

# Datasheet: MCA2405

**BATCH NUMBER 166287**

<b>Description:</b>	MOUSE ANTI HUMAN CD314
<b>Specificity:</b>	CD314
<b>Other names:</b>	NKG2D
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	1D11
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	0.2 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](http://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			▪	

Where this product 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 product for use in their own system using appropriate negative/positive controls.

<b>Target Species</b>	Human
<b>Product Form</b>	Purified IgG - liquid
<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant
<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative Stabilisers</b>	0.09% sodium azide (NaN <sub>3</sub> )

Carrier Free	Yes
Approx. Protein Concentrations	IgG concentration 1.0 mg/ml
Immunogen	NKL cells.
External Database Links	<p><b>UniProt:</b>  <a href="#">P26718</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">100528032</a>    KLRC4-KLRK1    <a href="#">Related reagents</a></p>
Synonyms	D12S2489E, NKG2D
RRID	AB_567174
Fusion Partners	Spleen cells from immunised RBF/DnJ mice were fused with cells of the p3 mouse myeloma cell line.
Specificity	<p><b>Mouse anti Human CD314 antibody, clone 1D11</b> 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 (<a href="#">Bauer et al. 1999</a>).</p>
Flow Cytometry	Use 10µl of the suggested working dilution to label 10 <sup>6</sup> cells in 100µl
References	<ol style="list-style-type: none"> <li>1. Wu, J. <i>et al.</i> (2000) DAP10 and DAP12 form distinct, but functionally cooperative, receptor complexes in natural killer cells. <a href="#">J Exp Med. 192:1059-68.</a></li> <li>2. Groh, V. <i>et al.</i> (2001) Costimulation of CD8alphabeta T cells by NKG2D via engagement by MIC induced on virus-infected cells. <a href="#">Nat Immunol. 2 (3): 255-60.</a></li> <li>3. Roberts, A.I. <i>et al.</i> (2001) NKG2D receptors induced by IL-15 costimulate CD28-negative effector CTL in the tissue microenvironment. <a href="#">J Immunol. 167: 5527-30.</a></li> <li>4. Gumperz, J. <i>et al.</i> (2002) Functionally distinct subsets of CD1d-restricted natural killer T cells revealed by CD1d tetramer staining. <a href="#">J Exp Med. 195:625-36.</a></li> <li>5. 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</li> </ol>

- delta T cells. [J Immunol. 169:1236-40.](#)
6. 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.](#)
7. 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](#)
8. Das, H. *et al.* (2004) Mechanisms of Vdelta1 gammadelta T cell activation by microbial components. [J Immunol. 172 \(11\): 6578-86.](#)
9. 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.](#)
10. 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.](#)
11. 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.](#)
12. 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.](#)
13. 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.](#)
14. Tahrali, I. *et al.* (2019) CD3(-)CD56(+) NK cells display an inflammatory profile in RR-MS patients. [Immunol Lett. 216: 63-9.](#)

<b>Further Reading</b>	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. <a href="#">Proc Natl Acad Sci U S A. 100 (16): 9452-7.</a>
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<b>Storage</b>	This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C.
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Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended.

<b>Guarantee</b>	12 months from date of despatch
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<b>Health And Safety Information</b>	Material Safety Datasheet documentation #10040 available at: <a href="https://www.bio-rad-antibodies.com/SDS/MCA2405">https://www.bio-rad-antibodies.com/SDS/MCA2405</a> 10040
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<b>Regulatory</b>	For research purposes only
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## Related Products

### Recommended Secondary Antibodies

Goat Anti Mouse IgG (STAR77...)	<a href="#">HRP</a>
Rabbit Anti Mouse IgG (STAR12...)	<a href="#">RPE</a>

Goat Anti Mouse IgG (STAR70...)	<a href="#">FITC</a>
Goat Anti Mouse IgG IgA IgM (STAR87...)	<a href="#">Alk. Phos.</a> , <a href="#">HRP</a>
Goat Anti Mouse IgG (STAR76...)	<a href="#">RPE</a>
Goat Anti Mouse IgG (H/L) (STAR117...)	<a href="#">Alk. Phos.</a> , <a href="#">DyLight®488</a> , <a href="#">DyLight®550</a> , <a href="#">DyLight®650</a> , <a href="#">DyLight®680</a> , <a href="#">DyLight®800</a> , <a href="#">FITC</a> , <a href="#">HRP</a>
Goat Anti Mouse IgG (Fc) (STAR120...)	<a href="#">FITC</a> , <a href="#">HRP</a>
Rabbit Anti Mouse IgG (STAR13...)	<a href="#">HRP</a>
Rabbit Anti Mouse IgG (STAR9...)	<a href="#">FITC</a>

## Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL \(MCA928\)](#)

<b>North &amp; South America</b>	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: <a href="mailto:antibody_sales_us@bio-rad.com">antibody_sales_us@bio-rad.com</a>	<b>Worldwide</b>	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: <a href="mailto:antibody_sales_uk@bio-rad.com">antibody_sales_uk@bio-rad.com</a>	<b>Europe</b>	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: <a href="mailto:antibody_sales_de@bio-rad.com">antibody_sales_de@bio-rad.com</a>
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To find a batch/lot specific datasheet for this product, please use our online search tool at: [bio-rad-antibodies.com/datasheets](https://bio-rad-antibodies.com/datasheets)  
'M415043:221215'

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