

Product Name: PF 670462

Catalog No.: 3316

Batch No.: 3

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.2H₂O

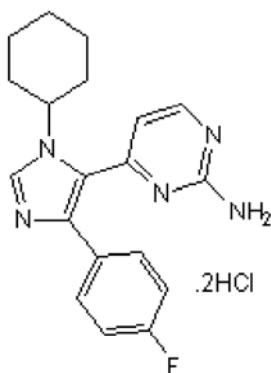
Batch Molecular Weight: 446.35

Physical Appearance: Cream solid

Solubility: DMSO to 100 mM

Storage: Desiccate at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.8% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen	Chlorine
Theoretical	51.13	5.87	15.69	15.88
Found	50.7	5.54	15.69	20.6

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Description:

PF 670462 is a potent and selective casein kinase 1 ϵ (CK1 ϵ) and CK1 δ 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:

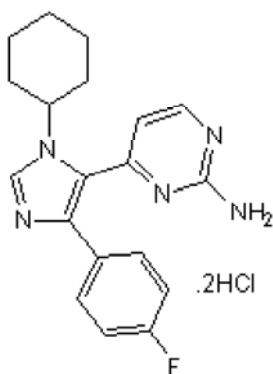
Batch Molecular Formula: C₁₉H₂₀FN₅.2HCl.2H₂O

Batch Molecular Weight: 446.35

Physical Appearance: Cream solid

Minimum Purity: ≥99%

Batch Molecular Structure:



Storage: Desiccate 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:

Bryant *et al* (2009) A role for casein kinase 1 epsilon in the locomotor stimulant response to metha. *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.

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

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