Certificate of Analysis

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-piperidinyl]-4*H*-1-benzopyran-4-one hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{21}H_{20}ClNO_5.HCl.¼H_2O$

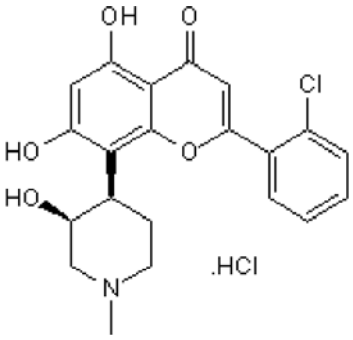
Batch Molecular Weight: 442.8

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

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Optical Rotation: $[\alpha]_D$ = -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 IC_{50} 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 G_1 and G_2 phase. Potently inhibits the growth of breast and lung cancer cell lines (IC_{50} = 25 - 160 nM) in vitro.

Physical and Chemical Properties:

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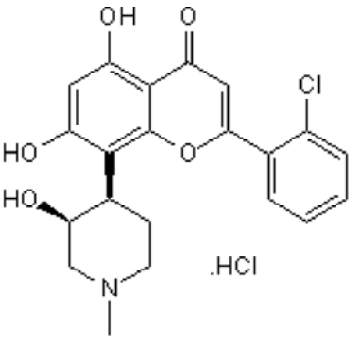
Batch Molecular Weight: 442.8

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.