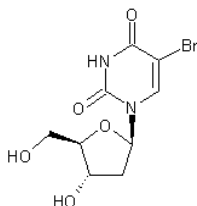


BrdU [5-Bromo-2'-deoxyuridine]

Ordering Information	Storage Conditions
Product Numbers: 17030 (25 mg)	Keep at -20 °C and desiccated

Chemical and Physical Properties



Molecular Weight: 307.09

Appearance: Off white

Solvents: DMSO

Biological Applications

5-Bromo-2-deoxyuridine (BrdU) is an analog of thymidine, and can be incorporated into the newly synthesized DNA of replicating cells (S-phase cells). BrdU is commonly used in the detection of proliferating cells in living tissues. It works by substituting for thymidine during DNA replication and incorporating itself into the newly synthesized DNA (during S-phase). Antibodies specific for BrdU can then be used to detect the incorporated chemical, thus indicating cells that were actively replicating their DNA. Because BrdU can replace thymidine during the S phase of cell division, it can cause mutations.

Sample Protocol for Staining Cells

The following procedure can be adapted for most cell types. Growth medium, cell density, the presence of other cell types and other factors may influence the BrdU incorporation.

- 1). Make 1-10 mM DMSO stock solution. The DMSO stock solution is good for 6 months if stored at -20 °C.
- 2). Pellet cells by centrifugation and resuspend the cells in completed growth media. Adherent cells in culture may be stained *in situ* on cover slips or in the cell culture wells.
- 3). Add BrdU stain using the concentrations between 5 and 20 μ M and incubate it for 60 minutes to overnight as a guide. The optimum incubation time will depend upon cell type and the goal of the experiment.
- 4). Fix cells by with 70-80% alcohol or acid-ethanol for 20-30 min.
- 5). Wash with PBS (3 times, 2 min. each).
- 6). Proceed with immunocytochemical staining techniques.

References

1. Zeng Y, Wang Y. (2006) Sequence-dependent formation of intrastrand crosslink products from the UVB irradiation of duplex DNA containing a 5-bromo-2'-deoxyuridine or 5-bromo-2'-deoxycytidine. *Nucleic Acids Res.*
2. Kuwagata M, Ogawa T, Nagata T, Shioda S. (2006) The evaluation of early embryonic neurogenesis after exposure to the genotoxic agent 5-bromo-2'-deoxyuridine in mice. *Neurotoxicology.*
3. Sahambi SK, Hales BF. (2006) Exposure to 5-bromo-2'-deoxyuridine induces oxidative stress and activator protein-1 DNA binding activity in the embryo. *Birth Defects Res A Clin Mol Teratol*, 76, 580.

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