



Mab to Bromodeoxyuridine

Clone Determination	BU5.1
Category	Mouse monoclonal
Immunoglobulin Class	IgG2a
Purification	Protein A affinity chromatography
Antigen	Bromodeoxyuridine
Specificity / Description	The antibody is specific for bromodesoxyuridine and does not cross-react with thymidine. It is a valuable tool for detection of S-phase (DNA-synthesizing cells) in cell ad tissue culture. ³ H-thymidine labelling techniques can be avoided.
Application	Detection of bromodeoxyuridine incorporation in tissue and cell culture - see protocols on page 2
Reconstitution:	Reconstitute in 1 ml dist. water (final solution contains 0.09 % NaN ₃ , 0.5% BSA in PBS buffer, pH 7.4)
Stability/Storage	Stable for one year after reconstitution when stored at 2-8°C. For extended storage keep in aliquots at -20°C. Avoid repeated thawing and freezing.
Working Dilution	1:10
Incubation Time	30 min at RT
Quantity	100 µg (lyoph.)

References

Hosihino, T., Nagashima, T., Murovic, J., Levin, E.L., Levin V.A. and Rupp, St.M.: Cell kinetic studies of in situ human brain tumors with bromodeoxyuridine. *Cytometrie* 6, 627-632 (1985).

Jirikowski G.F., Ramalho-Ortigao F., Kesse K.W. and Bloom F.E.: In situ hybridization of semithin Epon sections with BrdU labelled oligonucleotide probes. *Histochemistry* 94, 187-190 (1990)

Cat. No. 61015

Staining of BrdU-labelled DNA in Proliferating Cells with Mab BU 5.1

Incorporation of 5'-Bromo-2'-Desoxyuridin (BrdU) into DNA

5'-bromo-2'-desoxyuridin (BrdU) is incorporated into the DNA of S-Phase (DNA-synthesizing) cells. [Cat. No. 61016 (contains Evans Blue), Cat. No. 61041 (without Evans Blue), Cat. No. 61015]

With Mab BU 5.1 the proportion of cells in the S-Phase of the cell cycle can be easily identified because this Mab is specific for BrdU-substituted DNA.

BrdU is added to the culture medium at a final concentration of 10 - 20 µM together with 2'-desoxycytidine (20 - 50 µM).

For routine work pulses of 1 - 3 h are recommended.

Short pulses (i.e. brief incubation of BrdU within the culture medium of 10 min are detectable).

I. Indirect Immunofluorescence Microscopy

1. Monolayer Cells

1. Wash cells, grown on slides or cover slips, twice with PBS.
2. Fix cells with cold 70% ethanol for 20 min (at this stage, cells may be kept for 1 month at -20°C).
3. Denature DNA with 2.5 N HCl for 20 min.
4. Wash 3x with PBS.
5. Incubate with Mab BU 5.1 for 30 min at room temperature.
6. Wash 3x with PBS.
7. Add fluorochrome-conjugated second antibody (e.g. goat anti-mouse FITC conjugate) in appropriate dilution (incubate for 30 min).
8. Wash 3x with PBS.
9. Mount dry samples with standard mounting medium and evaluate with fluorescence microscope.

2. Suspension Cells

1. Wash and spin cells twice with PBS (250 g, 7 min).
2. Resuspend cells in 3 vol PBS (0°C) and fix cells by adding 7 vol 96% ethanol (0°C) whilst mixing the cell suspension. Incubate for 20 min.
3. Denature cells by adding one equal volume of 4 N HCl to fixed cell suspension (20 min; room temperature).
4. Carefully wash and spin three times with PBS to remove HCl (250x g, 7 min).
5. Staining of BrdU-substituted DNA is performed as described above under I.1.(steps 5-9). The washing steps may be reduced in order to minimize cell loss during centrifugation.

II. Direct Immunofluorescence Microscopy

Mab BU 5.1-FITC (#61016/#61041) is supplied in ready-to-use form. Cells processed according to steps 1 - 4 of I.1. a. or I.2. above are stained by adding 25 µl of the BU 5.1-FITC conjugate. After 30 min incubation, the cells are washed twice, embedded and are then ready for examination.