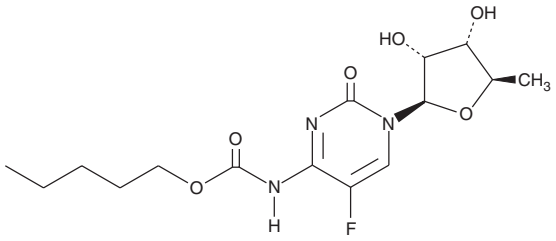
PRODUCT INFORMATION

Capecitabine

Item No. 10487

CAS Registry No.:	154361-50-9
Formal Name:	5'-deoxy-5-fluoro-N-[(pentyloxy) carbonyl]-cytidine
Synonym:	Ro 09-1978
MF:	$C_{15}H_{22}FN_3O_6$
FW:	359.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 215, 243, 308 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

Capecitabine is supplied as a crystalline solid. A stock solution may be made by dissolving the capecitabine in the solvent of choice, which should be purged with an inert gas. Capecitabine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of capecitabine in these solvents is approximately 5, 12.5, and 14 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 capecitabine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of capecitabine in PBS (pH 7.2) is approximately 0.15 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Capecitabine is a prodrug of 5-fluorouracil (5-FU; Item No. 14416).[1] It is converted to 5-FU *via* several enzymatic steps beginning in the liver and ending with conversion in tumor tissue by thymidine phosphorylase, an enzyme that is more concentrated in tumor tissue compared with normal tissue. Capecitabine is cytotoxic only at high concentrations in Scaber, SIHA, and MKN45 cells (IC_{50}s = 97, 578, and 994 µM, respectively) and is inactive in a variety of cancer cell lines, including COLO205, HCT116, and MCF-7 cells (IC_{50}s = >1,000 µM).

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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