Purified Rat Anti-Mouse CD11b

Product Information

Material Number: 550282
Alternate Name: Itgam; Integrin alpha-M; Ly-40; Mac-1a; Mac-1 alpha; CR3A; CR-3 alpha chain
Size: 1.0 ml
Concentration: 125 µg/ml
Clone: M1/70
Immunogen: Mouse Splenic Cells
Isotype: Rat (DA) IgG2b, κ
Reactivity: QC Testing: Mouse
Storage Buffer: Aqueous buffered solution containing BSA, goat serum, and ≤0.09% sodium azide.

Description

The M1/70 monoclonal antibody specifically binds to CD11b, also known as Integrin alpha M (Itgam or αM). CD11b is a 170-kDa type 1 transmembrane glycoprotein and belongs to the Integrin alpha chain family. CD11b serves as the alpha chain of the heterodimeric Mac-1 integrin (CD11b/CD18, αMβ2), also known as complement receptor 3 (CR3). Mac-1 mediates adhesion to ICAM-1 (CD54), ICAM-2 (CD102), fibrinogen and binding to C3bi. Mac-1 is expressed at varying levels on granulocytes, macrophages, myeloid-derived dendritic cells, natural killer cells, microglia, and B-1 B lymphocytes. Mac-1 expression is rapidly up-regulated on neutrophils after activation, in the same time period that CD62L (L-selectin) is shed from the cell surface. The M1/70 antibody reportedly blocks cell adherence and C3bi binding but does not block cell-mediated lysis. Cross-reaction of the M1/70 antibody with CD11b expressed on human monocytes, polymorphonuclear leukocytes, and NK cells has been reported.

Preparation and Storage

Store undiluted at 4°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Application Notes

Application

<table>
<thead>
<tr>
<th>Application</th>
<th>Flow cytometry</th>
<th>Routinely Tested</th>
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</thead>
<tbody>
<tr>
<td>Immunohistochemistry-frozen</td>
<td>Tested During Development</td>
<td></td>
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<tr>
<td>Immunohistochemistry-formalin (antigen retrieval required)</td>
<td>Not Recommended</td>
<td></td>
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Recommended Assay Procedure:

Immunohistochemistry: The Purified Rat Anti-Mouse CD11b antibody stains mouse macrophages, granulocytes, dendritic cells, and NK cells. For optimal indirect immunohistochemical staining, investigators are encouraged to titrate this antibody (suggested starting range of a 1:10 to 1:50 dilution) and visualize via a three-step staining procedure using a combination of Biotin Goat Anti-Rat Ig (Cat. No. 559286) as the secondary antibody and Streptavidin HRP (Cat. No. 550946) together with a DAB detection system (Cat. No. 550880). Investigators should note that this antibody is not recommended for formalin-fixed paraffin embedded sections.
Suggested Companion Products

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
</tr>
</thead>
<tbody>
<tr>
<td>559478</td>
<td>Purified Rat IgG2b, κ Isotype Control</td>
<td>0.25 mg</td>
<td>A95-1</td>
</tr>
<tr>
<td>559286</td>
<td>Biotin Goat Anti-Rat Ig</td>
<td>0.5 mg</td>
<td>Polyclonal</td>
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<tr>
<td>550946</td>
<td>Streptavidin HRP</td>
<td>50 ml</td>
<td>(none)</td>
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<tr>
<td>550880</td>
<td>DAB Substrate Kit</td>
<td>500 tests</td>
<td>(none)</td>
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</tbody>
</table>

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Sodium azide is a reversible inhibitor of oxidative metabolism; therefore, antibody preparations containing this preservative agent must not be used in cell cultures nor injected into animals. Sodium azide may be removed by washing stained cells or plate-bound antibody or dialyzing soluble antibody in sodium azide-free buffer. Since endotoxin may also affect the results of functional studies, we recommend the NA/LE (No Azide/Low Endotoxin) antibody format, if available, for in vitro and in vivo use.
5. This antibody has been developed for the immunohistochemistry application. However, a routine immunohistochemistry test is not performed on every lot. Researchers are encouraged to titrate the reagent for optimal performance.

References


