SONY

Product Data Sheet

Brilliant Violet 421™ anti-human CD314 (NKG2D)

Catalog # / Size: 2204110 / 100 tests
2204105 / 25 tests

Clone: 1D11

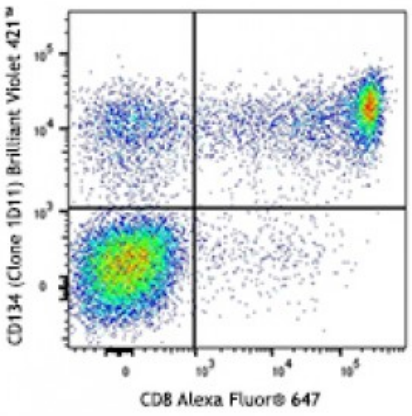
Isotype: Mouse IgG1, κ

Reactivity: Human

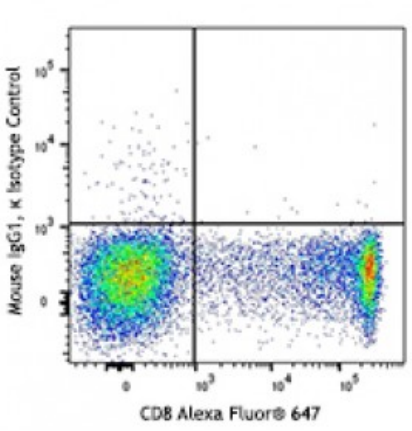
Preparation: The antibody was purified by affinity chromatography and conjugated with Brilliant Violet 421™ under optimal conditions. The solution is free of unconjugated Brilliant Violet 421™ and unconjugated antibody.

Formulation: Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA).

Concentration: Lot-specific



Human peripheral blood lymphocytes were stained with CD8 Alexa Fluor® 647 and CD134 (clone 1D11) Brilliant Violet 421™ (top) or mouse IgG1, κ Brilliant Violet 421™ isotype control (bottom).



Applications:

Applications: Flow Cytometry

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 microL per million cells or 5 microL per 100 microL of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.

Brilliant Violet 421™ excites at 405 nm and emits at 421 nm. The standard bandpass filter 450/50 nm is recommended for detection. Brilliant Violet 421™ is a trademark of Sirigen Group Ltd.

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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]. The LEAF™ purified antibody (Endotoxin <0.1 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays (Cat. No. 320810). For highly sensitive assays, we recommend Ultra-LEAF™ purified antibody (Cat. No. 320814) with a lower endotoxin limit than standard LEAF™ purified antibodies (Endotoxin <0.01 EU/microg).

Application References:

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. Watanbe M, *et al.* 2014. *Int Immunol.* PubMed

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 *in vitro* 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.

Antigen References:

1. Vance RE, *et al.* 1999. *J. Exp. Med.* 190:1801.
2. Raulet DH. 2003. *Nat. Rev. Immunol.* 3:781.
3. Lohwasser S, *et al.* 1999. *Eur. J. Immunol.* 29:755.
4. Jamieson AM, *et al.* 2002.