

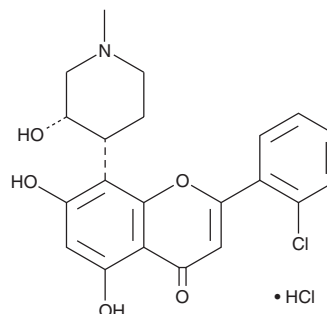
PRODUCT INFORMATION



Flavopiridol (hydrochloride)

Item No. 10009197

CAS Registry No.: 131740-09-5
Formal Name: 2-(2-chlorophenyl)-5,7-dihydroxy-8-[(3S,4R)-3-hydroxy-1-methyl-4-piperidiny]-4H-1-benzopyran-4-one, monohydrochloride
Synonyms: Alvocidib, HL 275, HMR 1275, L-868,275
MF: $C_{21}H_{20}ClNO_5 \cdot HCl$
FW: 438.3
Purity: $\geq 95\%$
UV/Vis.: λ_{max} : 211, 265, 307 nm
Supplied as: A crystalline solid
Storage: $-20^{\circ}C$
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 promoter (IC_{50} = 7 nM), and HIV-1 replication in HEK293T 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).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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