

Product Information

5-Fluoro-5'-deoxyuridine

Product Number **F 8791**
Store at Room Temperature

Product Description

Molecular Formula: C₉H₁₁FN₂O₅
Molecular Weight: 246.2
CAS Number: 3094-09-5
Synonym: 5'dFUrd, doxifluridine

5-fluoro-5'-deoxyuridine (5'dFUrd) is an antitumor agent that has been widely investigated in a variety of cancer studies.¹ These include mouse cachexia,² human breast cancer,³ and mouse bladder cancer.⁴

The antineoplastic properties of 5'dFUrd occur upon conversion of the 5'dFUrd to 5-fluorouracil by the enzyme thymidine phosphorylase.⁵ 5'dFUrd is also an intermediate in the three-stage enzymatic conversion of capecitabine to 5-fluorouracil.⁶ 5'dFUrd has been reported to inhibit DNA synthesis through inhibition of thymidylate synthetase, in a manner analogous to the activity of 5-fluorouracil.⁷

In NIH-3T3 lines transformed by the H-ras (S2-721) and trk (106-632) oncogenes, the sensitivity of these cells to 5'dFUrd is notably enhanced.⁸ 5'dFUrd has been shown to enhance uptake of daunorubicin in multidrug-resistant cells.⁹ The pharmacokinetics and bioavailability of 5'dFUrd in cancer patients have been investigated.¹⁰

An HPLC assay for 5'dFUrd and its related metabolites has been published.¹¹ An analysis of 5'dFUrd and its metabolites by ¹⁹F-NMR has been published.¹²

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in water (50 mg/ml), yielding a clear, colorless solution.

References

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9. Van der Heyden, S., et al., 5'-Deoxy-5-fluorouridine increases daunorubicin uptake in multidrug-resistant cells and its activity is related with P-gp 170 expression. *Jpn. J. Cancer Res.*, **85**, 13-16 (1994).

10. Van der Heyden, S.A., et al., Pharmacokinetics and bioavailability of oral 5'-deoxy-5-fluorouridine in cancer patients. *Br. J. Clin. Pharmacol.*, **47**, 351-356 (1999).
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