abcam

ab54413

Anti-MICA + MICB antibody [6D4]

Recombinant

Key facts

Isotype	IgG2a
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	6D4
Purification technique	Affinity purification Protein A
Concentration	0.944 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information MICA

Function	Widely expressed membrane-bound protein which acts as a ligand to stimulate an activating receptor KLRK1/NKG2D, expressed on the surface of essentially all human natural killer (NK), gammadelta T and CD8 alphabeta T-cells (PubMed:11491531, PubMed:11777960). Up-regulated in stressed conditions, such as viral and bacterial infections or DNA damage response, serves as signal of cellular stress, and engagement of KLRK1/NKG2D by MICA triggers NK-cells resulting in a range of immune effector functions, such as cytotoxicity and cytokine production (PubMed:10426993).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	MICA and MICB also known as MIC-A and MIC-B are stress-induced proteins with significant roles in immune responses. These proteins are widely known for their presence on the surface of many human cell types most notably epithelial and endothelial cells. MICA is a glycoprotein with a molecular mass of approximately 70 kDa while MICB has a similar structure and mass. They are both part of the MHC class I-like molecules and function as ligands to the NKG2D receptor on natural killer (NK) cells and certain T cells a critical interaction for immune surveillance.
Biological function summary	MICA and MICB act in the activation of the immune system by modulating NK cells and CD8+ T cell activities. These proteins do not form part of a complex but operate independently to signal the presence of infected or transformed cells to the immune system. They often appear on the cell surface under stress such as during viral infections or cancerous transformations activating immune cells to target and destroy these abnormal cells.
Pathways	The MICA/MICB interaction with NKG2D is integral to the immune checkpoint pathway. This pathway plays a significant role in regulating the immune system's response to aberrant cells. Additionally MICA and MICB activity is linked to the regulation of the cytokine IFN-γ promoting the recruitment and activation of

immune effector cells. The roles of these proteins in these pathways underline their importance in maintaining immune homeostasis and responding to pathological challenges.

Associated diseases and disorders

MICA and MICB have notable associations with cancer and autoimmune diseases. Aberrant expression of these proteins on tumor cells facilitates their recognition and elimination by immune cells linking MICA and MICB directly to tumor immunosurveillance. In autoimmune disorders improper regulation of MICA/MICB expression can lead to undesirable immune cell activation contributing to conditions like rheumatoid arthritis. The proteins connect with others like NKG2D in both cancer immunity and autoimmune diseases highlighting their dual role in health and disease.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

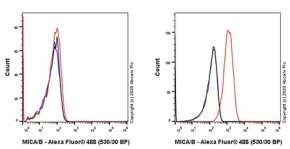
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

1 product image



Flow Cytometry - Anti-MICA + MICB antibody [6D4] (ab54413)

MICA + MICB Flow Cytometry staining using mouse Anti-MICA + MICB antibody

Flow cytometric analysis of Jurkat (Human T cell leukemia T lymphocyte, Left) / HeLa (Human cervix adenocarcinoma epithelial cell, Right) cells labelling MICA + MICB with ab54413 at 1/1000 dilution (0.1µg) (Red) compared with a Mouse monoclonal IgG (Black) isotype control and an

unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat anti mouse IgG (Alexa Fluor® 488, ab150113) at 1/2000 dilution was used as the secondary antibody.
Negative control: Jurkat.

Gated on viable cells.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.