Datasheet: MCA2405F

Description:	MOUSE ANTI HUMAN CD314:FITC
Specificity:	CD314
Other names:	NKG2D
Format:	FITC
Product Type:	Monoclonal Antibody
Clone:	1D11
Isotype:	IgG1
Quantity:	0.1 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	▪			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.

Target Species

Human

Product Form

Purified IgG conjugated to Fluorescein Isothiocyanate Isomer 1 (FITC) - liquid

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
FITC	490	525

Preparation

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

Buffer Solution

Phosphate buffered saline

Preservative Stabilisers

0.09% Sodium Azide
1% Bovine Serum Albumin

Approx. Protein Concentrations

IgG concentration 0.1 mg/ml

Immunogen

NKL cells.

External Database Links

UniProt:
P26718 Related reagents

Entrez Gene:

100528032 KLRC4-KLRK1 Related reagents

Synonyms	D12S2489E, NKG2D
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 toCD314 results in NK cell activation and potent costimulation of effector T cells. 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 10^6 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 CD8alphabeta 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.

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 +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.
Shelf Life	18 months from date of despatch.
Health And Safety Information	Material Safety Datasheet documentation #10041 available at: 10041: https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL:FITC (MCA928F)

Recommended Useful Reagents

HUMAN SEROBLOCK (BUF070A)
HUMAN SEROBLOCK (BUF070B)

North & South America Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: antibody_sales_us@bio-rad.com

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