

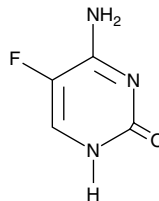
# Product Information



## 5-Fluorocytosine

Item No. 11635

**CAS Registry No.:** 2022-85-7  
**Formal Name:** 6-amino-5-fluoro-2(1H)-pyrimidinone  
**Synonyms:** Ancobon, Ancotil, 5-FC, NSC 103805, Ro 2-9915  
**MF:**  $C_4H_4FN_3O$   
**FW:** 129.1  
**Purity:**  $\geq 95\%$   
**Stability:**  $\geq 2$  years at  $-20^\circ\text{C}$   
**Supplied as:** A crystalline solid  
**UV/Vis.:**  $\lambda_{\text{max}}$ : 239, 278 nm



### Laboratory Procedures

For long term storage, we suggest that 5-fluorocytosine (5-FC) be stored as supplied at  $-20^\circ\text{C}$ . 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.<sup>1</sup> 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.<sup>1,2</sup> 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* ( $IC_{50}$ s = 4.2 and 1.5  $\mu\text{M}$ , respectively) and to significantly improve survival and reduce tumor size (at a dose of 500 mg/kg) in two different syngeneic mouse glioma models.<sup>3</sup>

### References

- Herbrecht, R., Nivoix, Y., Fohrer, C., *et al.* Management of systemic fungal infections: Alternatives to itraconazole. *J. Antimicrob. Chemother.* **56**, i39-i48 (2005).
- 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).
- Ostertag, D., Amundson, K.K., Lopez Espinoza, F., *et al.* Brain tumor eradication and prolonged survival from intratumoral conversion of 5-fluorocytosine to 5-fluorouracil using a nonlytic retroviral replicating vector. *Neuro Oncol.* **14**(2), 145-159 (2012).

### Related Products

For a list of related products please visit: [www.caymanchem.com/catalog/11635](http://www.caymanchem.com/catalog/11635)

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**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.

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