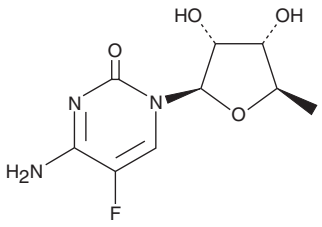
PRODUCT INFORMATION

5'-deoxy-5-Fluorocytidine

Item No. 10010682

CAS Registry No.:	66335-38-4
Formal Name:	5'-deoxy-5-fluoro-cytidine
Synonym:	5'-DFCR
MF:	$C_9H_{12}FN_3O_4$
FW:	245.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 242, 282 nmm
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

5'-deoxy-5-Fluorocytidine is supplied as a crystalline solid. A stock solution may be made by dissolving the 5'-deoxy-5-fluorocytidine in the solvent of choice, which should be purged with an inert gas. 5'-deoxy-5-Fluorocytidine is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of 5'-deoxy-5-fluorocytidine in these solvents is approximately 20 and 10 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 5'-deoxy-5-fluorocytidine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 5'-deoxy-5-fluorocytidine in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

5'-deoxy-5-Fluorocytidine is an intermediate metabolite of the DNA synthesis inhibitor capecitabine (Item No 10487).[1] Capecitabine is converted by carboxylesterase to 5'-deoxy-5-fluorocytidine in the liver, then by cytidine deaminase to 5'-deoxy-5-fluorouridine in the liver and tumor tissues, and finally, by thymidine phosphorylase to 5-fluorouracil (Item No. 14416) in tumors.[1] The cytotoxicity of this intermediate occurs only after conversion to 5-fluorouracil.[1]

Reference

1. Miwa, M., Ura, M., Nishida, M., *et al*. Design of a novel oral fluoropyrimidine carbamate, capecitabine, which generates 5-fluorouracil selectively in tumours by enzymes concentrated in human liver and cancer tissue. *Eur. J. Cancer* **34(8)**, 1274-1281 (1998).

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