

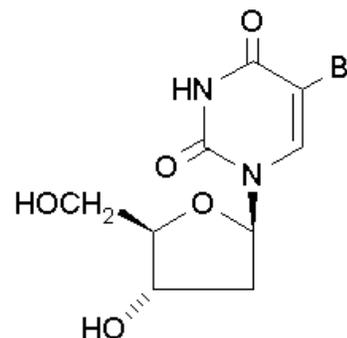
Product Information

16880 5-Bromo-2'-deoxyuridine (5-Bromo-1-(2-deoxy- β -Dribofuranosyl)uracil; 5-Bromouracil deoxyriboside, 5-BrdU)

CAS Number: 59-14-3

Product Description:

Appearance:	White to white with a faint yellow cast powder
Molecular Formula:	C ₉ H ₁₁ BrN ₂ O ₆
Molecular Weight:	307.1 g/mol
pKa:	8.11
mp:	187-189°C (dec.) ²
α_{546}^{20} :	+28 (+/-) 1° (1% in water) ³
α_D^{20} :	+23 (+/-) 1° (1% in water) ³
ϵ (280nm):	9.9 (in 0.1 N HCl) ⁴
ϵ (277nm):	7.2 (in 0.1 N NaOH) ⁴
ϵ (280nm):	9.25 (in pH 2) ¹



5-BrdU is a brominated analog of thymidine and should be stored desiccated at 2-8°C.

Solubility/Solution Stability:

The solubility at 10 mg/mL in water is routinely tested in quality control. It is also soluble in DMF, DMSO and water (after heating) at 50-100 mg/mL. Solutions at neutral pH should be stable for at least 6 months when stored frozen at -20°C.

Applications:

5-BrdU is selectively incorporated into cell DNA at the S phase of cell cycle. The use of 5-BrdU as a thymidine analog has made possible the identification of DNA synthesis in suspensions of cells, cell smears and tissue sections. The incorporation of BrdU into DNA in place of thymidine is discussed by A.L. Givan.⁵ 5-BrdU at 0.16 to 500 μ g/mL of cell culture media produced inhibition of growth of KD cells (rabbit kidney cells). Effective inhibition at concentrations greater than 1.0 μ g/mL was observed.⁶ It is incorporated, in vivo, by injecting 10-100 mg/kg at 10 mg/mL in saline intraperitoneally.⁷ It is also incorporated into bone marrow cells in culture at a final concentration of 10 μ M at 37°C for one hour. For incorporation to occur, the 5-BrdU must be phosphorylated in the cell by thymidine kinase.⁸ FITC-conjugated second antibodies can be used with antibodies specific for 5-BrdU (Sigma B2531) which will stain "new" DNA fluoresce green while denatured DNA can be stained with propidium iodide and will fluoresce red.

Precautions and Disclaimer:

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

References:

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