



## BrdU (MBDU-65A): sc-65723

### 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 cross-linking agents such as formalin but may decrease the specificity of BrdU immunodetection. The monoclonal antibody Bu20a against BrdU stains BrdU incorporated into the nuclei of a wide range of proliferating cell types including human tumors growing in nude mice and tonsil lymphoid.

### REFERENCES

1. Morstyn, G., Hsu, S.M., Kinsella, T., Gratzner, H., Russo, A. and Mitchell, J.B. 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., Sargent, I., Clarke, P.J., French, M., Rimokh, R. and Mason, D.Y. 1989. Double immunocytochemical labeling of cell and tissue samples with monoclonal antibromodeoxyuridine. *J. Histochem. Cytochem.* 37: 1517-1527.
4. Williamson, K., Gilliland, R., Weir, H., Grimes, J., Hamilton, P., Anderson, N., Crockard, A. and Rowlands, B. 1994. Hydrochloric acid denaturation of colorectal tumour tissue infiltrated with bromodeoxyuridine. *Cytometry* 15: 162-168.
5. Bak, P.M. and Panos, R.J. 1997. Protease antigen recovery decreases the specificity of bromodeoxyuridine detection in formalin-fixed tissue. *J. Histochem. Cytochem.* 45: 1165-1170.
6. Buckiova, D., Kubínová, L., Soukup, A., Jelínek, R. and Brown, N.A. 1998. Hyperthermia in the chick embryo: HSP and possible mechanisms of developmental defects. *Int. J. Dev. Biol.* 42: 737-740.
7. Stanek, D., Kiss, T. and Raska, I. 2000. Pre-ribosomal RNA is processed in permeabilised cells at the site of transcription. *Eur. J. Cell Biol.* 79: 202-207.
8. Diermeier, S., Schmidt-Bruecken, E., Kubbies, M., Kunz-Schughart, L.A. and Brockhoff, G. 2004. Exposure to continuous bromodeoxyuridine (BrdU) differentially affects cell cycle progression of human breast and bladder cancer cell lines. *Cell Prolif.* 37: 195-206.
9. Qu, T.Y., Dong, X.J., Sugaya, I., Vaghani, A., Pulido, J. and Sugaya, K. 2004. Bromodeoxyuridine increases multipotency of human bone marrow-derived stem cells. *Restor. Neurol. Neurosci.* 22: 459-468.

### RESEARCH USE

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

### SOURCE

BrdU (MBDU-65A) is a mouse monoclonal antibody raised against bromodeoxyuridine.

### PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### APPLICATIONS

BrdU (MBDU-65A) is recommended for detection of bromodeoxyuridine of n/a origin by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

### STORAGE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.