

# PF-670462

Catalog No: tcsc1015



## Available Sizes

**Size:** 10mg

**Size:** 50mg



## Specifications

**CAS No:**

950912-80-8

**Formula:**

$C_{19}H_{22}Cl_2FN_5$

**Pathway:**

Stem Cell/Wnt;Cell Cycle/DNA Damage

**Target:**

Casein Kinase;Casein Kinase

**Purity / Grade:**

>98%

**Solubility:**

DMSO :  $\geq 32$  mg/mL (77.99 mM)

**Observed Molecular Weight:**

410.32

## Product Description

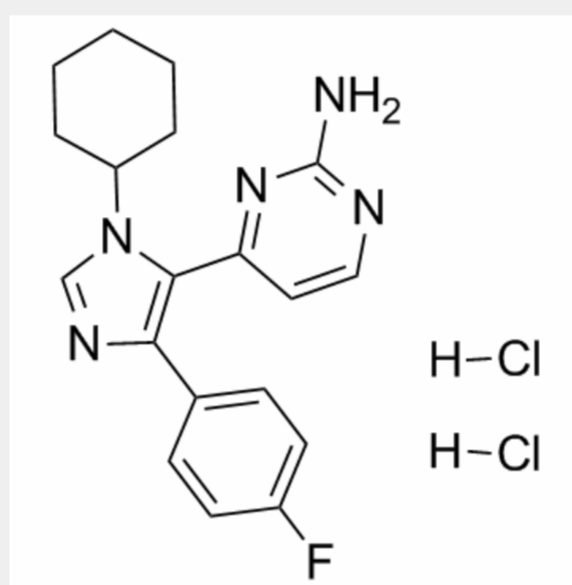
PF-670462 is a potent and selective inhibitor of **casein kinase (CK1 $\epsilon$  and CK1 $\delta$ )**, with **IC<sub>50</sub>s** of 7.7 nM and 14 nM, respectively.

IC50 & Target: IC50: 7.7 nM (CK1 $\epsilon$ ), 14 nM (CK1 $\delta$ ), 150 nM (EGFR), 190 nM (SAPK2A/p38)<sup>[1]</sup>, 17 nM (Wnt/ $\beta$ -catenin)<sup>[2]</sup>

**In Vitro:** PF-670462 is a potent and selective inhibitor of CK1 $\epsilon$  and CK1 $\delta$ , with IC<sub>50</sub>s of 7.7 nM and 14 nM, respectively. PF-670462 shows less than 30-fold selectivity for EGFR and SAPK2A/p38, with IC<sub>50</sub>s of 150 nM and 190 nM, respectively. PF-670462 also causes

a redistribution of the GFP signal to the cytoplasm in a concentration-dependent manner, with an  $EC_{50}$  of  $290 \pm 39$  nM in CK1 $\epsilon$ -transfected COS7 cells<sup>[1]</sup>. PF-670462 is a potent inhibitor of Wnt/ $\beta$ -catenin signaling, with an  $IC_{50}$  of  $\sim 17$  nM. PF-670462 (1  $\mu$ M) is a weak inhibitor of proliferation, and only modestly suppresses the growth of HEK293 and HT1080 cells. PF-670462 (100 nM) strongly inhibits CK1 $\epsilon$  and CK1 $\delta$ , consistent with its effect on Wnt/ $\beta$ -catenin signaling<sup>[2]</sup>.

**In Vivo:** PF-670462 (50 mg/kg, s.c.) produces robust phase delays, and the activity remains persistent, with no discernible correction in the absence of exogenous zeitgebers in rats. PF-670462 (25, 50, and 100 mg/kg, s.c.) induces dose-dependent phase shift<sup>[1]</sup>. PF-670462 (50 mg/kg; s.c.) significantly phase delays the rhythmic transcription of Bmal1, Per1, Per2 and Nr1d1 in both liver and pancreas by  $4.5 \pm 1.3$  h and  $4.5 \pm 1.2$  h, respectively, 1 day after administration. In the suprachiasmatic nucleus (SCN), the rhythm of Nr1d1 and Dbp mRNA expression is also delayed by 4.2 and 4 h, respectively<sup>[3]</sup>.



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!