and induction of *lacI* mutations in big blue rat-2 cells treated with temozolomide: implications for the treatment of low-grade adult and pediatric tumors. *Cancer Epidemiol.Biomarkers Prevent.* **12** 545.

Kanzawa et al (2004) Role of autophagy in temozolomide-induced cytotoxicity for malignant glioma cells. *Cell Death Differ.* **11** 448. PMID: 14713959.

Storage: Store at RT

Solubility & Usage Info:

DMSO to 50 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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