

BrdU (IIB5): sc-32323

BACKGROUND

The halogenated pyrimidine thymidine analog bromodeoxyuridine (BrdU) is incorporated into newly synthesized DNA strands of S-phase cells and is useful for estimating the fraction of cells in S-phase. Additionally, the analysis of the uptake of BrdU is a reliable method to quantitate the degree of DNA-synthesis. BrdU is also useful for studying sister chromatid exchange and to isolate nascent DNA. UV-induced excision-repair synthesis is one method for incorporating BrdU into cellular DNA. Anti-BrdU antibodies bind to the exposed BrdU in single-stranded DNA after a hydrochloric acid denaturation step or nuclease digestion. Protease antigen recovery is necessary for most tissues or cells fixed with crosslinking agents such as formalin but may decrease the specificity of BrdU immunodetection.

REFERENCES

1. Morstyn, G., et al. 1983. Bromodeoxyuridine in tumors and chromosomes detected with a monoclonal antibody. *J. Clin. Invest.* 72: 1844-1850.
2. Cohn, S.M. and Lieberman, M.W. 1984. The use of antibodies to 5-bromo-2'-deoxyuridine for the isolation of DNA sequences containing excision-repair sites. *J. Biol. Chem.* 259: 12456-12462.
3. Magaud, J.P., et al. 1989. Double immunocytochemical labeling of cell and tissue samples with monoclonal anti-bromodeoxyuridine. *J. Histochem. Cytochem.* 37: 1517-1527.

SOURCE

BrdU (IIB5) is a mouse monoclonal antibody raised against Bromodeoxyuridine (BrdU) conjugated to BSA.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

BrdU (IIB5) is available conjugated to agarose (sc-32323 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-32323 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-32323 PE), fluorescein (sc-32323 FITC), Alexa Fluor® 488 (sc-32323 AF488), Alexa Fluor® 546 (sc-32323 AF546), Alexa Fluor® 594 (sc-32323 AF594) or Alexa Fluor® 647 (sc-32323 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-32323 AF680) or Alexa Fluor® 790 (sc-32323 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

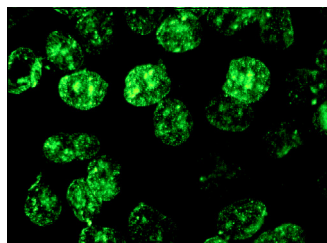
BrdU (IIB5) is recommended for detection of BrdU, a proliferation marker incorporated into newly synthesized DNA during S-phase of a cell cycle, by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells); recognizes BrdU in denatured DNA of cells labeled with BrdU; may cross-react with iododeoxyuridine (IrdU).

Suggested Companion Product: 5-Bromo-2'-deoxyuridine: sc-290815.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



BrdU (IIB5): sc-32323. Immunofluorescence staining of methanol-fixed BrdU-labeled HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Schroering, A.G., et al. 2007. The cell cycle and DNA mismatch repair. *Exp. Cell Res.* 313: 292-304.
2. Cannata, D., et al. 2010. Elevated circulating IGF-I promotes mammary gland development and proliferation. *Endocrinology* 151: 5751-5761.
3. Liao, J.M. and Lu, H. 2011. Autoregulatory suppression of c-Myc by miR-185-3p. *J. Biol. Chem.* 286: 33901-33909.
4. Wang, Z., et al. 2012. Notch signaling pathway regulates proliferation and differentiation of immortalized Müller cells under hypoxic conditions *in vitro*. *Neuroscience* 214: 171-180.
5. Zhang, Y., et al. 2013. Inauhzin sensitizes p53-dependent cytotoxicity and tumor suppression of chemotherapeutic agents. *Neoplasia* 15: 523-534.
6. Liao, J.M., et al. 2014. Ribosomal Proteins L5 and L11 co-operatively inactivate c-Myc via RNA-induced silencing complex. *Oncogene* 33: 4916-4923.
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8. He, Y., et al. 2016. Histone deacetylase 1 is required for the development of the zebrafish inner ear. *Sci. Rep.* 6: 16535.
9. Shen, T., et al. 2017. Ciclopirox inhibits cancer cell proliferation by suppression of Cdc25A. *Genes Cancer* 8: 505-516.
10. Koren, E., et al. 2018. ARTS mediates apoptosis and regeneration of the intestinal stem cell niche. *Nat. Commun.* 9: 4582.
11. Zhang, X., et al. 2019. Fundamental roles of chromatin loop extrusion in antibody class switching. *Nature* 575: 385-389.
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RESEARCH USE

For research use only, not for use in diagnostic procedures.