

Product Name: Flavopiridol hydrochloride

Catalog No.: 3094

Batch No.: 1

CAS Number: 131740-09-5

IUPAC Name: 2-(2-Chlorophenyl)-5,7-dihydroxy-8-[(3*S*,4*R*)-3-hydroxy-1-methyl-4-piperidiny]-4*H*-1-benzopyran-4-one hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₁H₂₀ClNO₅.HCl.¼H₂O

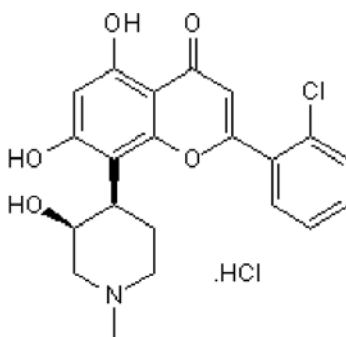
Batch Molecular Weight: 442.8

Physical Appearance: Tan solid

Solubility: water to 100 mM
DMSO to 100 mM
ethanol to 20 mM

Storage: Store at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.5% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Optical Rotation: [α]_D = -4 (Concentration = 0.5, Solvent = Methanol)

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	56.96	4.89	3.16
Found	56.92	5.16	3.19

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Description:

Cyclin-dependent kinase (cdk) inhibitor (reported IC₅₀ values are 6 - 25 nM and 84 - 200 nM for cdk9 and cdk2, respectively, and <0.85 μM for cdk1, cdk4, cdk5 and cdk7). Induces cell cycle arrest at G1 and G2 phase. Potently inhibits the growth of breast and lung cancer cell lines (IC₅₀ = 25 - 160 nM) in vitro.

Physical and Chemical Properties:

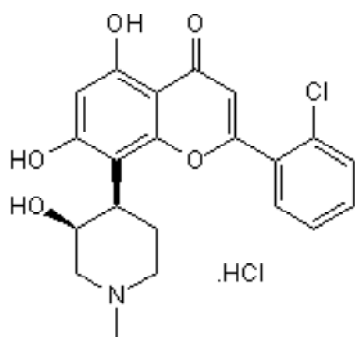
Batch Molecular Formula: C₂₁H₂₀ClNO₅·HCl·¼H₂O

Batch Molecular Weight: 442.8

Physical Appearance: Tan solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Store at +4°C

Solubility & Usage Info:

water to 100 mM
DMSO to 100 mM
ethanol to 20 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:

Jorda et al (2018) How selective are pharmacological inhibitors of cell-cycle-regulating cyclin-dependent kinases? *J.Med.Chem.* **61** 9105. PMID: 30234987.

Ambrosini et al (2008) The cyclin-dependent kinase inhibitor flavopiridol potentiates the effects of topoisomerase I poisons by suppressing Rad51 expression in a p53-dependent manner. *Cancer Res.* **68** 2312. PMID: 18381438.

Losiewicz et al (1994) Potent inhibition of Cdc2 kinase activity by the flavonoid L86-8275. *Biochem.Biophys.Res.Comm.* **201** 589.

Kaur et al (1992) Growth inhibition with reversible cell cycle arrest of carcinoma cells by Flavone L86-8275. *J.Natl.Cancer.Inst.* **84** 1736. PMID: 1279187.

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