

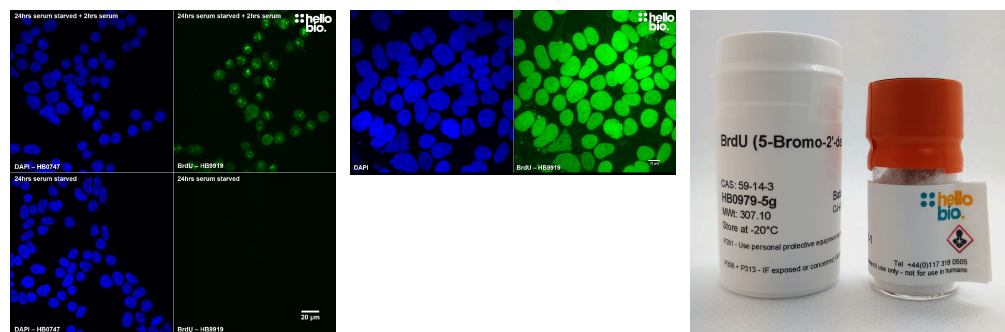
# DATASHEET

## BrdU (5-Bromo-2'-deoxyuridine)

### Product overview

<b>Name</b>	BrdU (5-Bromo-2'-deoxyuridine)
<b>Cat No</b>	HB0979
<b>Alternative names</b>	5-BrdU, 5-bromo-2'-deoxyuridine, Broxuridine
<b>Biological action</b>	Dyes & stains
<b>Purity</b>	>98%
<b>Description</b>	Thymidine analog. Widely used to identify proliferating cells, enhances Yamanaka factor reprogramming

### Images



### Biological Data

#### Biological description

Thymidine analog which is incorporated into DNA during DNA replication (during S-phase of cell cycle).

BrdU is used to identify proliferating cells. Labels cell lines and primary cell cultures in vitro and also cells in vivo. Suitable for in vivo use.

Widely used to study adult neurogenesis. Can be used in combination with neuron specific markers such as NeuN to identify newly formed neurons.

Frequently used to label and fate-map dividing cells in neural stem cell biology.

#### Application notes

##### #Protocol 1: Serum starved vs stimulated BrdU proliferation assay

- HEK293T cells were cultured until approximately 50% confluency in 10% FBS in DMEM before media was exchanged to pure DMEM for 24hrs.
- Cells were either left in DMEM (serum starved) or incubated in 20% FBS in DMEM (serum starved + stimulated) for 2hrs in the presence of 10 $\mu$ M BrdU (HB0978).
- Cells were fixed in 4% PFA and then stained for BrdU using a monoclonal anti-BrdU antibody (HB9919) following our [ICC protocol](#) then imaged using a confocal microscope.

##### #Protocol 2: Proliferation of HEK293T cells visualised using BrdU

- BrdU cells were cultured in 10% FBS in DMEM in the presence of 10µM BrdU (HB0978) for 5 days.
- Cells were fixed in 4% PFA and then stained for BrdU using a monoclonal anti-BrdU antibody (HB9919) following our [ICC protocol](#) then imaged using a confocal microscope.

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## Solubility & Handling

### Storage instructions Solubility overview Important

-20°C

Soluble in water (50mM) and in DMSO (100mM)

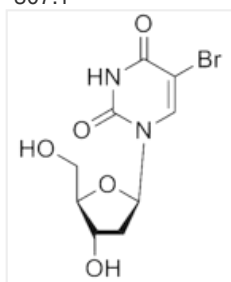
This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

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## Chemical Data

### Chemical name Molecular Weight Chemical structure

5-Bromo-2-deoxyuridine  
307.1



### Molecular Formula CAS Number PubChem identifier SMILES Source InChi

C<sub>9</sub>H<sub>11</sub>BrN<sub>2</sub>O<sub>5</sub>

59-14-3

6035

C1[C@@H]([C@H](O[C@H]1N2C=C(C(=O)NC2=O)Br)CO)O

Synthetic

### InChiKey MDL number Appearance

InChI=1S/C9H11BrN2O5/c10-4-2-12(9(16)11-8(4)15)7-1-5(14)6(3-13)17-7/h2,5-7,13-14H,1,3H2,(H,11,15,16)/t5-,6+,7+/m0/s1

WOVKYSAHUYNSMH-RRKCRQDMSA-N

MFCD00006529

White solid

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## References

### Pharmacological evaluation of intravenous delivery of 5-bromodeoxyuridine to patients with brain tumors.

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### Neurogenesis in the adult human hippocampus.

Eriksson PS *et al* (1998) Nat Med 4(11)

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### The dark side of BrdU in neural stem cell biology: detrimental effects on cell cycle, differentiation and survival.

Lehner B *et al* (2011) Cell Tissue Res 345(3)

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### BrdU assay for neurogenesis in rodents.

Wojtowicz JM *et al* (2006) Nature protocols 1

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### Running increases cell proliferation and neurogenesis in the adult mouse dentate gyrus.

van Praag H *et al* (1999) Nature neuroscience 2

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