

Certificate of Analysis

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Product Name: Monastrol

Catalog No.: 1305

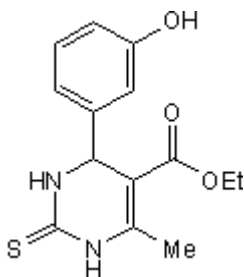
Batch No.: 6

CAS Number: 254753-54-3

IUPAC Name: 1,2,3,4-Tetrahydro-4-(3-hydroxyphenyl)-6-methyl-2-thioxo-5-pyrimidinecarboxylic acid, ethyl ester

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₄H₁₆N₂O₃S
Batch Molecular Weight: 292.35
Physical Appearance: White solid
Solubility: ethanol to 20 mM
 DMSO to 100 mM
Storage: Store at RT
Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.42 (Ethyl acetate:Petroleum ether:NH₄OH [1:1:0.1])
HPLC: Shows 98.7% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	57.52	5.52	9.58
Found	57.44	5.52	9.59

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

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Description:

Potent, cell-permeable, small molecule mitosis inhibitor that does not interact with tubulin. Arrests cells in mitosis and specifically inhibits the motility of the mitotic kinesin Eg5, a motor protein required for mitotic spindle formation and maintenance (IC₅₀ = 14 μM).

Physical and Chemical Properties:

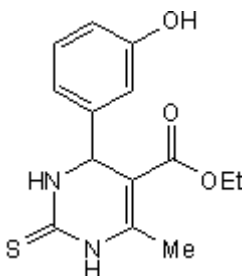
Batch Molecular Formula: C₁₄H₁₆N₂O₃S

Batch Molecular Weight: 292.35

Physical Appearance: White solid

Minimum Purity: >98%

Batch Molecular Structure:



References:

Mayer et al (1999) Small molecule inhibitor of mitotic spindle bipolarity identified in a phenotype-based screen. *Science* **286** 971. PMID: 10542155.

Kapoor et al (2000) Probing spindle assembly mechanisms with monastrol, a small molecule inhibitor of the mitotic kinesin, Eg5. *J. Cell Biol.* **150** 975. PMID: 10973989.

Storage: Store at RT

Solubility & Usage Info:

ethanol to 20 mM

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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