Gimeracil
Item No. 16525

CAS Registry No.: 103766-25-2
Formal Name: 5-chloro-4-hydroxy-2(1H)-pyrimidone
Synonyms: CDHP, 5-Chlorodihydropyrimidine, Gimestat
MF: C₉H₄ClNO₂
FW: 145.5
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λmax 213, 291 nm

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

Gimeracil is supplied as a crystalline solid. A stock solution may be made by dissolving the gimeracil in the solvent of choice. Gimeracil is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of gimeracil in these solvents is approximately 0.1, 25, and 20 mg/ml.

Gimeracil is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, gimeracil should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Gimeracil has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

5-Fluorouracil (Item No. 14416) is a pyrimidine analog that irreversibly inhibits thymidylate synthase, blocking the synthesis of thymidine, which is required for DNA synthesis. It has been widely used to treat many gastrointestinal tract adenocarcinomas with mixed clinical efficacy.1 Gimeracil is an inhibitor of dihydropyrimidine dehydrogenase, the rate limiting enzyme for the catabolism of pyrimidines, including 5-fluorouracil. It has been administered concomitantly with 5-fluorouracil in a chemotherapy regimen termed S-1 to block 5-fluorouracil degradation, thus prolonging circulating 5-fluorouracil concentrations.2 Furthermore, at 1 mM gimeracil has been shown to inhibit homologous recombination in the repair of DNA double strand breaks, which can sensitize cancer cells to radiotherapy.3

References

Related Products
For a list of related products please visit: www.caymanchem.com/catalog/16525

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 eye, 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 Safety Data Sheet, which has been sent to our email to your institution.

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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 hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

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