

Product Information

5-Bromo-2'-Deoxyuridine BioUltra

Catalog Number **B9285**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

CAS RN 59-14-3
Synonyms: Br-dU, BUdR, 5-BrdU,
5-Bromodeoxyuridine

Molecular Formula: $\text{C}_9\text{H}_{11}\text{BrN}_2\text{O}_5$
Molecular Weight: 307.10 (anhydrous)
 pK_a : 8.1¹
Melting point: $187\text{-}189\text{ }^{\circ}\text{C}$ ²
 $[\alpha_D]^{25} = +22.9^{\circ}$ (1% in water)³
 E^{mM} (280 nm) = 9.9 (in 0.1 N HCl)⁴
 E^{mM} (277 nm) = 7.2 (in 0.1 N NaOH)⁴
 E^{mM} (280 nm) = 9.25 (in pH 2)¹

Product Description

This BioUltra product has specification requirements to ensure a highly pure product, including trace elemental analyses.

5-Bromodeoxyuridine (BrdU) is a brominated analog of thymidine. BrdU is selectively incorporated into cell DNA at the S phase of the cell cycle. The use of BrdU as a thymidine analog has facilitated the identification of DNA synthesis in suspensions of cells, cell smears, and tissue sections. A review on the incorporation of BrdU into DNA in place of thymidine has been published.⁵

BrdU at 0.16–500 $\mu\text{g}/\text{mL}$ of cell culture medium produced inhibition of growth of KD cells (rabbit kidney cells). Effective inhibition at concentrations $>1.0\text{ }\mu\text{g}/\text{mL}$ was observed.⁶ It is incorporated, *in vivo*, by injecting 10–100 mg/kg at 10 mg/mL in saline intraperitoneally.⁷ BrdU is also incorporated into bone marrow cells in culture at a final concentration of 10 μM at 37 $^{\circ}\text{C}$ for one hour. For incorporation to occur, the BrdU must be phosphorylated in the cell by thymidine kinase.⁸

FITC-conjugated secondary antibodies can be used with BrdU-specific antibodies, which will make "new" DNA fluoresce green. 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 Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

The solubility of BrdU is routinely tested at 50 mg/mL in 1 M ammonium hydroxide. One publication reports preparation of stock solutions of BrdU in water at 5 mg/mL.⁹ Another publication reports preparation of stock solutions of BrdU in 40% ethanol at 20 mg/mL.¹⁰

Storage/Stability

BrdU should be stored at $-20\text{ }^{\circ}\text{C}$ and desiccated.

References

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