Hello Bio, Inc. 304 Wall St., Princeton, NJ 08540 USA

T. 609-683-7500 F. 609-228-4994

customercare-usa@m2stage.hellobio.com



DATASHEET

BrdU (5-Bromo-2'-deoxyuridine)

Product overview

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

Cat No HB0979

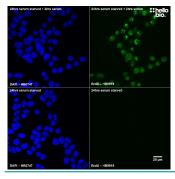
Alternative names 5-BrdU, 5-bromo-2'-deoxyuridine, Broxuridine

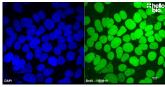
Biological action Dyes & stains Purity >98%

Description 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 prescence of 10µM 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.

- BrdU cells were cultured in 10% FBS in DMEM in the prescence 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.

Solubility & Handling

Storage instructions

-20°C

Solubility overview

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

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

for human or veterinary use.

Chemical Data

Chemical name Molecular Weight Chemical structure 5-Bromo-2-deoxyuridine

307.1

HN Br

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

Source Synthetic

 $InChi \\ InChl=1S/C9H11BrN2O5/c10-4-2-12(9(16)11-8(4)15)7-1-5(14)6(3-13)17-7/h2,5-7,13-14H,1,3H2,(H,1), \\ InChi \\ InChl=1S/C9H11BrN2O5/c10-4-2-12(9(16)11-8(4)15)7-1-5(14)6(3-13)17-7/h2,5-7,13-14H,1,3H2,(H,1), \\ InChi \\ In$

11,15,16)/t5-,6+,7+/m0/s1

InChiKey WOVKYSAHUYNSMH-RRKCRQDMSA-N

MDL numberMFCD00006529AppearanceWhite solid

References

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

Russo A *et al* (1984) Cancer Res 44(4) **PubMedID**6704976

Neurogenesis in the adult human hippocampus.

Eriksson PS *et al* (1998) Nat Med 4(11) **PubMedID**9809557

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) **PubMedID** 21837406

BrdU assay for neurogenesis in rodents.

Wojtowicz JM et al (2006) Nature protocols 1 **PubMedID** 17406427

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

van Praag H et al (1999) Nature neuroscience 2 **PubMedID** 10195220