# PRODUCT INFORMATION

## Flavopiridol (hydrochloride)

*Item No. 10009197*

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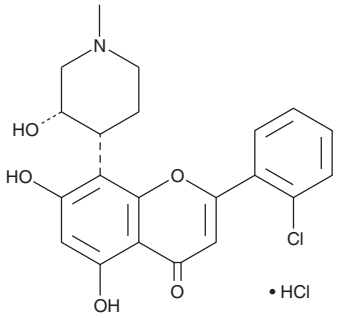
| **CAS Registry No.:** | 131740-09-5 |
| **Formal Name:** | 2-(2-chlorophenyl)-5,7-dihydroxy-8-[(3S,4R)-3-hydroxy-1-methyl-4-piperidinyl]-4H-1-benzopyran-4-one, monohydrochloride |
| **Synonyms:** | Alvocidib, HL 275, HMR 1275, L-868,275 |
| **MF:** | $C_{21}H_{20}ClNO_5 \bullet HCl$ |
| **FW:** | 438.3 |
| **Purity:** | ≥95% |
| **UV/Vis.:** | $\lambda_{max}$: 211, 265, 307 nm |
| **Supplied as:** | A crystalline 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

Flavopiridol (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the flavopiridol (hydrochloride) in the solvent of choice. Flavopiridol (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of flavopiridol (hydrochloride) in these solvents is approximately 1.6, 12.5, and 16 mg/ml, respectively.

Flavopiridol (hydrochloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, flavopiridol (hydrochloride) should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Flavopiridol (hydrochloride) has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Flavopiridol is an orally bioavailable inhibitor of cyclin dependent kinases ($IC_{50}$s = ~100, ~100, ~100, and 300 nM for Cdk1, Cdk2, Cdk4, and Cdk7, respectively).[1] It also inhibits TEFb, a complex composed of Cdk9 and cyclin T1, with a $K_i$ value of 3 nM.[2] Flavopiridol inhibits transcription of a CMV promoter in HeLa nuclear extract ($IC_{50}$ = 34 nM), Tat-stimulated transcription of an HIV-1 promotor ($IC_{50}$ = 7 nM), and HIV-1 replication in HEK239T cells ($IC_{50}$ = <10 nM). *In vivo*, flavopiridol (5 mg/kg, i.p.) induces apoptosis and cyclin D1 depletion and delays tumor growth in an HN-12 head and neck carcinoma mouse xenograft model.[1] It also suppresses synovial hyperplasia and joint destruction in a mouse model of collagen-induced arthritis.[3]

### References


1. Senderowicz, A.M. and Sausville, E.A. Preclinical and clinical development of cyclin-dependent kinase modulators. *J. Natl. Cancer Inst.* **92(5)**, 376-387 (2000).
2. Chao, S.H., Fujinaga, K., Marion, J.E., *et al.* Flavopiridol inhibits P-TEFb and blocks HIV-1 replication. *J. Biol. Chem.* **275(37)**, 28345-28348 (2000).
3. Sekine, C., Sugihara, T., Miyake, S., *et al.* Successful treatment of animal models of rheumatoid arthritis with small-molecule cyclin-dependent kinase inhibitors. *J. Immunol.* **180(3)**, 1954-1961 (2008).





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