Product Information

5-Fluorocytosine
Item No. 11635

CAS Registry No.: 2022-85-7
Formal Name: 6-amino-5-fluoro-2(H)-pyrimidinone
Synonyms: Ancobon, Ancotil, 5-FC, NSC 103805, Ro 2-9915
MF: C₄H₄FN₃O
FW: 129.1
Purity: ≥95%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis: λ_max 239, 278 nm

Laboratory Procedures
For long term storage, we suggest that 5-fluorocytosine (5-FC) be stored as supplied at -20°C. It should be stable for at least two years.

5-FC is supplied as a crystalline solid. A stock solution may be made by dissolving the 5-FC in the solvent of choice. 5-FC is soluble in DMSO, which should be purged with an inert gas. The solubility of 5-FC in DMSO is approximately 0.2 mg/ml.

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-FC can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 5-FC in PBS, pH 7.2, is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

5-FC, a fluorinated pyrimidine analog, is a synthetic antimycotic prodrug that is converted by cytosine deaminase to 5-fluorouracil. 5-Fluorouracil, a widely used cytotoxic drug, is further metabolized to fluorinated ribo- and deoxyribonucleotides, resulting in the inhibition of DNA and protein synthesis, which has multiple effects including inhibition of Candida species and C. neoformans infections and cytotoxicity towards cancer cells. In combination with a retroviral replicating vector carrying a cytosine deaminase prodrug-activating gene, 5-FC has been shown to selectively eliminate CT26 and Tu-2449 tumor cells in vitro (IC_{50} = 4.2 and 1.5 μM, respectively) and to significantly improve survival and reduce tumor size (at a dose of 500 mg/kg) in two different syngeneic mouse glioma models.³

References
2. Fuerer, C. and Iggo, R. 5-Fluorocytosine increases the toxicity of Wnt-targeting replicating adenoviruses that express cytosine deaminase as a late gene. Gene Ther. 11, 142-151 (2004).

Related Products
For a list of related products please visit: www.caymanchem.com/catalog/11635

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA
This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Cayman Chemical Company makes no warranty or guarantee of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals herein. Cayman warrants only to the original customer that the material will meet our specifications. This warranty does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees, Buyer’s exclusive remedy and Cayman’s sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman’s option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.

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Cayman Chemical
Mailing address
1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA
Phone
(800) 364-9897
(734) 971-3335
Fax
(734) 971-3640
E-Mail
custserv@caymanchem.com
Web
www.caymanchem.com