

Certificate of Analysis

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Product Name: Flupirtine maleate

Catalog No.: 2867

Batch No.: 3

CAS Number: 75507-68-5

EC Number: 278-225-0

IUPAC Name: *N*-[2-Amino-6-[[4-fluorophenyl)methyl]amino]-3-pyridinyl]carbamic acid ethyl ester maleate

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₅H₁₇FN₄O₂.C₄H₄O₄

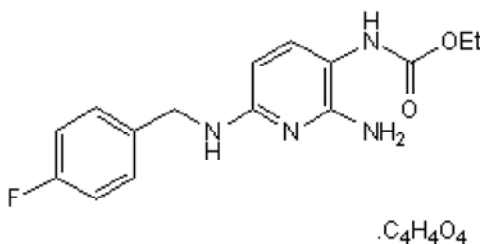
Batch Molecular Weight: 420.4

Physical Appearance: White solid

Solubility: DMSO to 100 mM
ethanol to 10 mM

Storage: Desiccate at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.4% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	54.28	5.04	13.33
Found	54.32	5.01	13.37

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

bio-techne.com

info@bio-techne.com

techsupport@bio-techne.com

North America

Tel: (800) 343 7475

China

info.cn@bio-techne.com

Tel: +86 (21) 52380373

Europe Middle East Africa

Tel: +44 (0)1235 529449

Rest of World

www.tocris.com/distributors

Tel: +1 612 379 2956

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Description:

Flupirtine maleate is a non-opioid analgesic with muscle relaxant properties. Activates K_{v7} potassium channels, indirectly antagonizes NMDA receptors and modulates $GABA_A$ receptors. Exhibits neuroprotective actions in a model of cerebral ischemia in mice and reduces apoptosis and necrosis induced by noxious stimuli.

Physical and Chemical Properties:

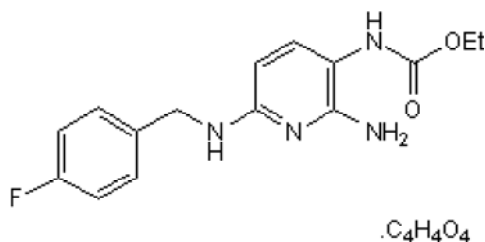
Batch Molecular Formula: $C_{15}H_{17}FN_4O_2 \cdot C_4H_4O_4$

Batch Molecular Weight: 420.4

Physical Appearance: White solid

Minimum Purity: $\geq 98\%$

Batch Molecular Structure:



References:

Klinger (2012) Concomitant facilitation of $GABA_A$ receptors and K_{v7} channels by the non-opioid analgesic flupirtine. *Br.J.Pharmacol.* **166** 1631. PMID: 22188423.

Yeung et al (2007) Molecular expression and pharmacological identification of a role for K_{v7} channels in murine vascular reactivity. *Br.J.Pharmacol.* **151** 758. PMID: 17519950.

Azad et al (2004) The potassium channel modulator flupirtine shifts the frequency-response function of hippocampal synapses to favour LTD in mice. *Neurosci.Lett.* **370** 186. PMID: 15488320.

Storage: Desiccate at +4°C

Solubility & Usage Info:

DMSO to 100 mM

ethanol to 10 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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