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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

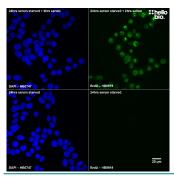
Biological actionPurity

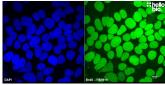
Dyes & stains
>98%

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

Solubility overview Storage instructions Soluble in water (50mM) and in DMSO (100mM)

Storage of solutions

Prepare and use solutions on the same day if possible. Store solutions at -20 °C for up to one month if

storage is required. Equilibrate to RT and ensure the solution is precipitate free before use.

Shipping Conditions

Important

Stable for ambient temperature shipping. Follow storage instructions on receipt.

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

 $C_9H_{11}BrN_2O_5$

Molecular Formula **CAS Number PubChem identifier**

59-14-3 6035

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

Source Synthetic

InChi 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 InChiKey

MFCD00006529 MDL number White solid **Appearance**

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

