

## Alexa Fluor® 660 anti-human CD314 (NKG2D) Antibody

<b>Catalog# / Size</b>	320841 / 25 tests 320842 / 100 tests
<b>Clone</b>	1D11
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	NKG2D
<b>Isotype</b>	Mouse IgG1, $\kappa$
<b>Description</b>	CD314 is a homodimeric C-type lectin-like protein also known as NKG2D. It is expressed on NK cells, CD8 <sup>+</sup> T cells, $\gamma/\delta$ T cells, and <i>in vitro</i> induced LAK cells. Several molecules have been identified as the ligands for NKG2D, including MHC class-I chain-related protein A (MICA), MICB, and UL16-binding proteins (ULBPs). NKG2D has no intrinsic signaling capacity, but attains this by non-covalent association with DAP10 or DAP12 adaptors. In addition to being a primary activation receptor on NK cells, NKG2D is also a costimulatory receptor for TCR-mediated T cell proliferation and cytokine production. The interaction of NKG2D with its ligands plays a role in the immune surveillance against pathogen and tumor cells, and in the pathogenesis of autoimmune diseases.

### Product Details

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<b>Verified Reactivity</b>	Human
<b>Reported Reactivity</b>	African Green, Baboon, Cynomolgus, Rhesus
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA)
<b>Preparation</b>	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 660 under optimal conditions.
<b>Concentration</b>	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our <a href="#">Concentration and Expiration Lookup</a> or <a href="#">Certificate of Analysis</a> online tools.)
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. <b>Do not freeze.</b>
<b>Application</b>	<a href="#">FC - Quality tested</a>
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by <a href="#">immunofluorescent staining with flow cytometric analysis</a> . For flow cytometric staining, the suggested use of this reagent is 5 $\mu$ L per million cells in 100 $\mu$ L staining volume or 5 $\mu$ L per 100 $\mu$ L of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.  * Alexa Fluor® 660 has an excitation maximum of 663 nm, and a maximum emission of 690 nm.  Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation.  <a href="#">View full statement regarding label licenses</a>
<b>Excitation Laser</b>	Red Laser (633 nm)
<b>Application Notes</b>	The 1D11 antibody blocks MICA binding to T cells, induces redirected lysis, and costimulates T cells activation and proliferation. Additional reported (for the relevant formats) applications include: immunoprecipitation <sup>1,2</sup> , blocking of ligand binding, induction of redirected cell lysis, and costimulation of T cells proliferation <sup>2-7</sup> . For highly sensitive assays, we recommend Ultra-LEAF™ purified antibody (Cat. No. 320814) with endotoxin < 0.01 EU/ $\mu$ g, Azide-Free, 0.2 $\mu$ m filtered.
<b>Application References</b>	1. Wu J, <i>et al.</i> 1999. <i>Science</i> 285:730. 2. Wu J, <i>et al.</i> 2000. <i>J. Exp. Med.</i> 192:1059.
<b>(PubMed link indicates</b>	

<b>BioLegend citation)</b>	<ol style="list-style-type: none"> <li>3. Groh V, <i>et al.</i> 2001. <i>Nature Immunol.</i> 2:255.</li> <li>4. Wu J, <i>et al.</i> 2002. <i>J. Immunol.</i> 169:1236.</li> <li>5. Roberts A, <i>et al.</i> 2001. <i>J. Immunol.</i> 167:5527.</li> <li>6. Groh V, <i>et al.</i> 2003. <i>Proc. Natl. Acad. Sci. USA</i> 100:9452.</li> <li>7. Kraetzel K <i>et al.</i> 2008. <i>Eur. Respir. J.</i> 32:563. <a href="#">PubMed</a></li> <li>8. Correia DV, <i>et al.</i> 2011. <i>Blood</i> 118:992. (FC) <a href="#">PubMed</a></li> <li>9. Watanabe M, <i>et al.</i> 2014. <i>Int Immunol.</i> <a href="#">PubMed</a></li> </ol>
<b>RRID</b>	<p>AB_2892386 (BioLegend Cat. No. 320841)</p> <p>AB_2892386 (BioLegend Cat. No. 320842)</p>

## Antigen Details

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<b>Structure</b>	C-type lectin
<b>Distribution</b>	NK cells, $\gamma/\delta$ T cells, CD8 <sup>+</sup> T cells
<b>Function</b>	Cytolytic killing of target cells expressing NKG2D ligands, costimulation of NK cells and T cells
<b>Ligand/Receptor</b>	MICA, MICB, UL16-binding proteins (ULBPs)
<b>Cell Type</b>	NK cells, T cells
<b>Biology Area</b>	Costimulatory Molecules, Immunology
<b>Molecular Family</b>	CD Molecules
<b>Antigen References</b>	<ol style="list-style-type: none"> <li>1. Vance RE, <i>et al.</i> 1999. <i>J. Exp. Med.</i> 190:1801.</li> <li>2. Raulet DH. 2003. <i>Nat. Rev. Immunol.</i> 3:781.</li> <li>3. Lohwasser S, <i>et al.</i> 1999. <i>Eur. J. Immunol.</i> 29:755.</li> <li>4. Jamieson AM, <i>et al.</i> 2002. <i>Immunity</i> 17:19.</li> <li>5. Gilfillan S, <i>et al.</i> 2002. <i>Nat. Immunol.</i> 3:1150.</li> <li>6. Ho EL, <i>et al.</i> 2002. <i>J. Immunol.</i> 169:3667.</li> <li>7. Maasho K, <i>et al.</i> 2005. <i>J. Immunol.</i> 174:4480.</li> <li>8. Groh V, <i>et al.</i> 2003. <i>Proc. Natl. Acad. Sci. USA</i> 100:9452.</li> </ol>
<b>Gene ID</b>	<a href="#">22914</a>

## Related Protocols

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[Cell Surface Flow Cytometry Staining Protocol](#)

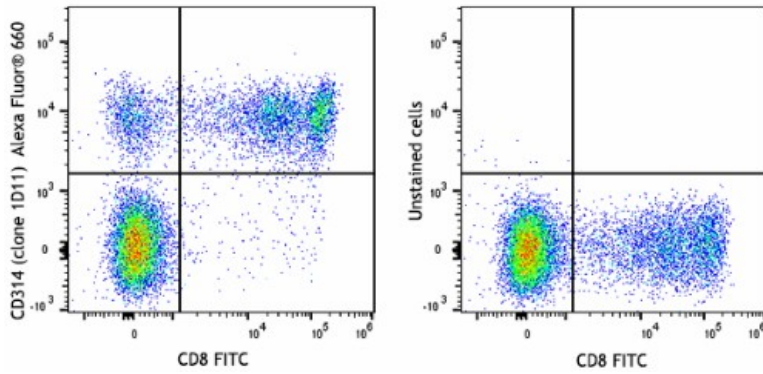
## Other Formats

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Purified anti-human CD314 (NKG2D), Biotin anti-human CD314 (NKG2D), PE anti-human CD314 (NKG2D), APC anti-human CD314 (NKG2D), PE/Cyanine7 anti-human CD314 (NKG2D), Ultra-LEAF™ Purified anti-human CD314 (NKG2D), Brilliant Violet 510™ anti-human CD314 (NKG2D), PerCP/Cyanine5.5 anti-human CD314 (NKG2D), FITC anti-human CD314 (NKG2D), Brilliant Violet 421™ anti-human CD314 (NKG2D), APC/Cyanine7 anti-human CD314 (NKG2D), Alexa Fluor® 647 anti-human CD314 (NKG2D), PE/Dazzle™ 594 anti-human CD314 (NKG2D), Brilliant Violet 785™ anti-human CD314 (NKG2D), Brilliant Violet 605™ anti-human CD314 (NKG2D), APC/Fire™ 750 anti-human CD314 (NKG2D), TotalSeq™-A0165 anti-human CD314 (NKG2D), TotalSeq™-C0165 anti-human CD314 (NKG2D), TotalSeq™-B0165 anti-human CD314 (NKG2D), Alexa Fluor® 660 anti-human CD314 (NKG2D) Antibody, PE/Cyanine5 anti-human CD314 (NKG2D)

## Product Data

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Human peripheral blood lymphocytes were stained with CD8 FITC and CD314 (NKG2D) (clone 1D11) Alexa Fluor® 660 (left) or CD8 FITC only (right).

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