

## Datasheet: MCA2405A488

<b>Description:</b>	MOUSE ANTI HUMAN CD314:Alexa Fluor® 488
<b>Specificity:</b>	CD314
<b>Other names:</b>	NKG2D
<b>Format:</b>	ALEXA FLUOR® 488
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	1D11
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	100 TESTS/1ml

## 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	■			Neat - 1/10

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.

<b>Target Species</b>	Human		
<b>Product Form</b>	Purified IgG conjugated to Alexa Fluor® 488 - liquid		
<b>Max Ex/Em</b>	<b>Fluorophore</b>	<b>Excitation Max (nm)</b>	<b>Emission Max (nm)</b>
	Alexa Fluor®488	495	519
<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</b>	0.09% Sodium Azide		
<b>Stabilisers</b>	1% Bovine Serum Albumin		
<b>Approx. Protein Concentrations</b>	IgG concentration 0.05 mg/ml		
<b>Immunogen</b>	NKL cells.		
<b>External Database Links</b>	<b>UniProt:</b>		
	<a href="#">P26718</a>	<a href="#">Related reagents</a>	

**Entrez Gene:**

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

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<b>Synonyms</b>	D12S2489E, NKG2D
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<b>Fusion Partners</b>	Spleen cells from immunised RBF/DnJ mice were fused with cells of the p3 mouse myeloma cell line.
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<b>Specificity</b>	<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 costimulation of effector T cells.</p> <p>Clone 1D11 is reported to inhibit T cell recognition of MICA (<a href="#">Bauer <i>et al.</i> 1999</a>).</p>
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<b>Flow Cytometry</b>	Use 10ul of the suggested working dilution to label 10 <sup>6</sup> cells in 100ul.
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<b>References</b>	<ol style="list-style-type: none"><li>1. Bauer, S. <i>et al.</i> (1999) Activation of NK cells and T cells by NKG2D, a receptor for stress-inducible MICA. <a href="#">Science. 285 (5428): 727-9.</a></li><li>2. Das, H. <i>et al.</i> (2004) Mechanisms of Vdelta1 gammadelta T cell activation by microbial components. <a href="#">J Immunol. 172 (11): 6578-86.</a></li><li>3. 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>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. <a href="#">J Immunol. 171 (10): 5423-9.</a></li><li>5. 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>6. Holmen, C. <i>et al.</i> (2007) Anti endothelial cell autoantibodies selectively activate SAPK/JNK signalling in Wegener's granulomatosis. <a href="#">J Am Soc Nephrol. 18: 2497-508.</a></li><li>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. <a href="#">Ann Hematol. 89: 115-20.</a></li><li>8. 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>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. <a href="#">J Immunol. 169:1236-40.</a></li><li>10. 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>11. 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. 100:9452-7</a></li><li>12. Voigt, J. <i>et al.</i> (2014) Human natural killer cells acting as phagocytes against <i>Candida albicans</i> and mounting an inflammatory response that modulates neutrophil antifungal activity. <a href="#">J Infect Dis. 209 (4): 616-26.</a></li><li>13. Matzner, P. <i>et al.</i> (2013) Resilience of the immune system in healthy young students to 30-hour sleep deprivation with psychological stress. <a href="#">Neuroimmunomodulation. 20: 194-204.</a></li></ol>
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**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.](#)

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**Storage** Store at +4°C or at -20°C if preferred.  
Storage in frost-free freezers is not recommended. This product is photosensitive and should be protected from light.  
Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.

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**Shelf Life** 18 months from date of despatch.

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**Health And Safety Information** Material Safety Datasheet documentation #10041 available at:  
10041: <https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf>

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**Regulatory** For research purposes only

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## Related Products

### Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:Alexa Fluor® 488 \(MCA928A488\)](#)

### Recommended Useful Reagents

[HUMAN SEROBLOCK \(BUF070A\)](#)

[HUMAN SEROBLOCK \(BUF070B\)](#)

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