



## PRODUCT DATA SHEET

### Product: Anti-BrdU mAb, clone IIB5

Cat. No.: MC-328 (1 mL)

#### Background:

Bromo-deoxy-Uridine (BrdU) is a thymidine analogue and when offered to proliferating cells it is incorporated into reduplicating DNA. The antibody is specific for DNA in which BrdU has been incorporated. Immunogen: BrdU coupled to BSA. In immunoassays this antibody reacts strongly with free or carrier-protein coupled BrdU but not with other nucleosides. In immunocytochemistry the antibody only recognizes BrdU in denatured (single stranded) DNA. The BrdU antibody is 100% cross-reactive with Iodo-Deoxy-Uridine (IrdU). Therefore, IrdU instead of BrdU can be used for *in vivo* studies.

#### Specificity:

Reacts with human BrdU.

#### Species Reactivity:

Human. Others not tested.

#### Ig Isotype:

Mouse IgG<sub>1</sub>

#### Format:

1 mL of diluted ascites with 0.02% sodium azide, sufficient for 100 tests.

#### Storage:

Short term: 4°C. For long term, -20°C or below. Aliquot to avoid freeze/thaw cycles.

#### Applications and Suggested Dilutions:

- Immunohistochemistry: Use on frozen sections and paraffin embedded tissue after protease digestion. Dilute in 0.15 M phosphate buffered saline with 1% BSA and 1% sodium azide. Suggested working dilution is 1:5–1:10. Optimal dilution should be tested by serial dilution.
- Functional application: Pulse labeling of dividing cells will allow the immunocytochemical identification of S-phase cells. BrdU incorporation can be analyzed in *in vitro* cell cultures by adding BrdU to the

tissue culture medium (10  $\mu$ M final conc.). Exposure periods as brief as 10 minutes allow sufficient BrdU incorporation for reliable analysis. For *in vivo* applications, parenteral administrations of BrdU in dosages of 5 mg/kg appear to be effective. BrdU disappears from the circulation in 30 minutes.

*Ex vivo* labeling can also be achieved by brief culturing of small viable tissue specimens, immediately after removal, in medium containing 10  $\mu$ M BrdU. In this context the anti-BrdU antibody IIB5 can be used for:

1. Radioimmunochemical determination of circulating BrdU levels after parenteral administration.
2. Detection of S-phase cells in cell suspensions by immunofluorescence microscopy.
3. Detection of S-phase cells in tissue sections by immunoperoxidase or immunofluorescence methods alone or in double immunocytochemical staining approaches.
4. Determination of the percentage of proliferating cells by flow cytometry analysis.
5. Quantitative evaluation of the number of cells in the various phases of the cell cycle (G<sub>1</sub>, S, G<sub>2</sub>, -M) by dual parameter flow-cytometry analysis.

The optimal dilution for a specific application should be determined by the researcher.

#### Limitations:

For *in vitro* research use only. Not for use in diagnostics or in humans.

#### Warranty:

No warranties, expressed or implied, are made regarding the use of this product. KAMIYA BIOMEDICAL COMPANY is not liable for any damage, personal injury, or economic loss caused by this product.