Technical Data Sheet

BV421 Mouse Anti-Human IL-21 Receptor (CD360)

Product Information

Material Number: 563728
Alternate Name: Interleukin-21 receptor; CD360; NILR
Size: 50 Tests
Vol. per Test: 5 µl
Clone: 17A12
Immunogen: Human IL-21R Transfected Cell Line
Isotype: Mouse (BALB/c) IgG1, κ
Reactivity: Human
Storage Buffer: Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The 17A12 monoclonal antibody specifically binds to the IL-21 Receptor (IL-21R). The IL-21R, also known as CD360, is a 538 amino acid cytokine receptor with an extracellular domain consisting of one copy of the conserved WSXWS-containing cytokine-binding domain. The IL-21 receptor combines with the common cytokine-receptor γ-chain to form a functional receptor complex for IL-21. IL-21 is mainly produced by activated CD4+ T cells including T follicular helper (Tfh) cells. IL-21R is preferentially expressed by B cells, T cells, NK cells, some populations of myeloid cells, keratinocytes, and dendritic cells. Binding of its ligand, IL-21, in these cells results in the activation of the Jak/Stat signal transduction pathway. The effects IL-21 ligand binding has pleiotropic actions such as augmenting the proliferation of T cells, driving of B cells into memory cells, terminally differentiating plasma cells and augmenting the activity of natural killer cells. IL-21 receptor has anti-tumor activity and might have a role in the development of autoimmunity; it has been reported that the IL-21 receptor affects the homeostasis of regulatory T cells and it could enhance T cell-activated responses in human immune-inflammatory diseases.

The antibody was conjugated to BD Horizon™ BV421 which is part of the BD Horizon Brilliant™ Violet family of dyes. With an Ex Max of 407-nm and Em Max at 421-nm, BD Horizon BV421 can be excited by the violet laser and detected in the standard Pacific Blue™ filter set (eg, 450/50-nm filter). BD Horizon BV421 conjugates are very bright, often exhibiting a 10 fold improvement in brightness compared to Pacific Blue conjugates.

Two-color flow cytometric analysis of IL-21 Receptor expression on human peripheral blood lymphocytes. Human whole blood was stained with FITC Mouse Anti-Human CD19 antibody (Cat. No. 555412/565963), and either BD Horizon™ BV421 Mouse IgG1, κ Isotype Control (Cat. No. 562438; Left Panel) or BD Horizon BV421 Mouse Anti-Human IL-21 Receptor antibody (Cat. No. 563728/565963; Right Panel). Erythrocytes were lysed with BD FACS Lysing Solution (Cat. No. 349202). Two-color flow cytometric dot plots showing the expression of CD19 versus IL-21R (or Ig Isotype control staining) were derived from gated events with the forward and side light-scatter characteristics of intact lymphocytes. Flow cytometric analysis was performed using a BD LSRFortessa™ Cell Analyzer System.
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 BD Horizon™ BV421 under optimum conditions, and unconjugated antibody and free BD Horizon BV421 were removed.

Application Notes

Application

Flow cytometry Routinely Tested

Recommended Assay Procedure:
For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes (including BD OptiBuil Brilliant reagents) are used in the same experiment. Fluorescent dye interactions may cause staining artifacts which may affect data interpretation. The BD Horizon Brilliant Stain Buffer was designed to minimize these interactions. More information can be found in the Technical Data Sheet of the BD Horizon Brilliant Stain Buffer (Cat. No. 563794/566349) or the BD Horizon Brilliant Stain Buffer Plus (Cat. No. 566385).

Suggested Companion Products

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<th>Name</th>
<th>Size</th>
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<td>X40</td>
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<td>BV421 Mouse Anti-Human IL-21 Receptor (CD360)</td>
<td>25 Tests</td>
<td>17A12</td>
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<tr>
<td>566385</td>
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Product Notices
1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1 × 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. Pacific Blue™ is a 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.
7. BD Horizon Brilliant Violet 421 is covered by one or more of the following US patents: 8,158,444; 8,362,193; 8,575,303; 8,354,239.
8. BD Horizon Brilliant Stain Buffer is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,575,303; 8,354,239.

References
Li J, Nara H, Rahman M, Juliana FM, Araki A, Asao H. Impaired IL-7 signaling may explain a case of atypical JAK3-SCID. Cytokine. 2010; 49(2):221-228. (Clone-specific: Flow cytometry)