

Certificate of Analysis

Product Name: DMAT

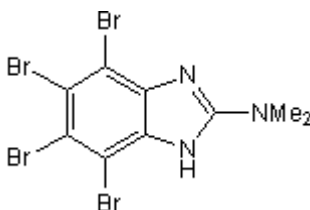
Catalog No.: 3686

Batch No.: 1

IUPAC Name: 2-(Dimethylamino)-4,5,6,7-tetrabromo-1*H*-benzimidazole

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Weight: 476.79
Physical Appearance: White solid
Solubility: DMSO to 100 mM
Storage: Store at +4°C
Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: $R_f = 0.5$ (Ethyl acetate:Petroleum ether [1:1])
HPLC: Shows 99.7% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

| | Carbon | Hydrogen | Nitrogen |
|-------------|--------|----------|----------|
| Theoretical | 22.67 | 1.48 | 8.81 |
| Found | 22.52 | 1.45 | 8.57 |

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

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IUPAC Name: 2-(Dimethylamino)-4,5,6,7-tetrabromo-1H-benzimidazole

Description:

High affinity, cell-permeable inhibitor of casein kinase 2 (CK2) ($K_i = 40$ nM; $IC_{50} = 0.13$ μ M). Displays no activity at CK1 at concentrations up to 200 μ M. Also inhibits Pim kinase (IC_{50} values are 0.097, 0.148 and 1.6 μ M for Pim-3, Pim-1 and Pim-2 kinase respectively), and protein kinase D1 ($IC_{50} = 0.18$ μ M). Derivative of TBB (Cat.No. 2275).

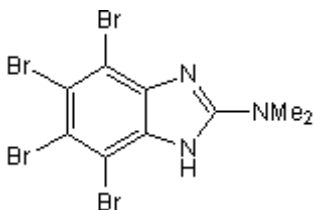
Physical and Chemical Properties:

Batch Molecular Weight: 476.79

Physical Appearance: White solid

Minimum Purity: >99%

Batch Molecular Structure:



References:

Pagano et al (2004) 2-Dimethylamino-4,5,6,7-tetrabromo-1H-benzimidazole: a novel powerful and selective inhibitor of protein kinase CK2. *Biochem.Biophys.Res.Comm.* **321** 1040.

Inglis et al (2008) Polo-like kinase 2 (PLK2) phosphorylates alpha-synuclein at serine 129 in central nervous system. *J.Biol.Chem.* **284** 2598. PMID: 19004816.

Pagano et al (2008) The selectivity of inhibitors of protein kinase CK2: an update. *Biochem.J.* **415** 353. PMID: 18588507.

Storage: Store at +4°C

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

Solubility & Usage Info:

DMSO to 100 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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