Technical Data Sheet

Purified NA/LE Mouse Anti-Human NKG2D

Product Information

Material Number:	**562164**
Alternate Name:	CD314; KLRK1; KLR; NKG2D; NKG2-D; NK cell receptor D
Size:	0.5 mg
Concentration:	1.0 mg/ml
Clone:	1D11
Isotype:	Mouse IgG1, κ
Reactivity:	QC Testing: Human
Storage Buffer:	No azide/low endotoxin: Aqueous buffered solution containing no preservative, 0.2μm sterile filtered. Endotoxin level is ≤0.01 EU/μg (≤0.001 ng/μg) of protein as determined by the LAL assay.

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 γ/δ+ and CD8+TCR α/β+ 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.

Preparation and Storage

Store undiluted at 4°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

This preparation contains no preservatives, thus it should be handled under aseptic conditions.

Application Notes

Application

Flow cytometry	Routinely Tested

Product Notices

1. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
2. Since applications vary, each investigator should titrate the reagent to obtain optimal results.

References

Bauer S, Groh V, Wu J, et al. Activation of NK cells and T cells by NKG2D, a receptor for stress-inducible MICA. *Science.* 1999; 285(5428):727-729. (Biology: Blocking)

Groh V, Bruhl A, El-Gabalawy H, Nelson JL, Spies T. Stimulation of T cell autoreactivity by anomalous expression of NKG2D and its MIC ligands in rheumatoid arthritis. *Proc Natl Acad Sci U S A.* 2003; 100(16):9452-9457. (Biology)

Groh V, Rhinehart R, Randolph-Habecker J, Topp MS, Riddell SR, Spies T. Costimulation of CD8alphabeta T cells by NKG2D via engagement by MIC induced on virus-infected cells. *Nat Immunol.* 2001; 2(3):255-260. (Clone-specific: Blocking)

Roberts AI, Lee L, Schwarz E, et al. NKG2D receptors induced by IL-15 costimulate CD28-negative effector CTL in the tissue microenvironment. *J Immunol.* 2001; 167(10):5527-5530. (Clone-specific: Activation)

Steinle A, Li P, Morris DL, et al. Interactions of human NKG2D with its ligands MICA, MICB, and homologs of the mouse RAE-1 protein family. *Immunogenetics.* 2001; 53(4):279-287. (Biology)

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