

# Biotinylated Bromodeoxyuridine (BrdU)

Concentrated Monoclonal Antibody  
902-3042-091117

**BIOCARE**  
M E D I C A L

**Catalog Number:** ACR 3042 AK, CK

**Description:** 0.1, 1.0 ml, concentrated

**Dilution:** 1:100

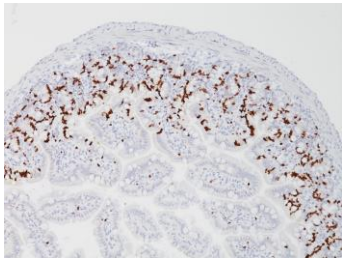
**Diluent:** Da Vinci Green

## Intended Use:

For Research Use Only. Not for use in diagnostic procedures.

## Summary and Explanation:

BrdU is a biotinylated monoclonal antibody that recognizes bromodeoxyuridine (BrdU), which is an analog to thymidine and can be incorporated into living DNA during the S-phase of the cell cycle. The BrdU antibody can be used for DNA labeling index and cell proliferation studies. This antibody is biotinylated, and thus eliminates the need for a biotinylated secondary antibody. Therefore, this universal antibody can be used in all species, including mouse and rat tissues.



Bromodeoxyuridine positive mouse intestine stained with anti-BrdU antibody

## Principle of Procedure:

Antigen detection in tissues and cells is a multi-step immunohistochemical process. The initial step binds the biotinylated primary antibody to its specific epitope. After labeling the antigen with a biotinylated primary antibody, an enzyme labeled streptavidin is added to bind to the labeled primary antibody. The detection of the bound antibody is evidenced by a colorimetric reaction.

**Source:** Biotinylated mouse monoclonal

**Species Reactivity:** Human and rat; others not tested

**Clone:** BU20a

**Isotype:** IgG1

**Total Protein Concentration:** ~10 mg/ml. Call for lot specific Ig concentration.

**Epitope/Antigen:** Bromodeoxyuridine (BrdU)

**Cellular Localization:** Nuclear

**Positive Tissue Control:** BrdU localized in tissues

## Known Applications:

Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

**Supplied As:** Buffer with protein carrier and preservative  
Da Vinci Green Diluent (PD900)

## Storage and Stability:

Store at 2°C to 8°C. Do not use after expiration date printed on vial. If reagents are stored under conditions other than those specified in the package insert, they must be verified by the user. Diluted reagents should be used promptly; any remaining reagent should be stored at 2°C to 8°C.

## Staining Protocol Recommendations:

### FORMALIN-FIXED PARAFFIN-EMBEDDED TISSUES

**Peroxide Block:** Block for 5 minutes with Biocare's Peroxidized 1.

**Pretreatment:** Perform heat retrieval using Biocare's Diva Decloaker. Refer to the Diva Decloaker data sheet for specific instructions.

## Staining Protocol Recommendations Cont'd:

### Avidin-Biotin (May be required for certain tissues):

1. Apply Avidin solution for 15 minutes and wash with TBS wash buffer.

2. Apply Biotin solution for 15 minutes and wash with TBS wash buffer.

**Protein Block (Optional):** Incubate for 5-10 minutes at RT with Biocare's Background Punisher.

**Biotinylated Primary Antibody:** Incubate for 1-2 hours at RT.

**Enzyme Labeled Streptavidin:** Incubate for 15 minutes at RT.

### Chromogen:

Incubate for 5 minutes at RT with Biocare's DAB – OR – Incubate for 5-7 minutes at RT with Biocare's Warp Red.

### Counterstain:

Counterstain with hematoxylin. Rinse with deionized water. Apply Tacha's Bluing Solution for 1 minute. Rinse with deionized water.

### CELL CULTURE AND ALCOHOL-BASED FIXATIVES

**Pretreatment (Required):** Denature for 1-2 hours at RT in 2N HCl\*.

**Peroxide Block (Optional\*\*):** Block for 5 minutes with Biocare's Peroxidized 1.

**Protein Block (Optional):** Incubate for 5-10 minutes at RT with Biocare's Background Punisher.

**Biotinylated Primary Antibody:** Incubate for 1-2 hours at RT.

**Enzyme Labeled Streptavidin:** Incubate for 15 minutes at RT.

### Chromogen:

Incubate for 5 minutes at RT with Biocare's DAB – OR – Incubate for 5-7 minutes at RT with Biocare's Warp Red.

### Counterstain:

Counterstain with hematoxylin. Rinse with deionized water. Apply Tacha's Bluing Solution for 1 minute. Rinse with deionized water.

### Technical Note:

Use TBS buffer for washing steps. If background occurs, dilute concentrate in PD905.

\*For improved morphology, fix cells or tissues in 10% formalin for 10-30 seconds just prior to application of 2N HCl. Wash in deionized water.

\*\*Peroxidase blocking may or may not be necessary, depending on the type of tissue.

### Limitations:

This product is provided for Research Use Only (RUO) and is not for use in diagnostic procedures. Suitability for specific applications may vary and it is the responsibility of the end user to determine the appropriate application for its use.

### Precautions:

1. This antibody contains less than 0.1% sodium azide. Concentrations less than 0.1% are not reportable hazardous materials according to U.S. 29 CFR 1910.1200, OSHA Hazard communication and EC Directive 91/155/EC. Sodium azide (NaN<sub>3</sub>) used as a preservative is toxic if ingested. Sodium azide may react with lead and copper plumbing to form highly explosive metal azides. Upon disposal, flush with large volumes of water to prevent azide build-up in plumbing. (Center for Disease Control, 1976, National Institute of Occupational Safety and Health, 1976) (3)

2. Specimens, before and after fixation, and all materials exposed to them should be handled as if capable of transmitting infection and disposed of with proper precautions. Never pipette reagents by mouth and avoid contacting the skin and mucous membranes with reagents



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## Precautions Cont'd:

and specimens. If reagents or specimens come in contact with sensitive areas, wash with copious amounts of water. (4)

3. Microbial contamination of reagents may result in an increase in nonspecific staining.

4. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any such change.

5. Do not use reagent after the expiration date printed on the vial.

6. The SDS is available upon request and is located at <http://biocare.net>.

## Technical Support:

Contact Biocare's Technical Support at 1-800-542-2002 for questions regarding this product.

## References:

1. McGinley JN, Knott KK, Thompson HJ. Effect of Fixation and Epitope Retrieval on BrdU Indices in Mammary Carcinomas. *J Histochem Cytochem.* 2000 Mar;48 (3):355-62.

2. Tacha DE, Bowman PE, McKinney L. High Resolution Light Microscopy and Immunocytochemistry Using Glycol Methacrylate-Embedded Sections and Immuno-Gold-Silver Staining. *J of Histochemistry.* June; 1993.

3. Center for Disease Control Manual. Guide: Safety Management, NO. CDC-22, Atlanta, GA. April 30, 1976 "Decontamination of Laboratory Sink Drains to Remove Azide Salts."

4. Clinical and Laboratory Standards Institute (CLSI). Protection of Laboratory Workers from Occupationally Acquired Infections; Approved Guideline-Fourth Edition CLSI document M29-A4 Wayne, PA 2014.



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