abcam

ab314409

APC Anti-MICA + MICB antibody [EPR24086-121]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	APC
Excitation/Emission	Ex: 650nm, Em: 660nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR24086-121
Purification technique	Affinity purification Protein A

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/500
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	+4°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle, Store in the dark

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

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.

Supplementary info

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

Activity summary	MICA and MICB also referred to as Mhc class I polypeptide-related sequence A and B are stress-induced proteins and are known to have a molecular weight of approximately 62 kDa and 70 kDa respectively. They are expressed on the surface of many cell types especially epithelial cells fibroblasts and upon certain cancers. These proteins are encoded within the MHC class I region yet unlike classic MHC class I molecules they do not associate with beta-2-microglobulin and they do not present antigens to T cells. Instead MICA and MICB can activate immune responses by engaging the NKG2D receptor on natural killer (NK) cells CD8+ T cells and gamma-delta T cells.
Biological function summary	MICA and MICB contribute to the immune surveillance system by marking stressed or transformed cells for destruction. These proteins are not part of a complex but are known ligands for the NKG2D receptor. Their interaction with NKG2D triggers the cytotoxic activity of NK cells and CD8+ T cells enhancing the destruction of cancerous or infected cells. Especially interesting is their role in tumor immunology where they serve as a danger signal to the immune system pointing NK cells toward tumor cells that would otherwise evade detection.
Pathways	The role of MICA and MICB centers around the immune response and cell stress pathways. One important pathway is the stress-induced signal transduction which upregulates these proteins in response to cellular stress such as heat shock. They fit into the immune surveillance pathway interacting with proteins like the NKG2D receptor and other signaling molecules that modulate immune cell activation. The pathway emphasizes the removal of damaged or abnormal cells and this interaction orchestrates timely immune responses.
Associated diseases and disorders	MICA and MICB have associations with certain cancers like liver and colorectal cancers where they become over-expressed and shed from tumor cells to escape immune detection. Additionally their presence links to autoimmune diseases such as rheumatoid arthritis where the immune system attacks the body's own cells unjustly. The shedding of MICA/MICB from tumor cells involves enzymes like metalloproteinases affecting the engagement of NKG2D and complicating the immune response to cancerous cells.

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

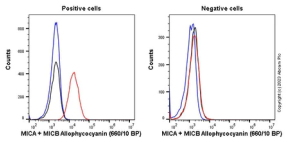
We do not recommend this combination. It is not covered by our product promise.

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 - APC Anti-MICA + MICB antibody [EPR24086-121] (ab314409)

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

Flow cytometry overlay histogram showing left HeLa positive cells and right negative THP-1 stained with ab314409 (red line). The cells were incubated in 1x PBS containing 10µg/ml human IgG and 10% normal goat serum to block FC receptors and non-specific protein-protein interactionfollowed by the antibody (ab314409) (1x 10^6 in 100µl at 1.0 µg/ml (1/500)) for 30min on ice.

Isotype control antibody (black line) was APC Rabbit IgG, monoclonal [EPR25A] - Isotype Control used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.

Acquisition of >5000 events were collected using a 40 mW Red laser (638nm) and 660/10 bandpass filter.

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