**Human Dectin-1/CLEC7A PE-conjugated Antibody**

**Monoclonal Mouse IgG2B Clone # 259931**

**Catalog Number:** FAB1859P

100 Tests, 25 Tests

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**DESCRIPTION**

<table>
<thead>
<tr>
<th>Species Reactivity</th>
<th>Human</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specificity</td>
<td>Detects human Dectin-1/CLEC7A in direct ELISAs. In direct ELISAs, less than 10% cross-reactivity with recombinant human (rh) DLEC and no cross-reactivity with recombinant mouse Dectin-1 or rhDectin-2 is observed.</td>
</tr>
<tr>
<td>Source</td>
<td>Monoclonal Mouse IgG2B Clone # 259931</td>
</tr>
<tr>
<td>Purification</td>
<td>Protein A or G purified from hybridoma culture supernatant</td>
</tr>
<tr>
<td>Immunogen</td>
<td>Mouse myeloma cell line NS0-derived recombinant human Dectin-1/CLEC7A Thr66-Met201 Accession # NP_072092</td>
</tr>
<tr>
<td>Conjugate</td>
<td>Phycoerythrin</td>
</tr>
<tr>
<td></td>
<td>Excitation Wavelength: 488 nm</td>
</tr>
<tr>
<td></td>
<td>Emission Wavelength: 565-605 nm</td>
</tr>
<tr>
<td>Formulation</td>
<td>Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.</td>
</tr>
</tbody>
</table>

*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.*

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**APPLICATIONS**

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

<table>
<thead>
<tr>
<th>Recommended Concentration</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 µL/10⁶ cells</td>
<td>See Below</td>
</tr>
</tbody>
</table>

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**DATA**

**Flow Cytometry**

Detection of Dectin-1/CLEC7A in Human Blood Monocytes by Flow Cytometry. Human peripheral blood monocytes were stained with Mouse Anti-Human Dectin-1/CLEC7A PE-conjugated Monoclonal Antibody (Catalog # FAB1859P, filled histogram) or isotype control antibody (Catalog # IC0041P, open histogram). View our protocol for Staining Membrane-associated Proteins.

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**PREPARATION AND STORAGE**

**Shipping**

The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage**

- Protect from light. Do not freeze.
- 12 months from date of receipt, 2 to 8 °C as supplied.

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Dectin-1, also known as CLEC7A and the β-glucan receptor, is a 33 kDa type II transmembrane C-type lectin that participates in the innate immune response to fungal pathogens. Although Dectin-1 structurally resembles other CLEC molecules, it binds its ligands in a calcium-independent manner (1, 2). Mature human Dectin-1 consists of a short N-terminal ITAM-containing cytoplasmic tail, a transmembrane segment, and a C-terminal stalk with a carbohydrate recognition domain (CRD) in the extracellular domain (3, 4). Alternate splicing generates one major splice form that lacks the stalk region (3-5). This isoform is expressed on the surface of monocytes, macrophages, myeloid DC, neutrophils, eosinophils, B cells, and CD4+ T cells (6). The CRD selectively binds β-glucan polymers, a major component of yeast and mycobacterial cell walls (5-7). Yeast β-glucan is accessible to Dectin-1 only during the process of cell budding. Dectin-1 does not recognize the filamentous form of yeast (8). Dectin-1 mediates the phagocytosis of zymosan particles and intact yeast (8-10). In the membrane, Dectin-1 colocalizes with TLR2 in the presence of zymosan, and the two receptors cooperate in ligand recognition and the propagation of proinflammatory signaling (9, 11-13). Dectin-1 also interacts with tetraspanin CD37. This increases its stability on the cell membrane and inhibits ligand-induced signaling (14). Dectin-1 knockout mice show increased susceptibility to pathogenic infection (15-16). The CRD of human Dectin-1 shares 77%, 60%, and 60% amino acid (aa) sequence identity with that of bovine, mouse and rat Dectin-1, respectively. It shares 29%-39% aa sequence identity with the CRD of other subgroup members, including CLEC-1, CLEC-2, CLEC9A, CLEC12B, LOX-1, and MICL.

References: