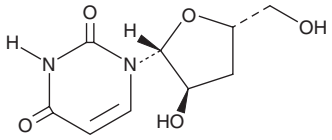
PRODUCT INFORMATION

3′-Deoxyuridine

Item No. 36547

CAS Registry No.:	7057-27-4
Formal Name:	3′-deoxy-uridine
MF:	$C_9H_{12}N_2O_5$
FW:	228.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 264 nm
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

3′-Deoxyuridine is supplied as a solid. A stock solution may be made by dissolving the 3′-deoxyuridine in the solvent of choice, which should be purged with an inert gas. 3′-Deoxyuridine is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of 3′-deoxyuridine in these solvents is approximately 10 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 3′-deoxyuridine can be prepared by directly dissolving the solid in aqueous buffers. The solubility of 3′-deoxyuridine in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

3′-Deoxyuridine is a dehydroxylated derivative of uridine (Item No. 20300).[1] It inhibits *T. gondii* uridine phosphorylase (apparent K_i = 2.459 mM). 3′-Deoxyuridine decreases the proliferation of CCRF CEM and L1210 human leukemia, P388 mouse leukemia, and S180 mouse sarcoma cells (EC_{50}s = 25, 5, 2.5, and 15 µM, respectively).[2] It reduces the infection rate and number of *T. cruzi* amastigotes in HeLa cells when used at a concentration of 1 µM.[3] 3′-Deoxyuridine (500 µM) is less effective than 2′-deoxyuridine (Item No. 27803) at inducing sodium currents in *X. laevis* oocytes expressing human concentrative nucleoside transporter 1 (CNT 1) or CNT 3.[4]

References

1. el Kouni, M.H., Naguib, F.N., Panzica, R.P., *et al.* Effects of modifications in the pentose moiety and conformational changes on the binding of nucleoside ligands to uridine phosphorylase from *Toxoplasma gondii*. *Biochem. Pharmacol.* **51(12)**, 1687-1700 (1996).
2. Lin, T.-S., Yang, Y.-H., Liu, M.-C., *et al.* Synthesis and anticancer activity of various 3'-deoxy pyrimidine nucleoside analogues and crystal structure of 1-(3-deoxy-β-D-threo-pentofuranosyl)cytosine. *J. Med. Chem.* **34(2)**, 693-701 (1991).
3. Nakajima-Shimada, J., Hirota, Y., and Aoki, T. Inhibition of Trypanosoma cruzi growth in mammalian cells by purine and pyrimidine analogs. *Antimicrob. Agents Chemother.* **40(11)**, 2455-2458 (1996).
4. Zhang, J., Smith, K.M., Tackaberry, T., *et al.* Uridine binding and transportability determinants of human concentrative nucleoside transporters. *Mol. Pharmacol.* **68(3)**, 830-839 (2005).

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