TOCRIS
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Print Date: Jan 15th 2016

Certificate of Analysis

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Product Name: **Fenobam** **Catalog No.: 2386** **Batch No.: 1**

CAS Number: 57653-26-6

IUPAC Name: *N*-(3-Chlorophenyl)-*N*'-(4,5-dihydro-1-methyl-4-oxo-1*H*-imidazol-2-yl)urea

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{11}H_{11}N_4O_2Cl$

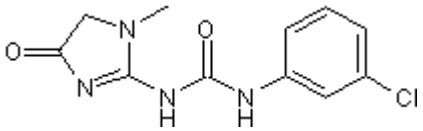
Batch Molecular Weight: 266.69

Physical Appearance: Pale orange solid

Solubility: DMSO to 100 mM

Storage: Store at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.2% purity

^{1}H NMR: Consistent with structure

^{13}C NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	49.54	4.16	21
Found	49.36	4.12	20.84

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Description:

Potent and selective non-competitive $mGlu_5$ antagonist that displays inverse agonist properties; blocks $mGlu_5$ constitutive activity in vitro (IC_{50} = 87 nM). Acts at an allosteric modulatory site shared with MPEP and binds the $mGlu_5$ receptor with K_d values of 54 and 31 nM for rat and human receptors respectively. Displays anxiolytic activity following oral administration in vivo; also exhibits analgesic properties.

Physical and Chemical Properties:

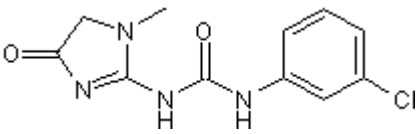
Batch Molecular Formula: $C_{11}H_{11}N_4O_2Cl$

Batch Molecular Weight: 266.69

Physical Appearance: Pale orange solid

Minimum Purity: >99%

Batch Molecular Structure:



Storage: Store at RT

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.

References:

Porter *et al* (2005) Fenobam: a clinically validated nonbenzodiazepine anxiolytic is a potent, selective, and noncompetitive mGlu5 receptor antagonist with inverse agonist activity. J.Pharmacol.Exp.Ther. ***315*** 711. PMID: 16040814.

Porter *et al* (2005) Description of a clinically validated anxiolytic with mGlu5 antagonist properties. Neuropharmacology ***49*** (Suppl. 1) 267.

Montana *et al* (2009) The metabotropic glutamate receptor subtype 5 antagonist fenobam is analgesic and has improved in vivo selectivity compared with the prototypical antagonist 2-methyl-6-(phenylethynyl)-pyridine. J.Pharmacol.Exp.Ther. ***330*** 834. PMID: 19515968.

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