

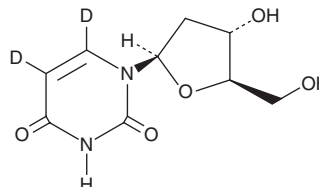
# PRODUCT INFORMATION



## 2'-Deoxyuridine-d<sub>2</sub>

Item No. 36323

**CAS Registry No.:** 40632-23-3  
**Formal Name:** 2'-deoxy-uridine-5,6-d<sub>2</sub>  
**Synonym:** Uracil deoxyribose-d<sub>2</sub>  
**MF:** C<sub>9</sub>H<sub>10</sub>D<sub>2</sub>N<sub>2</sub>O<sub>5</sub>  
**FW:** 230.2  
**Chemical Purity:** ≥98% (2'-Deoxyuridine)  
**Deuterium**  
**Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>2</sub>); ≤1% d<sub>0</sub>  
**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

2'-Deoxyuridine-d<sub>2</sub> is intended for use as an internal standard for the quantification of 2'-deoxyuridine (Item No. 27803) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

2'-Deoxyuridine-d<sub>2</sub> is supplied as a solid. A stock solution may be made by dissolving the 2'-deoxyuridine-d<sub>2</sub> in the solvent of choice, which should be purged with an inert gas. 2'-Deoxyuridine-d<sub>2</sub> is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of 2'-deoxyuridine-d<sub>2</sub> in these solvents is approximately 10 and 16 mg/ml, respectively. 2'-Deoxyuridine-d<sub>2</sub> is also slightly soluble in ethanol.

### Description

2'-Deoxyuridine is a pyrimidine nucleoside composed of the pyrimidine base uracil (Item No. 26088) attached to the sugar deoxyribose.<sup>1</sup> It has been used as a precursor in the synthesis of antiviral deoxyuridine derivatives, including idoxuridine (Item No. 20222).<sup>2,3</sup> Formulations containing 2'-deoxyuridine have been used in the deoxyuridine suppression test to identify vitamin B12 and/or folate deficiency and in the diagnosis of megaloblastic anemias.

### References

1. Martí, R., López, L.C., and Hirano, M. Assessment of thymidine phosphorylase function: Measurement of plasma thymidine (and deoxyuridine) and thymidine phosphorylase activity. *Methods Mol. Biol.* **837**, 121-133 (2012).
2. Prusoff, W.H. Synthesis and biological activities of iododeoxyuridine, an analog of thymidine. *Biochim. Biophys. Acta.* **32(1)**, 295-296 (1959).
3. Bergstrom, D.E. and Ogawa, M.K. C-5 substituted pyrimidine nucleosides. 2. Synthesis via olefin coupling to organopalladium intermediates derived from uridine to 2'-deoxyuridine. *J. Am. Chem. Soc.* **100(26)**, 8106-8112 (1978).

#### 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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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
[WWW.CAYMANCHEM.COM](http://WWW.CAYMANCHEM.COM)