

## Product datasheet

# Anti-MICA + MICB antibody [EPR22031] ab224702

Recombinant RabMAb

6 Images

### Overview

<b>Product name</b>	Anti-MICA + MICB antibody [EPR22031]
<b>Description</b>	Rabbit monoclonal [EPR22031] to MICA + MICB
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> WB, IHC-P
<b>Species reactivity</b>	<b>Reacts with:</b> Human
<b>Immunogen</b>	Recombinant fragment within Human MICA + MICB aa 1-400. The exact sequence is proprietary. Database link: <a href="#">Q29983</a>
<b>Positive control</b>	WB: His-tagged MICB recombinant protein expressed by the E. coli system (aa23-383 with 310-330 replaced by GGGGS). His-tagged MICA recombinant protein expressed by the E. coli system (aa24-383 with 308-328 replaced by GGGGS). PNGase F treated HeLa and K562 cell lysate. U266B1, HUVEC, K562 and HeLa whole cell lysate. IHC-P: Human ovary cancer, lung cancer and stomach tissue.
<b>General notes</b>	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> <li>- High batch-to-batch consistency and reproducibility</li> <li>- Improved sensitivity and specificity</li> <li>- Long-term security of supply</li> <li>- Animal-free production</li> </ul> <p>For more information <a href="#">see here</a>.</p> <p>Our RabMAb<sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to <a href="#">RabMAb<sup>®</sup> patents</a>.</p> <p>Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough.</p> <p>Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.</p> <p>We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications &amp; species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise<sup>™</sup> guarantee.</p> <p>In preparation for this, we have started to update the applications &amp; species that this product is Abpromise guaranteed for.</p>

We are also updating the applications & species that this product has been “predicted to work with,” however this information is not covered by our Abpromise guarantee.

Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.

Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, as well as customer reviews and Q&As.

## Properties

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<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: PBS, 0.05% BSA, 40% Glycerol
<b>Purity</b>	Protein A purified
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	EPR22031
<b>Isotype</b>	IgG

## Applications

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Our [Abpromise guarantee](#) covers the use of **ab224702** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		1/1000. Detects a band of approximately 50-60 kDa (predicted molecular weight: 42 kDa).
IHC-P		1/500. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

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## Target

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<b>Function</b>	Seems to have no role in antigen presentation. Acts as a stress-induced self-antigen that is recognized by gamma delta T-cells. Ligand for the KLRK1/NKG2D receptor. Binding to KLRK1 leads to cell lysis.
<b>Tissue specificity</b>	Widely expressed with the exception of the central nervous system where it is absent. Expressed predominantly in gastric epithelium and also in monocytes, keratinocytes, endothelial cells, fibroblasts and in the outer layer of Hassal's corpuscles within the medulla of normal thymus. In skin, expressed mainly in the keratin layers, basal cells, ducts and follicles. Also expressed in many, but not all, epithelial tumors of lung, breast, kidney, ovary, prostate and colon. In thymomas, overexpressed in cortical and medullar epithelial cells. Tumors expressing MICA display

increased levels of gamma delta T-cells.

### Involvement in disease

Anti-MICA antibodies and ligand shedding are involved in the progression of monoclonal gammopathy of undetermined significance (MGUS) to multiple myeloma.

Psoriasis 1

Psoriatic arthritis

### Sequence similarities

Belongs to the MHC class I family. MIC subfamily.

Contains 1 Ig-like C1-type (immunoglobulin-like) domain.

### Post-translational modifications

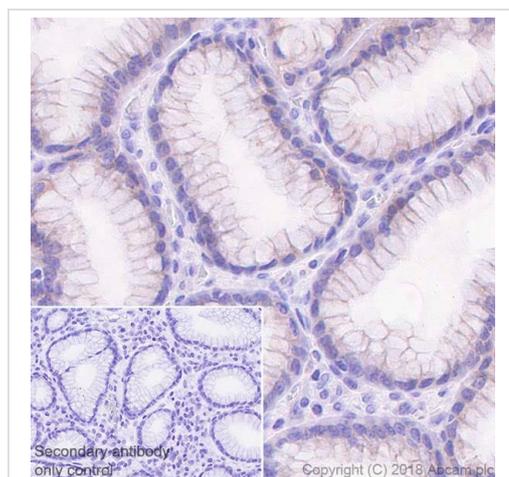
N-glycosylated. Glycosylation is not essential for interaction with KLRK1/NKG2D but enhances complex formation.

Proteolytically cleaved and released from the cell surface of tumor cells which impairs KLRK1/NKG2D expression and T-cell activation.

### Cellular localization

Cell membrane. Cytoplasm. Expressed on the cell surface in gastric epithelium, endothelial cells and fibroblasts and in the cytoplasm in keratinocytes and monocytes. Infection with human adenovirus 5 suppresses cell surface expression due to the adenoviral E3-19K protein which causes retention in the endoplasmic reticulum.

## Images



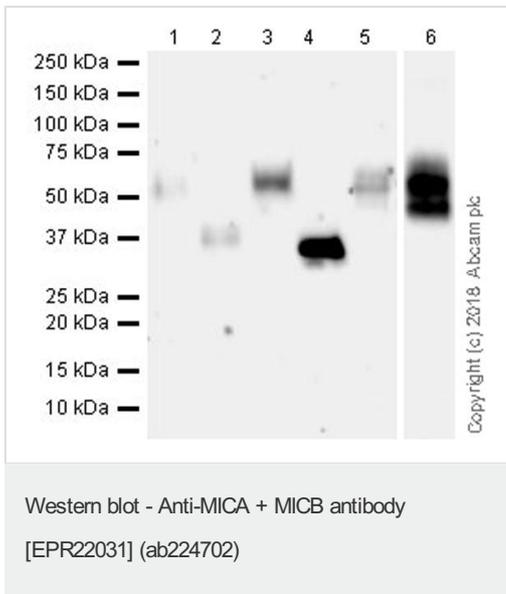
Immunohistochemical analysis of paraffin-embedded human stomach tissue labeling MICA with ab224702 at 1/500 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Membranous staining on epithelium of human stomach (PMID: 28334733) is observed. Counterstained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Perform heat mediated antigen retrieval using [ab93684](#) (Tris/EDTA buffer, pH 9.0).

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MICA + MICB antibody [EPR22031] (ab224702)



**All lanes :** Anti-MICA + MICB antibody [EPR22031] (ab224702) at 1/1000 dilution

**Lane 1 :** K562 (human chronic myelogenous leukemia cell line from bone marrow), whole cell lysate

**Lane 2 :** K562 whole cell lysate treated with PNGase F

**Lane 3 :** HeLa (human epithelial cell line from cervix adenocarcinoma), whole cell lysate

**Lane 4 :** HeLa whole cell lysate treated with PNGase F

**Lane 5 :** HUVEC (human umbilical vein endothelial cell line), whole cell lysate

**Lane 6 :** U266B1 (human multiple myeloma B lymphocyte cell line), whole cell lysate

Lysates/proteins at 20 µg per lane.

### Secondary

**All lanes :** Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

**Predicted band size:** 42 kDa

**Observed band size:** 40,50-60 kDa

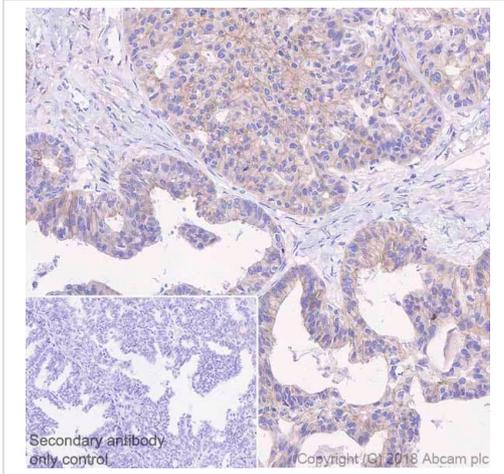
[why is the actual band size different from the predicted?](#)

**Exposure time:** 3 minutes

Bands between 50-60kDa represent the glycosylated form. After PNGase F treatment, the de-glycosylated form appears around 40kDa.

The molecular weight observed is consistent with what has been described in the literature (PMID: 10359807; PMID: 9396860).

**Blocking and dilution buffer:** 5% NFDN/TBST.



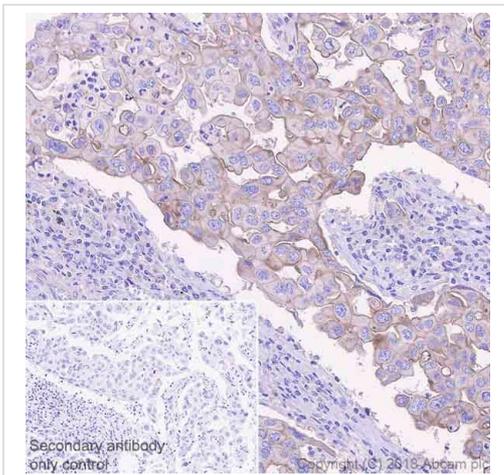
Immunohistochemical analysis of paraffin-embedded human ovary cancer tissue labeling MICA with ab224702 at 1/500 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Membranous staining on human ovary cancer (PMID: 28334733) is observed. Counterstained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Perform heat mediated antigen retrieval using [ab93684](#) (Tris/EDTA buffer, pH 9.0).

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MICA + MICB antibody [EPR22031] (ab224702)



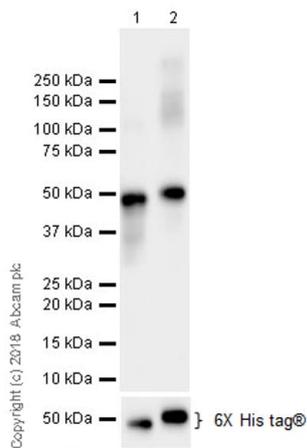
Immunohistochemical analysis of paraffin-embedded human lung cancer tissue labeling MICA with ab224702 at 1/500 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Membranous staining on human lung cancer (PMID: 28334733) is observed. Counterstained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Perform heat mediated antigen retrieval using [ab93684](#) (Tris/EDTA buffer, pH 9.0).

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MICA + MICB antibody [EPR22031] (ab224702)



Western blot - Anti-MICA + MICB antibody  
[EPR22031] (ab224702)

**All lanes :** Anti-MICA + MICB antibody [EPR22031] (ab224702) at 1/5000 dilution

**Lane 1 :** His-tagged MICB recombinant protein expressed in E.coli system (aa23-383 with 310-330 replaced by GGGG), 10 ng

**Lane 2 :** His-tagged MICA recombinant protein expressed in E.coli system (aa24-383 with 308-328 replaced by GGGG), 10 ng

### Secondary

**All lanes :** Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

**Predicted band size:** 42 kDa

**Exposure time:** 15 seconds

**Blocking and dilution buffer:** 5% NFD/MTBST.

### Why choose a recombinant antibody?

 <p><b>Research with confidence</b> Consistent and reproducible results</p>	 <p><b>Long-term and scalable supply</b> Recombinant technology</p>
 <p><b>Success from the first experiment</b> Confirmed specificity</p>	 <p><b>Ethical standards compliant</b> Animal-free production</p>

Anti-MICA + MICB antibody [EPR22031] (ab224702)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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