



# PolyStain DS Kit - for Mouse and Rabbit antibody on Human tissue

(Emerald/Permanent Red)

**NB-23-00092-1 (12 ml)**

**NB-23-00092-2 (36 ml)**

**NB-23-00092-3 (120 ml)**



## PolyStain DS Kit - for Mouse and Rabbit antibody on Human tissue (Emerald/Permanent Red)

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**Storage: 4- 8°C**

### INTENDED USE:

PolyStain DS - for Mouse and Rabbit antibody on Human tissue Kit is designed to use with user supplied mouse antibody and rabbit antibody to detect two distinct antigens on human tissue or cell samples. This kit has been tested in paraffin tissue. However, this kit can be used on frozen specimen and freshly prepared monolayer cell smears.

Double staining is one of most common methods used in immunohistostaining that allow revealing two distinct antigens in a single tissue. PolyStain DS - for Mouse and Rabbit antibody on Human tissue Kit from Golden Bridge International supplies two polymer enzyme conjugates: HRP-Polymer anti-Rabbit IgG and AP-Polymer anti-Mouse IgG with two distinct substrates/chromogens, DAB (brown color, use with HRP-Polymer anti-Rabbit IgG) and Fast Red (red color, use with AP-Polymer anti-Mouse IgG). User may apply the two enzyme conjugates onto the specimen at the same time and mix them on the slide. Simplified steps offer user much faster and quicker protocol than a sequential procedure. **PolyStain DS - for Mouse and Rabbit antibody on Human tissue kit** is non-biotin system that avoids endogenous biotin non-specific binding.

### KIT COMPONENTS:

Component No.	Content	12mL Kit	36mL Kit	120mL Kit
<b>Reagent 1</b>	HRP-Polymer anti-Rabbit(RTU)	6mL	18mL	60mL
<b>Reagent 2</b>	AP- Polymer anti-Mouse(RTU)	6mL	18mL	60mL
<b>Reagent 3A</b>	DAB Substrate Buffer (RTU)	12 mL	18mLx2	120 mL
<b>Reagent 3B</b>	DAB Chromogen(20x)	1.5 mL	2 mL	6 mL
<b>Reagent 4A</b>	Fast Red Tablet	6 tablets	18tablets	60tablets
<b>Reagent 4B</b>	Fast Red Substrate(RTU)	5mLx6	5mLx18	5mLx60
<b>Reagent 5</b>	NeoMount Universal (RTU)	12 mL	18mLx2	120 mL

## RECOMMENDED PROTOCOL:

1. Fixation: To ensure the quality of the staining and obtain reproducible performance, user needs to supply appropriately fixed tissue and well prepared slides.
2. Tissue need to be adhered to the slide tightly to avoid tissue falling off.
3. Paraffin embedded section must be deparaffinized with xylene and rehydrated with a graded series of ethanol before staining.
4. Cell smear samples should be made as much monolayer as possible to obtain satisfactory results.
5. Three control slides will aid the interpretation of the result: positive tissue control, reagent control (slides treated with Isotype control reagent), and negative control.
6. Proceed IHC staining: **DO NOT** let specimen or tissue dry from this point on.
7. We recommend TBS-T to be used as the wash buffer to get the highest sensitivity and clean background. Phosphate in the PBS-T may inhibit the activity of the alkaline phosphatase.

Note: 1X TBS-T =50mM Tris HCl, 150mM NaCl, 0.05% Tween-20 pH7.6.

Reagent	Staining Procedures	Incubation Time (Min.)
1. Peroxidase and Alkaline Phosphatase Blocking Reagent  Not provided  Fast, easy and it will block endogenous alkaline phosphatase	a. Incubate slides in peroxidase and alkaline phosphatase blocking reagent. We recommend NeoPure Dual Enzyme Block <b>NB-23-00193</b> . b. Rinse the slide using distilled water.	10 min.
2. <b>HIER Pretreatment:</b> Refer to antibody data sheet.	a. Heat Induced Epitope Retrieval (HIER) may be required for primary antibody suggested by vendor. b. Wash with PBS-T containing 0.05% Tween-20 or 1X TBS-T (See note 7 above); 3 times for 2 minutes each.	
3. <b>Preblock</b> (optional)	For paraffin section, Improved formula saves the need for a preblock step. For frozen tissue, preblock may or may not be required depending on fixative. (Preblock catalogue No.: NB-23-00169 was Recommended.)	

<p><b>4. Mouse antibody 1 and Rabbit antibody 2:</b></p> <p>Supplied by user</p>	<p><b>Note:</b> Investigator needs to optimize dilution and incubation times prior to double staining.</p> <ol style="list-style-type: none"> <li>Apply 2 drops or enough volume of both Primary Antibody 1 and Antibody 2 to cover the tissue completely. Mix well on the slide and Incubate in moist chamber for 30-60 min.</li> <li>Wash with PBS-T containing 0.05% Tween-20 or 1X TBS-T; 3 times for 2 minutes each.</li> </ol>	<p>30-60min</p>
<p><b>5. Reagent 1 and 2:</b></p> <p><b>Reagent 1:</b> HRP-Polymer anti Rabbit (RTU)</p> <p><b>Reagent 2:</b> AP- Polymer anti Mouse(RTU)</p>	<p><b>Note:</b> Make sufficient polymer mixture by adding Reagent 1 HRP-Polymer antiRabbit and Reagent 2 AP-Polymer anti-Mouse at 1:1 ratio, mix well. <b>Do Not Mix More than you need for the experiment because the polymer mixture may not be as stable as non-mixed polymer.</b></p> <ol style="list-style-type: none"> <li>Apply 1 to 2 drops (50-100µL) of the mixture to cover the tissue completely.</li> <li>Incubate in moist chamber for 30 min.</li> <li>Wash with PBS-T containing 0.05% Tween-20 or 1X TBS-T; 3 times for 2 minutes each.</li> </ol>	<p>30min</p>
<p><b>6. Reagents 3A, 3B:</b></p> <p><b>Reagents 3A:</b> DAB Substrate Buffer (RTU)</p> <p><b>Reagents 3B:</b> DAB Chromogen(20x)</p>	<ol style="list-style-type: none"> <li>Add 1 drop of or 2 drops (for higher sensitivity and contrast) <b>Reagent 3B</b> to 1 mL of <b>Reagent 3A</b>. Mix well. Protect from light and use within 7 hours.</li> <li>Apply 2 drops or enough volume of DAB CHROMOGEN to completely cover tissue. Incubate for 3-10min.</li> <li>Rinse thoroughly with distilled water.</li> <li>Wash with 1X TBS-T only; 3 times for 2 minutes each.</li> </ol>	<p>3-10min</p>
<p><b>7. Reagent 4A, 4B:</b></p> <p><b>Reagent 4A:</b> Fast Red Tablet</p> <p><b>Reagent 4B:</b> Fast Red Substrate(RTU)</p>	<p><b>Note:</b> It takes about 30 minutes to dissolve the tablet in the substrate buffer. Allow enough time to prepare.</p> <ol style="list-style-type: none"> <li>Dissolve 1 tablet of <b>Reagent 4A</b> Fast Red Tablet in 5mL <b>Reagent 4B</b> Fast Red Substrate buffer, vortex until the tablet dissolved completely. Use within 1 hour.</li> <li>Apply 2 drops (100µL) or enough volume of Fast -Red solution to completely cover the tissue. Incubate for 10-20min, observe appropriate color development.</li> <li>Rinse well with distilled water. (<b>Fast Red is alcohol soluble; do not dehydrate.</b>)</li> </ol>	<p>10-20min</p>
<p><b>8. HEMATOXYLIN</b></p> <p><b>Not provided</b></p>	<ol style="list-style-type: none"> <li>Counterstain with 2 drops (100µL) or enough volume of hematoxylin to completely cover tissue. Incubate for 10-15 seconds.</li> <li>Rinse thoroughly with tap water for 2-3min.</li> <li>Put slides in PBS until show blue color (about ½ - 1min.)</li> <li>Rinse well in distilled water.</li> </ol>	

<b>9. Reagent 5:</b> NeoMount Universal (RTU)	a. Apply 2 drops (100µL) or enough volume of <b>Reagent 5</b> NeoMount Universal to cover tissue when tissue is wet. Rotate the slides to allow NeoMount Universal spread evenly. <b>DO NOT</b> coverslip. b. Place slides horizontally in an oven at 40-50°C for at least 30 minutes or leave it at room temperature until slides are thoroughly dried. Hardened NeoMount Universal forms an impervious polymer barrier to organic solvent. Do not use oil directly on the top of dried NeoMount Universal.	30min. in 40-50°C oven Or: overnight at room temperature
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## **PROTOCOL NOTES:**

1. The fixation, tissue slide thickness, antigen retrieval and primary antibody dilution and incubation time effect results significantly. Investigator needs to consider all factors and determine optimal conditions when interpret the result.
2. NeoMount Universal a water-based mounting medium for immunohistochemistry. It is used as the permanent mounting media for alcohol soluble chromogens such as AP-Red, AEC, and BCIP. NeoMount Universal does not use a coverslip. However, if you need to coverslip your tissue, after NeoMount Universal has dried, dip the slide in xylene (1 to 2 seconds), apply an organic mounting solution (such as NeoMount Perm, Cat# **NB-23-00156**), and place cover glass on the slide. Store slides after they have dried completely.

## **PRECAUTION:**

DAB may be carcinogenic. Please wear gloves and take other necessary precautions.

**FOR RESEARCH USE ONLY**



