Product Information

Material Number: 563408
Alternate Name: CD314; KLRK1; KLR; NKG2D; NKG2-D; NK cell receptor D
Size: 50 Tests
Vol. per Test: 5 µl
Clone: 1D11
Immunogen: NKL cells
Isotype: Mouse (RBF/ DnJ) IgG1, κ
Reactivity: QC Testing: Human
Workshop: VIII 80432
Storage Buffer: Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The 1D11 monoclonal antibody specifically binds to NKG2D, a 42 kDa type II transmembrane glycoprotein that is also known as CD314 and KLRK1. NKG2D is a member of the C-type lectin family and is expressed on human NK cells. This activating receptor binds strongly to several ligands including MICA and MICB and ULBP-1, -2, and -3 proteins that are expressed by different target cell types. Different from natural cytotoxicity receptor (NCR), NKG2D expression is not confined to NK cells. It is also expressed on virtually all TCR γδ+ and CD8+ T cells. NKG2D functions as a triggering receptor involved in natural cytotoxicity mediated by normal NK cells against a variety of tumors or normal target cells. Importantly, NKG2D can complement the role of NCR in tumor cell lysis. Remarkably, the combined maskings of NCR and NKG2D can reportedly lead to a complete inhibition of NK-mediated lysis of all tumor or normal cells. The 1D11 antibody can reportedly block or stimulate the function of NKG2D-positive cells.

The antibody was conjugated to BD Horizon BV650 which is part of the BD Horizon Brilliant™ Violet family of dyes. This dye is a tandem fluorochrome of BD Horizon BV421 with an Ex Max of 405-nm and an acceptor dye with an Em Max at 650-nm. BD Horizon BV650 can be excited by the violet laser and detected in a filter used to detect APC-like dyes (eg, 660/20-nm filter). Due to the excitation and emission characteristics of the acceptor dye, there will be spillover into the APC and Alexa Fluor® 700 detectors. However, the spillover can be corrected through compensation as with any other dye combination.

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™ BV650 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV650 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 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).

Suggested Companion Products

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
</tr>
</thead>
<tbody>
<tr>
<td>555899</td>
<td>Lysing Buffer</td>
<td>100 mL</td>
<td>(none)</td>
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<tr>
<td>554656</td>
<td>Stain Buffer (FBS)</td>
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<td>(none)</td>
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<tr>
<td>563231</td>
<td>BV650 Mouse IgG1, k Isotype Control</td>
<td>50 µg</td>
<td>X40</td>
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<tr>
<td>349202</td>
<td>BD FACSTM Lysing Solution</td>
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<tr>
<td>554657</td>
<td>Stain Buffer (BSA)</td>
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<tr>
<td>563794</td>
<td>Brilliant Stain Buffer</td>
<td>100 Tests</td>
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<tr>
<td>566349</td>
<td>Brilliant Stain Buffer</td>
<td>1000 Tests</td>
<td>(none)</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 $1 \times 10^6$ 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. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
5. 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.
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 650 is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,227,187; 8,455,613; 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