Product Information

Materials Number: 566326
Alternate Name: Interleukin-31; Interleukin 31; IL31
Size: 50 Tests
Vol. per Test: 5 µl
Clone: U26-947
Immunogen: Human IL-31 Recombinant Protein
Isotype: Mouse (BALB/c) IgG2a, κ
Reactivity: QC Testing: Human
Storage Buffer: Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The U26-947 monoclonal antibody specifically binds to Interleukin-31 (IL-31). IL-31 belongs to the IL-6 family of cytokines. It is primarily produced by activated type-2 helper T cells (Th2 cells) and skin-homing cutaneous lymphocyte-associated antigen (CLA)-positive T cells in individuals with atopic dermatitis. IL-31 binds to a heterodimeric cell surface receptor comprised of an IL-31 Receptor alpha subunit (IL-31Rα) and Oncostatin M Receptor beta subunit (OSMRβ). The IL-31 Receptor complex is variably expressed on epithelial cells, keratinocytes, monocytes, macrophages, or eosinophils. IL-31 signaling through the Jak/STAT pathway may induce the release of proinflammatory cytokines including IL-1 beta (IL-1β), IL-6, IL-8, CXCL1 (GRO1α), and CCL2 (MCP-1). Overexpressed IL-31 may be detected in individuals with allergic asthma, allergic rhinitis, or atopic dermatitis.

Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.
The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
The antibody was conjugated with R-PE under optimum conditions, and unconjugated antibody and free PE were removed.

Application Notes

Application

| Intracellular staining (flow cytometry) | Routinely Tested |

Multicolor flow cytometric analysis of IL-31 expression in stimulated human peripheral blood lymphocytes. Human PBMC were stimulated for 6 hours with PMA (Sigma P-8139; 5 ng/ml final concentration) and ionomycin (Sigma I-0634; 500 ng/ml final concentration) in the presence of BD GolgiStop™ Protein Transport Inhibitor (containing Monensin) (Cat. No. 554724). The cells were harvested, washed, and fixed and permeabilized with BD Cytofix/Cytoperm™ Fixation and Permeabilization Solution (Cat. No. 554722). Cells were then washed and stained in BD Perm/Wash™ Buffer (Cat. No. 554723) with BD Horizon™ BV421 Mouse Anti-Human CD3 (Cat. No. 562426/562427; Top Plots), Alexa Fluor®647 Mouse Anti-Human CD4 (Cat. No. 557707; Bottom Plots), and either PE Mouse IgG2a, κ Isotype Control (Cat. No. 563563; Left Plots) or PE Mouse Anti-Human IL-31 antibody (Cat. No. 566326; Right Plots). The two-color dot plots showing the correlated expression of CD3 or CD4 versus IL-31 (or Ig isotype control staining) were derived from gated events with the forward and side-light scattering characteristics of intact lymphocytes. Flow cytometric analysis was performed using a BD FACSCanto™ II Flow Cytometer System.
### Suggested Companion Products

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
</tr>
</thead>
<tbody>
<tr>
<td>554723</td>
<td>Perm/Wash Buffer</td>
<td>100 mL</td>
<td>(none)</td>
</tr>
<tr>
<td>565363</td>
<td>PE Mouse IgG2a, κ Isotype Control</td>
<td>50 µg</td>
<td>MOPC-173</td>
</tr>
<tr>
<td>555061</td>
<td>HiCK-1 Human Cytokine Positive Control Cells</td>
<td>1 mL</td>
<td>(none)</td>
</tr>
<tr>
<td>554657</td>
<td>Stain Buffer (BSA)</td>
<td>500 mL</td>
<td>(none)</td>
</tr>
<tr>
<td>554656</td>
<td>Stain Buffer (FBS)</td>
<td>500 mL</td>
<td>(none)</td>
</tr>
<tr>
<td>554724</td>
<td>Protein Transport Inhibitor (Containing Monensin)</td>
<td>0.7 mL</td>
<td>(none)</td>
</tr>
<tr>
<td>554722</td>
<td>Fixation and Permeabilization Solution</td>
<td>125 mL</td>
<td>(none)</td>
</tr>
<tr>
<td>562426</td>
<td>BV421 Mouse Anti-Human CD3</td>
<td>100 Tests</td>
<td>UCHT1</td>
</tr>
<tr>
<td>562427</td>
<td>BV421 Mouse Anti-Human CD3</td>
<td>25 Tests</td>
<td>UCHT1</td>
</tr>
<tr>
<td>557707</td>
<td>Alexa Fluor®647 Mouse Anti-Human CD4</td>
<td>100 Tests</td>
<td>RPA-T4</td>
</tr>
</tbody>
</table>

### Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use $1 \times 10^6$ cells in a 100-µl experimental sample (a test).
2. An isotype control should be used at the same concentration as the antibody of interest.
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. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
5. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.

### References


