

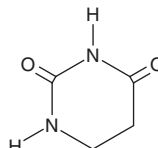
# PRODUCT INFORMATION



## 5,6-Dihydrouracil

Item No. 36438

**CAS Registry No.:** 504-07-4  
**Formal Name:** dihydro-2,4(1H,3H)-pyrimidinedione  
**Synonym:** NSC 11867  
**MF:** C<sub>4</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub>  
**FW:** 114.1  
**Purity:** ≥98%  
**Supplied as:** A 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

5,6-Dihydrouracil is supplied as a solid. A stock solution may be made by dissolving the 5,6-dihydrouracil in the solvent of choice, which should be purged with an inert gas. 5,6-Dihydrouracil is soluble in the organic solvent DMSO at a concentration of approximately 1 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 5,6-dihydrouracil can be prepared by directly dissolving the solid in aqueous buffers. The solubility of 5,6-dihydrouracil in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

5,6-Dihydrouracil is a catabolite of uracil (Item No. 26088).<sup>1</sup> It is formed from uracil by dihydropyrimidine dehydrogenase. The plasma ratio of 5,6-dihydrouracil to uracil has been used as a phenotypic marker of dihydropyrimidine dehydrogenase activity.<sup>2</sup>

### References

1. Büchel, B., Rhyn, P., Schürch, S., *et al.* LC-MS/MS method for simultaneous analysis of uracil, 5,6-dihydrouracil, 5-fluorouracil and 5-fluoro-5,6-dihydrouracil in human plasma for therapeutic drug monitoring and toxicity prediction in cancer patients. *Biomed. Chromatogr.* **27**(1), 7-16 (2013).
2. Chavani, O., Jensen, B.P., Strother, R.M., *et al.* Development, validation and application of a novel liquid chromatography tandem mass spectrometry assay measuring uracil, 5,6-dihydrouracil, 5-fluorouracil, 5,6-dihydro-5-fluorouracil, α-fluoro-β-ureidopropionic acid and α-fluoro-β-alanine in human plasma. *J. Pharm. Biomed. Anal.* **142**, 125-135 (2017).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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