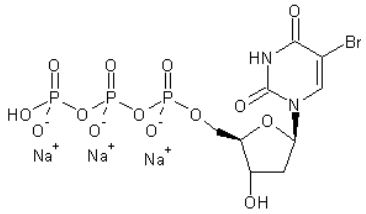
BrdUTP [5-Bromo-2'-deoxyuridine 5'-triphosphate] *10 mM in TE Buffer*

Ordering Information	*Storage Conditions*
Product Numbers: 17031 (100 µL)	Keep at -20 °C

Chemical and Physical Properties



Molecular Weight: 612.98
Concentration: 10 mM in TE buffer

Biological Applications

BrdUTP can be incorporated into DNA for the subsequent detection with anti-BrdU antibodies. BrdUTP incorporation into DNA is also a tool for random-mutation introduction.

Sample Protocol for DNA Strand Break Labeling with BrdUTP

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 experiment results.

1). Prepare cells as desired, and fix cells with 4% formaldehyde.
2). Resuspend the cell pellet (0.5–1 × 10^6 cells) in 50 µL of a solution containing:
- 10 µL of 1 M potassium (or sodium cacodylate), 125 mM HCl, pH 6.6, and 1.25 mg/mL BSA.
- 0.5 µL of 10 mM BrdUTP.
- 0.5 µL (12.5 units) TdT.
- 5 µL of 10 mM $CoCl_2$ solution.
- 35 µL distilled H_2O.

3). Incubate the cells for 40 min to 1 hour at 37 °C.
4). Rinse the cells with PBS.
5). Resuspend the cells in 100 µL of fluorescent anti-BrdU Antibody solution (e.g., iFluor™ 647-conjugated)
6). Incubate at room temperature for 1 h.
Optional: Add Propidium Iodide (or DAPI) to stain cell nuclei if desired.
7). Analyze the cells by flow cytometry.

References

1. Darzynkiewicz Z and Zhao H (2011) Detection of DNA Strand Breaks in Apoptotic Cells by Flow- and Image-Cytometry Methods Mol Biol. 682: 91–101.
2. 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.
3. 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.
4. 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.