

## Certificate of Analysis

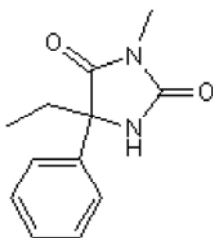
[www.tocris.com](http://www.tocris.com)

**Product Name:** Mephenytoin  
**CAS Number:** 50-12-4  
**IUPAC Name:** (±)-5-Ethyl-3-methyl-5-phenyl-2,4-imidazolidinedione

**Catalog No.:** 3276  
**Batch No.:** 1  
**EC Number:** 200-012-8

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>12</sub>H<sub>14</sub>N<sub>2</sub>O<sub>2</sub>  
**Batch Molecular Weight:** 218.25  
**Physical Appearance:** White solid  
**Solubility:** DMSO to 20 mM  
**Storage:** Store at +4°C  
**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**HPLC:** Shows 98.2% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure

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

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## Product Information

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**Catalog No.:** 3276

**Batch No.:** 1

CAS Number: 50-12-4

EC Number: 200-012-8

IUPAC Name: (±)-5-Ethyl-3-methyl-5-phenyl-2,4-imidazolidinedione

**Description:**

CYP2C19 and CYP2B6 substrate. Anticonvulsant.

**Physical and Chemical Properties:**

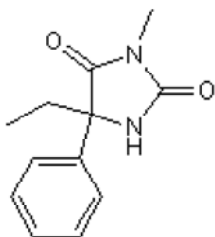
Batch Molecular Formula: C<sub>12</sub>H<sub>14</sub>N<sub>2</sub>O<sub>2</sub>

Batch Molecular Weight: 218.25

Physical Appearance: White solid

**Minimum Purity:** >98%

**Batch Molecular Structure:**



**Storage:** Store at +4°C

**Solubility & Usage Info:**

DMSO to 20 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.

**References:**

**Foti et al** (2008) CYP2C19 inhibition: the impact of substrate probe selection on *in vitro* inhibition profiles. *Drug Meta. Dispos.* **36** 523. PMID: 18048485.

**Tamminga et al** (2001) Mephenytoin as a probe for CYP2C19 phenotyping: effect of sample storage, intra-individual reproducibility and occurrence of adverse events. *Br.J.Clin.Pharmacol.* **51** 471. PMID: 11422005.

**Knabe and Wunn** (1980) Racemic and optically active hydantoins from disubstituted cyanoacetic acids. *Arch.Pharmacol.* **313** 53.

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