

Datasheet: MCA2405EL

Description:	MOUSE ANTI HUMAN CD314:Low Endotoxin
Specificity:	CD314
Other names:	NKG2D
Format:	Low Endotoxin
Product Type:	Monoclonal Antibody
Clone:	1D11
Isotype:	IgG1
Quantity:	0.5 mg

Product Details

RRID AB_609593

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			1/50 - 1/200
Immunohistology - Frozen	▪			
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation	▪			
Western Blotting			▪	
Functional Assays	▪			

Where this antibody has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the antibody for use in their own system using appropriate negative/positive controls.

Target Species Human

Product Form Purified IgG - liquid

Preparation Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant

Buffer Solution Phosphate buffered saline

Preservative Stabilisers None present

Carrier Free Yes

Endotoxin Level <0.01EU/mg

Approx. Protein Concentrations	IgG concentration 1.0 mg/ml
Immunogen	NKL cells.
External Database Links	<p>UniProt: P26718 Related reagents</p> <p>Entrez Gene: 100528032 KLRC4-KLRK1 Related reagents</p>
Synonyms	D12S2489E, NKG2D
Fusion Partners	Spleen cells from immunised RBF/DnJ mice were fused with cells of the p3 mouse myeloma cell line.
Specificity	<p>Mouse anti Human CD314 antibody, clone 1D11 recognizes CD314, also known as natural killer receptor G2 (NKG2D) and as killer cell lectin-like receptor subfamily K, member 1 (KLRK1).</p> <p>CD314 is a C-type lectin-like activating receptor which is expressed on most natural killer (NK) cells, CD8 T cells and gamma delta T cells. CD314 forms homodimers that signal through an associated DAP10 adaptor protein.</p> <p>Ligands of CD314 include MICA, MICB and UL16 binding protein (ULBP), which are inducibly expressed. Ligand binding to CD314 results in NK cell activation and potent co-stimulation of effector T cells.</p> <p>Mouse anti Human CD314 antibody, clone 1D11 is reported to inhibit T cell recognition of MICA (Bauer <i>et al.</i> 1999).</p>
Flow Cytometry	Use 10ul of the suggested working dilution to label 10 ⁶ cells in 100ul.
References	<ol style="list-style-type: none"> 1. Bauer, S. <i>et al.</i> (1999) Activation of NK cells and T cells by NKG2D, a receptor for stress-inducible MICA. Science. 285 (5428): 727-9. 2. Das, H. <i>et al.</i> (2004) Mechanisms of Vdelta1 gammadelta T cell activation by microbial components. J Immunol. 172 (11): 6578-86. 3. Groh, V. <i>et al.</i> (2001) Costimulation of CD8alphabeta T cells by NKG2D via engagement by MIC induced on virus-infected cells. Nat Immunol. 2 (3): 255-60. 4. Jinushi, M. <i>et al.</i> (2003) Autocrine/paracrine IL-15 that is required for type I IFN-mediated dendritic cell expression of MHC class I-related chain A and B is impaired in hepatitis C virus infection. J Immunol. 171 (10): 5423-9. 5. Roberts, A.I. <i>et al.</i> (2001) NKG2D receptors induced by IL-15 costimulate CD28-negative effector CTL in the tissue microenvironment. J Immunol. 167: 5527-30. 6. Holmen, C. <i>et al.</i> (2007) Anti endothelial cell autoantibodies selectively activate SAPK/JNK signalling in Wegener's granulomatosis. J Am Soc Nephrol. 18: 2497-508. 7. Sugita, J. <i>et al.</i> (2010) Differential effects of interleukin-12 and interleukin-15 on expansion of NK cell receptor-expressing CD8+ T cells. Ann Hematol. 89: 115-20. 8. Gumperz, J. <i>et al.</i> (2002) Functionally distinct subsets of CD1d-restricted natural killer T cells revealed by CD1d tetramer staining. J Exp Med. 195:625-36. 9. Wu, J. <i>et al.</i> (2002) T cell antigen receptor engagement and specificity in the recognition of stress-inducible MHC class I-related chains by human epithelial gamma delta T cells. J Immunol. 169:1236-40.

10. Wu, J. *et al.* (2000) DAP10 and DAP12 form distinct, but functionally cooperative, receptor complexes in natural killer cells. [J Exp Med. 192:1059-68.](#)
11. Groh, V. *et al.* (2003) Stimulation of T cell autoreactivity by anomalous expression of NKG2D and its MIC ligands in rheumatoid arthritis. [Proc Natl Acad Sci U S A. 100:9452-7](#)
12. Voigt, J. *et al.* (2014) Human natural killer cells acting as phagocytes against *Candida albicans* and mounting an inflammatory response that modulates neutrophil antifungal activity. [J Infect Dis. 209 \(4\): 616-26.](#)
13. Matzner, P. *et al.* (2013) Resilience of the immune system in healthy young students to 30-hour sleep deprivation with psychological stress. [Neuroimmunomodulation. 20: 194-204.](#)

Further Reading 1. Groh, V. *et al.* (2003) Stimulation of T cell autoreactivity by anomalous expression of NKG2D and its MIC ligands in rheumatoid arthritis. [Proc Natl Acad Sci U S A. 100 \(16\): 9452-7.](#)

Storage Store at -20°C only.
Storage in frost-free freezers is not recommended. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.

Guarantee 18 months from date of despatch.

Health And Safety Information Material Safety Datasheet documentation #10162 available at: 10162: <https://www.bio-rad-antibodies.com/uploads/MSDS/10162.pdf>

Regulatory For research purposes only

Related Products

Recommended Secondary Antibodies

Goat Anti Mouse IgG IgA IgM (STAR87...) [Alk. Phos.](#), [HRP](#)
 Goat Anti Mouse IgG (STAR77...) [HRP](#)
 Rabbit Anti Mouse IgG (STAR12...) [RPE](#)
 Rabbit Anti Mouse IgG (STAR8...) [DyLight®800](#)
 Rabbit Anti Mouse IgG (STAR13...) [HRP](#)
 Goat Anti Mouse IgG (STAR76...) [RPE](#)
 Goat Anti Mouse IgG (STAR70...) [FITC](#)
 Goat Anti Mouse IgG (Fc) (STAR120...) [FITC](#), [HRP](#)
 Rabbit Anti Mouse IgG (STAR9...) [FITC](#)
 Goat Anti Mouse IgG (H/L) (STAR117...) [Alk. Phos.](#), [DyLight®488](#), [DyLight®680](#),
[DyLight®800](#), [FITC](#), [HRP](#)

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:Low Endotoxin \(MCA928EL\)](#)

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