

Certificate of Analysis

Product Name: A 412997 dihydrochloride

Catalog No.: 4552

Batch No.: 1

CAS Number: 1347744-96-0

IUPAC Name: *N*-(3-Methylphenyl)-4-(2-pyridinyl)-1-piperidineacetamide

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₉H₂₃N₃O.2HCl.H₂O

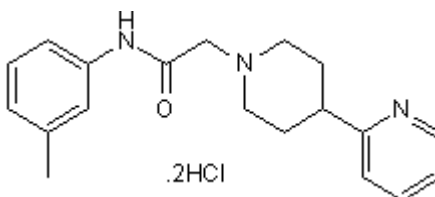
Batch Molecular Weight: 400.35

Physical Appearance: White solid

Solubility:
water to 100 mM
DMSO to 50 mM
ethanol to 5 mM

Storage: Desiccate at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.7% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	57	6.79	10.5
Found	56.99	6.75	10.62

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

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Description:

Selective agonist for the dopamine D₄ receptor (K_i values are 7.9 and 12.1 nM for human D₄ and rat D₄ receptors). Displays no affinity (<1000 nM) for other dopamine receptors. Shows efficacy in rat models of ADHD and short-term memory.

Physical and Chemical Properties:

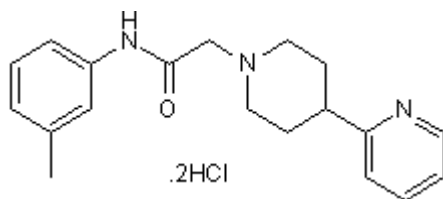
Batch Molecular Formula: C₁₉H₂₃N₃O.2HCl.H₂O

Batch Molecular Weight: 400.35

Physical Appearance: White solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Desiccate at RT

Solubility & Usage Info:

water to 100 mM
DMSO to 50 mM
ethanol to 5 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:

Browman et al (2005) A-412997, a selective dopamine D₄ agonist, improves cognitive performance in rats. *Pharmacol.Biochem.Behav.* **82** 148. PMID: 16154186.

Moreland et al (2005) A-412997 is a selective dopamine D₄ receptor agonist in rats. *Pharmacol.Biochem.Behav.* **82** 140. PMID: 16153699.

Patel et al (2006) Discovery of 3-methyl-*N*-(1-oxy-3',4',5',6'-tetrahydro-2'-*H*-[2,4'-bipyridine]-1'-ylmethyl)benzamide (ABT-670), an orally bioavailable dopamine D₄ agonist for the treatment of erectile dysfunction. *J.Med.Chem.* **49** 7450. PMID: 17149874.

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