

Product Name: PF 670462

Catalog No.: 3316

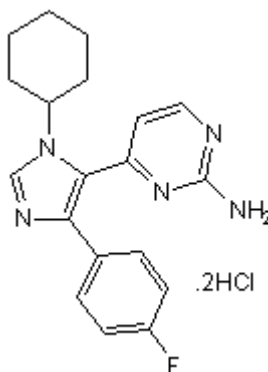
Batch No.: 1

CAS Number: 950912-80-8

IUPAC Name: 4-[1-Cyclohexyl-4-(4-fluorophenyl)-1*H*-imidazol-5-yl]-2-pyrimidinamine dihydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₉H₂₀FN₅.2HCl
Batch Molecular Weight: 410.32
Physical Appearance: off-white solid
Solubility: water to 100 mM
DMSO to 100 mM
ethanol to 50 mM
Storage: Desiccate at RT
Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.2 (Chloroform:Methanol [98:2])
HPLC: Shows 99.1% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	55.62	5.4	17.06
Found	55.5	5.58	17.01

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Description:

Potent and selective casein kinase 1ε (CK1ε) and CK1δ inhibitor (IC₅₀ values are 7.7 and 14 nM respectively) that displays > 30-fold selectivity over 42 other common kinases. Inhibits PER protein nuclear translocation (EC₅₀ = 290 nM) causing phase shifts in circadian rhythms and attenuates methamphetamine-stimulated locomotion in vivo.

Physical and Chemical Properties:

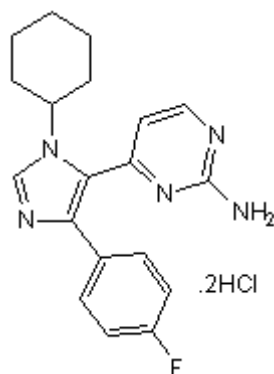
Batch Molecular Formula: C₁₉H₂₀FN₅.2HCl

Batch Molecular Weight: 410.32

Physical Appearance: off-white solid

Minimum Purity: >99%

Batch Molecular Structure:



Storage: Desiccate at RT

Solubility & Usage Info:

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

Badura et al (2007) An inhibitor of casein kinase Iε induces phase delays in circadian rhythms under free-running and entrained conditions. *J.Pharmacol.Exp.Ther.* **322** 730. PMID: 17502429.

Bryant et al (2009) A role for casein kinase 1 epsilon in the locomotor stimulant response to methamphetamine. *Psychopharmacology* **203** 703. PMID: 19050854.

Sprose et al (2009) Inhibition of casein kinase I ε/δ produces phase shifts in the circadian rhythms of Cynomolgus monkeys. *Psychopharmacology* **204** 735. PMID: 19277609.