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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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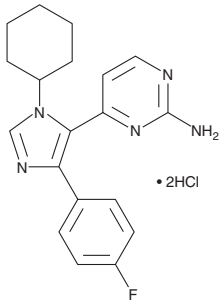
PRODUCT INFORMATION

PF-670462 (hydrochloride)

Item No. 14588



CAS Registry No.:	950912-80-8
Formal Name:	4-[1-cyclohexyl-4-(4-fluorophenyl)-1H-imidazol-5-yl]-2-pyrimidinamine, dihydrochloride
MF:	$C_{19}H_{20}FN_5 \bullet 2HCl$
FW:	410.3
Purity:	≥99%
UV/Vis.:	λ_{max}: 236, 322 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

PF-670462 (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the PF-670462 (hydrochloride) in the solvent of choice, which should be purged with an inert gas. PF-670462 (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of PF-670462 (hydrochloride) in DMSO is approximately 20 mg/ml and approximately 10 mg/ml in ethanol and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of PF-670462 (hydrochloride) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of PF-670462 (hydrochloride) in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

The casein kinase 1 (CK1) family of kinases regulate diverse processes, particularly related to circadian rhythms and sensitivity to amphetamines.[1,2] PF-670462 is a potent inhibitor of the CK1 isoforms CK1ε and CK1δ (IC_{50} = 7.7 and 14 nM, respectively).[3] It less effectively inhibits a wide variety of related or common kinases.[3] Through its effects on CK1, PF-670462 disrupts circadian rhythms in cells and animals.[3,4] It also blocks the locomotor response to amphetamines in mice.[2]

References

1. Cheong, J.K. and Virshup, D.M. Casein kinase 1: Complexity in the family. *Int. J. Biochem. Cell Biol.* **43(4)**, 465-469 (2011).
2. Bryant, C.D., Graham, M.E., Distler, M.G., *et al.* A role for casein kinase 1 epsilon in the locomotor stimulant response to methamphetamine. *Psychopharmacology (Berl)* **203(4)**, 703-711 (2009).
3. Badura, L., Swanson, T., Adamowicz, W., *et al.* An inhibitor of casein kinase Iε induces phase delays in circadian rhythms under free-running and entrained conditions. *J. Pharmacol. Exp. Ther.* **322(2)**, 730-738 (2007).
4. Storz, S.S., Tovin, A., Mracek, P., *et al.* Casein kinase 1δ activity: A key element in the zebrafish circadiam timing system. *PLoS One* **8(1)**, 1-10 (2013).

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