

Spark PLUS B550™ anti-human CD314 (NKG2D) Antibody

Catalog# / Size	320851 / 25 tests 320852 / 100 tests
Clone	1D11
Regulatory Status	RUO
Other Names	NKG2D
Isotype	Mouse IgG1, κ
Description	CD314 is a homodimeric C-type lectin-like protein also known as NKG2D. It is expressed on NK cells, CD8 ⁺ T cells, γ/δ 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

Verified Reactivity	Human
Reported Reactivity	African Green, Baboon, Cynomolgus, Rhesus
Antibody Type	Monoclonal
Host Species	Mouse
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA)
Preparation	The antibody was purified by affinity chromatography and conjugated with Spark PLUS B550™ under optimal conditions.
Concentration	Lot-specific (to obtain lot-specific concentration and expiration, please enter the lot number in our Certificate of Analysis online tool.)
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.
Application	FC - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis . For flow cytometric staining, the suggested use of this reagent is 5 μ L per million cells in 100 μ L staining volume or 5 μ L per 100 μ L of whole blood. It is recommended that the reagent be titrated for optimal performance for each application. * Spark PLUS B550™ has a maximum excitation of 516 nm and a maximum emission of 540 nm.
Excitation Laser	Blue Laser (488 nm)
Application Notes	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 ^{1,2} , blocking of ligand binding, induction of redirected cell lysis, and costimulation of T cells proliferation ²⁻⁷ . For highly sensitive assays, we recommend Ultra-LEAF™ purified antibody (Cat. No. 320814) with endotoxin < 0.01 EU/ μ g, Azide-Free, 0.2 μ m filtered.

Application References

(PubMed link indicates
BioLegend citation)

1. Wu J, *et al.* 1999. *Science* 285:730.
2. Wu J, *et al.* 2000. *J. Exp. Med.* 192:1059.
3. Groh V, *et al.* 2001. *Nature Immunol.* 2:255.
4. Wu J, *et al.* 2002. *J. Immunol.* 169:1236.
5. Roberts A, *et al.* 2001. *J. Immunol.* 167:5527.
6. Groh V, *et al.* 2003. *Proc. Natl. Acad. Sci. USA* 100:9452.
7. Kraetzel K *et al.* 2008. *Eur. Respir. J.* 32:563. [PubMed](#)
8. Correia DV, *et al.* 2011. *Blood* 118:992. (FC) [PubMed](#)
9. Watanabe M, *et al.* 2014. *Int Immunol.* [PubMed](#)

RRID

AB_3720486 (BioLegend Cat. No. 320851)
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Antigen Details

Structure	C-type lectin
Distribution	NK cells, γ/δ T cells, CD8 ⁺ T cells
Function	Cytolytic killing of target cells expressing NKG2D ligands, costimulation of NK cells and T cells
Ligand/Receptor	MICA, MICB, UL16-binding proteins (ULBPs)
Cell Type	NK cells, T cells
Biology Area	Costimulatory Molecules, Immunology
Molecular Family	CD Molecules
Antigen References	1. Vance RE, <i>et al.</i> 1999. <i>J. Exp. Med.</i> 190:1801. 2. Raulet DH. 2003. <i>Nat. Rev. Immunol.</i> 3:781. 3. Lohwasser S, <i>et al.</i> 1999. <i>Eur. J. Immunol.</i> 29:755. 4. Jamieson AM, <i>et al.</i> 2002. <i>Immunity</i> 17:19. 5. Gilfillan S, <i>et al.</i> 2002. <i>Nat. Immunol.</i> 3:1150. 6. Ho EL, <i>et al.</i> 2002. <i>J. Immunol.</i> 169:3667. 7. Maasho K, <i>et al.</i> 2005. <i>J. Immunol.</i> 174:4480. 8. Groh V, <i>et al.</i> 2003. <i>Proc. Natl. Acad. Sci. USA</i> 100:9452.
Gene ID	22914

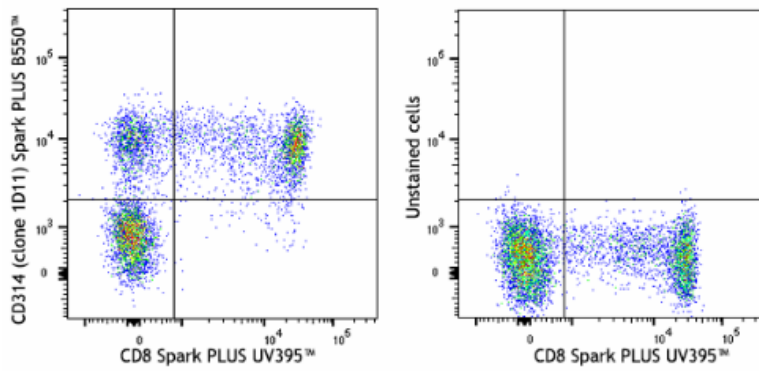
Related Protocols

- [Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

Alexa Fluor® 660 anti-human CD314 (NKG2D) Antibody, PE/Cyanine5 anti-human CD314 (NKG2D), TotalSeq™-D0165 anti-human CD314 (NKG2D), Brilliant Violet 711™ anti-human CD314 (NKG2D), Brilliant Violet 650™ anti-human CD314 (NKG2D), APC/Cyanine7 anti-human CD314 (NKG2D), Brilliant Violet 421™ anti-human CD314 (NKG2D), Alexa Fluor® 647 anti-human CD314 (NKG2D), Brilliant Violet 785™ anti-human CD314 (NKG2D), Ultra-LEAF™ Purified anti-human CD314 (NKG2D), FITC anti-human CD314 (NKG2D), Spark Red™ 718 anti-human CD314 (NKG2D) (Flexi-Fluor™), Spark Blue™ 574 anti-human CD314 (NKG2D) (Flexi-Fluor™), Spark YG™ 593 anti-human CD314 (NKG2D) (Flexi-Fluor™), Purified anti-human CD314 (NKG2D), APC/Fire™ 750 anti-human CD314 (NKG2D), TotalSeq™-A0165 anti-human CD314 (NKG2D), TotalSeq™-B0165 anti-human CD314 (NKG2D), PE/Dazzle™ 594 anti-human CD314 (NKG2D), Brilliant Violet 510™ anti-human CD314 (NKG2D), PerCP/Cyanine5.5 anti-human CD314 (NKG2D), Spark PLUS B550™ anti-human CD314 (NKG2D) Antibody, Spark PLUS V475™ anti-human CD314 (NKG2D), Spark PLUS UV395™ anti-human CD314 (NKG2D) (Flexi-Fluor™), Brilliant Violet 605™ anti-human CD314 (NKG2D), TotalSeq™-C0165 anti-human CD314 (NKG2D), PE/Cyanine7 anti-human CD314 (NKG2D), Spark YG™ 581 anti-human CD314 (NKG2D) (Flexi-Fluor™), Spark NIR™ 685 anti-human CD314 (NKG2D) (Flexi-Fluor™), Biotin anti-human CD314 (NKG2D), PE anti-human CD314 (NKG2D), APC anti-human CD314 (NKG2D)

Product Data



Human peripheral blood lymphocytes were stained with anti-human CD8 (clone SK1) Spark PLUS UV395™ and anti-human CD314 (NKG2D) (clone 1D11) Spark PLUS B550™ (left) or stained with anti-human CD8 (clone SK1) Spark PLUS UV395™ only (right).

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8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587