

Datasheet: MCA2403

Description:	MOUSE ANTI HUMAN MICA/MICB
Specificity:	MICA/MICB
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	6D4
Isotype:	IgG2a
Quantity:	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.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry (1)	▪			1/50 - 1/200
Immunohistology - Frozen	▪			1/100
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation	▪			
Western Blotting			▪	

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.

(1) Membrane permeabilisation is required for this application. Bio-Rad recommends the use of Leucoperm™ (Product Code [BUF09](#)) for this purpose.

Target Species	Human
Product Form	Purified IgG - liquid
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
Carrier Free	Yes
Approx. Protein Concentrations	IgG concentration 1.0 mg/ml
Immunogen	MICA transfected C1R cells.

**External Database
Links**

UniProt:

[Q29980](#) [Related reagents](#)
[Q29983](#) [Related reagents](#)

Entrez Gene:

[4277](#) MICB [Related reagents](#)
[100507436](#) MICA [Related reagents](#)

Synonyms

PERB11.1, PERB11.2

Fusion Partners

Spleen cells from immunised RBF/DnJ mice were fused with cells of the P3 mouse myeloma cell line.

Specificity

Mouse anti Human MICA/Micb antibody, clone 6D4 recognizes nonclassical MHC class I chain A (MICA) and nonclassical MHC class I chain MICB (MICB).

MICA and MICB are stress inducible antigens, which are closely related and appear functionally indistinguishable. MICA and MICB are ligands for NKG2D, an activating receptor on most natural killer (NK) cells, CD8 T cells and gamma delta T cells.

MICA is principally expressed on intestinal epithelium, and several epithelial tumours. Expression may be induced to high surface levels by heat shock, oxidative stress, and virus infection.

Clone 6D4 is reported to inhibit the cytotoxicity of NK cells stimulated by IFN alpha-treated dendritic cells ([Jinushi *et al.* 2003](#)).

Flow Cytometry

Use 10ul of the suggested working dilution to label 1×10^6 cells in 100ul.

References

1. Groh, V. *et al.* (1998) Recognition of stress-induced MHC molecules by intestinal epithelial gammadelta T cells. [Science. 279 \(5357\): 1737-40.](#)
2. 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.](#)
3. Groh, V. *et al.* (1999) Broad tumor-associated expression and recognition by tumor-derived gamma delta T cells of MICA and MICB. [Proc Natl Acad Sci U S A. 96 \(12\): 6879-84.](#)
4. 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.](#)
5. Das, H. *et al.* (2004) Mechanisms of Vdelta1 gammadelta T cell activation by microbial components. [J Immunol. 172 \(11\): 6578-86.](#)
6. Jinushi, M. *et al.* (2003) Critical role of MHC class I-related chain A and B expression on IFN-alpha-stimulated dendritic cells in NK cell activation: impairment in chronic hepatitis C virus infection. [J Immunol. 170 \(3\): 1249-56.](#)
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. 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: 5423-9.](#)
9. Park, E.J. *et al.* (2003) Clonal expansion of double-positive intraepithelial lymphocytes by MHC class I-related chain A expressed in mouse small intestinal epithelium. [J Immunol. 171: 4131-9.](#)
10. Wu, J. *et al.* (2003) Intracellular retention of the MHC class I-related chain B ligand of NKG2D by the human cytomegalovirus UL16 glycoprotein. [J Immunol. 170: 4196-200.](#)
11. Xu, X. *et al.* (2006) Clinicopathological significance of major histocompatibility complex class

I-related chain a and B expression in thyroid cancer. [J Clin Endocrinol Metab. 91: 2704-12.](#)
12. Shi, J. *et al.* (2008) Bortezomib down-regulates the cell-surface expression of HLA class I and enhances natural killer cell-mediated lysis of myeloma. [Blood. 111: 1309-17.](#)

Storage	Store at +4°C or at -20°C if preferred. Storage in frost-free freezers is not recommended. This product should be stored undiluted. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.
Shelf Life	12 months from date of despatch.
Health And Safety Information	Material Safety Datasheet documentation #10040 available at: 10040: https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Goat Anti Mouse IgG (STAR76...)	RPE
Goat Anti Mouse IgG IgA IgM (STAR87...)	Alk. Phos. , HRP
Rabbit Anti Mouse IgG (STAR9...)	FITC
Goat Anti Mouse IgG (STAR77...)	HRP
Rabbit Anti Mouse IgG (STAR12...)	RPE
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC , HRP
Rabbit Anti Mouse IgG (STAR8...)	DyLight@800
Goat Anti Mouse IgG (STAR70...)	FITC
Human Anti Mouse IgG2a (HCA037...)	FITC , HRP
Rabbit Anti Mouse IgG (STAR13...)	HRP
Goat Anti Mouse IgG (H/L) (STAR117...)	Alk. Phos. , DyLight@488 , DyLight@549 , DyLight@649 , DyLight@680 , DyLight@800 , FITC , HRP

Recommended Negative Controls

[MOUSE IgG2a NEGATIVE CONTROL \(MCA929\)](#)

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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