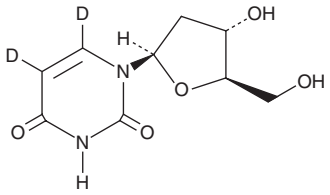
PRODUCT INFORMATION

2′-Deoxyuridine-d_2

Item No. 36323

CAS Registry No.: 40632-23-3
Formal Name: 2′-deoxy-uridine-5,6-d_2
Synonym: Uracil deoxyribose-d_2
MF: $C_9H_{10}D_2N_2O_5$
FW: 230.2
Chemical Purity: ≥98% (2'-Deoxyuridine)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_2); ≤1% d_0
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_2 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_2 is supplied as a solid. A stock solution may be made by dissolving the 2′-deoxyuridine-d_2 in the solvent of choice, which should be purged with an inert gas. 2′-Deoxyuridine-d_2 is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of 2′-deoxyuridine-d_2 in these solvents is approximately 10 and 16 mg/ml, respectively. 2′-Deoxyuridine-d_2 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.[1] It has been used as a precursor in the synthesis of antiviral deoxyuridine derivatives, including idoxuridine (Item No. 20222).[2,3] 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).

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