

Datasheet: MCA2405EL

BATCH NUMBER 156711

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

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	None present

Stabilisers

Carrier Free Yes

Endotoxin Level < 0.01 EU/ug

Approx. Protein Concentrations IgG concentration 1.0 mg/ml

Immunogen NKL cells.

External Database Links**UniProt:**

[P26718](#) [Related reagents](#)

Entrez Gene:

[100528032](#) KLRC4-KLRK1 [Related reagents](#)

Synonyms D12S2489E, NKG2D

RRID AB_609593

Fusion Partners Spleen cells from immunised RBF/DnJ mice were fused with cells of the p3 mouse myeloma cell line.

Specificity **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).

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.

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.

Mouse anti Human CD314 antibody, clone 1D11 is reported to inhibit T cell recognition of MICA ([Bauer *et al.* 1999](#)).

Flow Cytometry Use 10ul of the suggested working dilution to label 10⁶ cells in 100ul.

References

1. Bauer, S. *et al.* (1999) Activation of NK cells and T cells by NKG2D, a receptor for stress-inducible MICA. [Science. 285 \(5428\): 727-9.](#)
2. Das, H. *et al.* (2004) Mechanisms of Vdelta1 gammadelta T cell activation by microbial components. [J Immunol. 172 \(11\): 6578-86.](#)
3. Groh, V. *et al.* (2001) Costimulation of CD8alpha T cells by NKG2D via engagement by MIC induced on virus-infected cells. [Nat Immunol. 2 \(3\): 255-60.](#)
4. Jinushi, M. *et al.* (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. *et al.* (2001) NKG2D receptors induced by IL-15 costimulate CD28-negative effector CTL in the tissue microenvironment. [J Immunol. 167: 5527-30.](#)
 6. Holmen, C. *et al.* (2007) Anti endothelial cell autoantibodies selectively activate SAPK/JNK signalling in Wegener's granulomatosis. [J Am Soc Nephrol. 18: 2497-508.](#)
 7. Sugita, J. *et al.* (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. *et al.* (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. *et al.* (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.](#)
 14. Tahrali, I. *et al.* (2019) CD3-CD56⁺ NK cells display an inflammatory profile in RR-MS patients. [Immunol Lett. Oct 04 \[Epub ahead of print\].](#)
 15. Tanaka, J. *et al.* (2012) Expansion of NK cells from cord blood with antileukemic activity using GMP-compliant substances without feeder cells. [Leukemia. 26 \(5\): 1149-52.](#)

Further Reading	1. Groh, V. <i>et al.</i> (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	12 months from date of despatch
Health And Safety Information	Material Safety Datasheet documentation #10162 available at: https://www.bio-rad-antibodies.com/SDS/MCA2405EL 10162
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Rabbit Anti Mouse IgG (STAR12...) [RPE](#)
 Goat Anti Mouse IgG IgA IgM (STAR87...) [HRP](#)
 Goat Anti Mouse IgG (STAR76...) [RPE](#)
 Rabbit Anti Mouse IgG (STAR13...) [HRP](#)
 Goat Anti Mouse IgG (STAR70...) [FITC](#)
 Goat Anti Mouse IgG (H/L) (STAR117...) [Alk. Phos.](#), [DyLight®488](#), [DyLight®550](#),
[DyLight®650](#), [DyLight®680](#), [DyLight®800](#),
[FITC](#), [HRP](#)
 Rabbit Anti Mouse IgG (STAR9...) [FITC](#)
 Goat Anti Mouse IgG (STAR77...) [HRP](#)
 Goat Anti Mouse IgG (Fc) (STAR120...) [FITC](#), [HRP](#)

Recommended Negative Controls

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

North & South America	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: antibody_sales_us@bio-rad.com	Worldwide	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: antibody_sales_uk@bio-rad.com	Europe	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: antibody_sales_de@bio-rad.com
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