Product Datasheet

Bromodeoxyuridine/BrdU Antibody

NB500-169-0.2mg

Unit Size: 0.2 mg

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

Reviews: 3  Publications: 71

Protocols, Publications, Related Products, Reviews, Research Tools and Images at:

www.novusbio.com/NB500-169

Updated 6/15/2014 v.20.1
NB500-169-0.2mg
Bromodeoxyuridine/BrdU Antibody (BU1/75 (ICR1))

## Product Information

<table>
<thead>
<tr>
<th><strong>Unit Size</strong></th>
<th>0.2 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Concentration</strong></td>
<td>1.0 mg/ml</td>
</tr>
<tr>
<td><strong>Storage</strong></td>
<td>Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.</td>
</tr>
<tr>
<td><strong>Clonality</strong></td>
<td>Monoclonal</td>
</tr>
<tr>
<td><strong>Clone</strong></td>
<td>BU1/75 (ICR1)</td>
</tr>
<tr>
<td><strong>Preservative</strong></td>
<td>0.09% Sodium Azide</td>
</tr>
<tr>
<td><strong>Isotype</strong></td>
<td>IgG2a</td>
</tr>
<tr>
<td><strong>Purity</strong></td>
<td>Protein G purified</td>
</tr>
<tr>
<td><strong>Buffer</strong></td>
<td>PBS</td>
</tr>
</tbody>
</table>

## Product Description

| **Host** | Rat |
| **Species** | Mouse, Non-species specific |
| **Marker** | Proliferation Marker |
| **Specificity/Sensitivity** | This reacts with BrdU in single stranded DNA, BrdU attached to a protein carrier or free BrdU. It detects nucleated cells in S-Phase which have had BrdU incorporated into their DNA. Also reacts weakly with chlorodeoxyuridine, but does not cross react with thymidine or iododeoxyuridine. |
| **Immunogen** | Made to Chemical BrdU |

## Product Application Details

| **Applications** | Flow Cytometry, Immunocytochemistry/Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin |
| **Application Notes** | Clone BU1/75 (ICR1) can be used for labeling paraffin-embedded tissue sections fixed in formalin. Denaturation of the DNA is critical for successful staining of BrdU. This can be achieved by exposing cells to heat, or acid. For heat-induced epitope retrieval, 10mM citrate buffer pH6.0 is recommended. Alternatively, a 30 min incubation in 2M HCl can be performed. The HCl must then be neutralized for 2 min with 0.1 M Na2B4O7. Pretreatment of tissues with proteinase K should be avoided. Immunohistochemistry-Frozen was reported in scientific literature. |
### Images

**Immunocytochemistry/Immunofluorescence:** Bromodeoxyuridine/BrdU Antibody (BU1/75 (ICR1)) [NB500-169] - Staining of mouse brain tissue, fixed with 4% PFA and dehydrated with 30% sucrose 30%. Image provided via product review by verified customer.

**Immunohistochemistry-Paraffin:** Bromodeoxyuridine/BrdU Antibody (BU1/75 (ICR1)) [NB500-169] - BrdU-treated mouse duodenum. Image from verified customer review.

**Flow Cytometry:** Bromodeoxyuridine/BrdU Antibody (BU1/75 (ICR1)) [NB500-169] - HL-60 cells were pulse labeled with BrdU for 45 minutes prior to harvesting and then incubated with primary antibody Rat anti BrdU clone BU1/75 diluted 1/100 followed by Rabbit anti Rat IgG secondary antibody (STAR17B) FITC-conjugated, diluted 1/200.

**Immunohistochemistry-Paraffin:** Bromodeoxyuridine/BrdU Antibody (BU1/75 (ICR1)) [NB500-169] - Mouse colon.
Immunohistochemistry-Paraffin: Bromodeoxyuridine/BrdU Antibody (BU1/75 (ICR1)) [NB500-169] - Mouse colon.

[Image of immunohistochemistry staining]

Immunohistochemistry-Paraffin: Bromodeoxyuridine/BrdU Antibody (BU1/75 (ICR1)) [NB500-169] - Mouse colon.

[Image of immunohistochemistry staining]
### Publications

Conway Anthony, Schaffer David V. Biomaterial microenvironments to support the generation of new neurons in the adult brain. Stem Cells. 2014 May 01 [PMID: 24449485]

Diensthuber Marc, Zecha Veronika, Wagenblast Jens et al. Spiral ganglion stem cells can be propagated and differentiated into neurons and glia. Biores Open Access. 2014 Jun 01 [PMID: 24940560]

Lee Rj, Kim Jk, Chao D et al. Progesterone and allopregnanolone improve stroke outcome in male mice via distinct mechanisms but neither promotes neurogenesis J. neurochem. 2014 Nov 07 [PMID: 25376903] (IHC-Fr)


**Details:**

Tissue samples of Wild-type (WT) and nuclear factor of activated T cell-knock-out (NFATc4-/-) mice that were maintained on a mixed C57BL/6 and 129S7 genetic background and injected with BrdU 75 mg/kg body weight in saline or other treatments (muscimol/temozolomide) were used for IHC-FrFl as - mice perfused transcardially with 0.1 M PBS solution, pH 7.4, followed by 4% PFA-PBS pH 7.4, brains dissected /postfixed O/N 4C, immersed in 30% sucrose and coronal free-floating cryosections of 40 um spanning the whole hippocampus cut and stained using rat monoclonal antibody anti-BrdU (1:100; Novus Biologicals).


Yamada J, Jinno S. et al. S100A6 (calcyclin) is a novel marker of neural stem cells and astrocyte precursors in the subgranular zone of the adult mouse hippocampus. Hippocampus 2014 Jan 1 [PMID: 24115312] (IHC-Fr)


Procedures

Flow Cytometry Protocol for BrdU Antibody (NB500-169)

Flow Cytometry Analysis:

Prepare the following solutions before proceeding:

- Phosphate buffered saline (PBS)
- 2N HCl, 0.5% Triton X-100
- PBS containing 0.05% Tween-20
- PBS containing 1% BSA (PBS/BSA)
- 10mg/ml Propidium iodide (PI)

As a positive control, BrdU labeled cells maybe obtained from Phoenix Flow Systems (http://www.phnxflow.com), catalogue number ACNC12.

1. Add BrdU to the cell suspension in culture medium to a final concentration of 10 umol/L and incubate for 30 minutes in a CO2 incubator at 37°C.
2. Wash cells twice with PBS/BSA, and resuspend in PBS
3. Add cells slowly into 5ml of 70% ethanol at -20°C, mixing continuously (vortex preferred). Incubate on ice for 30 minutes.
4. Centrifuge at 500g for 10 minutes, decant supernatant, and resuspend cell pellet.
5. Add 2ml 2N HCl, 0.5% Triton X-100 and incubate the cells for 30 minutes at room temperature (preferably on a rocking platform).
6. Centrifuge at 500g for 10 minutes, decant supernatant and resuspend in 3 ml 0.1M Na2B4O7, pH 8.5
7. Centrifuge at 500g for 10 minutes, decant supernatant and resuspend the cells in PBS/BSA + 0.05% Tween 20. Adjust cell concentration to 1 x 10(7)/ml
8. Aliquot 100ul of cell suspension into required number of 12 x 75mm tubes.
9. Incubate the cells with the anti-BrdU antibody at the recommended dilution for 30 minutes at room temperature.
10. Add 2 mls PBS/BSA and centrifuge the cells at 1000rpm for 5 minutes.
11. If a secondary antibody layer is required then decant the wash and incubate the cells with the secondary antibody for 30 minutes at room temperature. If no secondary antibody layer is required then proceed to step 13.
12. Wash the cells after the secondary antibody layer by repeating step 10.
13. Decant off the wash and add 1ml PBS containing 10ug/ml PI (Dilute the 10mg/ml solution of PI 1/1000 in a suitable volume of PBS)
14. Analyse cells by flow cytometry following the manufacturer’s instructions. The PI should be read on the appropriate channel set to the Peak/Area and not log scale.

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Formalin-fixed paraffin-embedded tissue sections:

Clone BU1/75 (ICR1) can be used for labelling paraffin-embedded tissue sections fixed in formalin. Pretreatment of tissues with heat-induced epitope retrieval using 10mM citrate buffer pH6.0 is recommended. Pretreatment of tissues with proteinase K should be avoided.
Limitations
This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

For more information on our guarantee, please visit www.novusbio.com/guarantee.