abcam

Product datasheet

Anti-MICA antibody [EPR24086-121] - BSA and Azide free ab276141

Recombinant RabMAb

7 Images

Overview

Product name	Anti-MICA antibody [EPR24086-121] - BSA and Azide free
Description	Rabbit monoclonal [EPR24086-121] to MICA - BSA and Azide free
Host species	Rabbit
Tested applications	**Suitable for:** IP, WB, Flow Cyt **Unsuitable for:** ICC or IHC-P
Species reactivity	**Reacts with:** Human
Immunogen	Recombinant fragment within Human MICA aa 1-300. The exact sequence is proprietary. Database link: Q29983
Positive control	WB: HeLa and HUVEC whole cell lysates; Human breast cancer and colon cancer tissue lysates; His-tagged human recombinant protein MHC class I polypeptide-related sequence A. Flow cyt: HeLa cells. IP: HUVEC whole cell lysate.
General notes	ab276141 is the carrier-free version of ab259934. This format is designed for use in antibody labeling, including fluorochromes, metal isotopes, oligonucleotides, enzymes. Our carrier-free formats are supplied in a buffer free of BSA, sodium azide and glycerol for higher conjugation efficiency. Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with <1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold. ab276141 is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm. *Maxpar® is a trademark of Fluidigm Canada Inc.* 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 production For more information see here. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C.
Storage buffer	Constituent: 100% PBS
Carrier free	Yes
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR24086-121
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab276141** 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
IP		Use at an assay dependent concentration.
WB		Use at an assay dependent concentration. Detects a band of approximately 50, 60 kDa (predicted molecular weight: 43 kDa).
Flow Cyt		Use at an assay dependent concentration.

Application notes Is unsuitable for ICC or IHC-P.

Target

Function 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.

Tissue specificity 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 thyomas, overexpressed in cortical and medullar epithelial cells. Tumors expressing MICA display increased levels of gamma delta T cells.

Involvement in disease Note=Anti-MICA antibodies and ligand shedding are involved in the progression of monoclonal gammopathy of undetermined significance (MGUS)to multiple myeloma.
Genetic variations in MICA may be a cause of susceptibility to psoriasis type 1 (PSORS1) [MIM:177900]. Psoriasis is a common, chronic inflammatory disease of the skin with multifactorial etiology. It is characterized by red, scaly plaques usually found on the scalp, elbows and knees. These lesions are caused by abnormal keratinocyte proliferation and infiltration of inflammatory cells into the dermis and epidermis.
Genetic variation in MICA is a cause of susceptibility to psoriatic arthritis (PSORAS)

[MIM:607507]. PSORAS is an inflammatory, seronegative arthritis associated with psoriasis. It is a heterogeneous disorder ranging from a mild, non-destructive disease to a severe, progressive, erosive arthropathy. Five types of psoriatic arthritis have been defined: asymmetrical oligoarthritis characterized by primary involvement of the small joints of the fingers or toes; asymmetrical arthritis which involves the joints of the extremities; symmetrical polyarthritis characterized by a rheumatoidlike pattern that can involve hands, wrists, ankles, and feet; arthritis mutilans, which is a rare but deforming and destructive condition; arthritis of the sacroiliac joints and spine (psoriatic spondylitis).

Sequence similarities

Belongs to the MHC class I family. MIC subfamily.
Contains 1 Ig-like C1-type (immunoglobulin-like) domain.

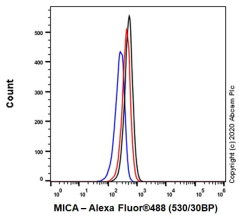
Post-translational modifications

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



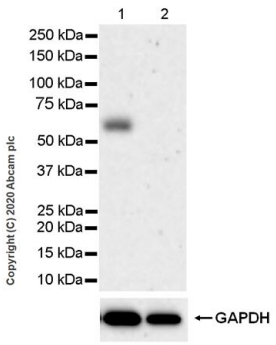
Flow Cytometry - Anti-MICA antibody [EPR24086-121] - BSA and Azide free (ab276141)

This data was developed using ab259934, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of THP-1 (Human monocytic leukemia monocyte, left)/ HeLa (human cervix adenocarcinoma epithelial cell, right) cells labelling MICA with ab259934 at 1/50 dilution (1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) isotype control (Black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.

Negative control: THP-1 (PMID: 28154561).

Gated on viable cells.



Western blot - Anti-MICA antibody [EPR24086-121] - BSA and Azide free (ab276141)

All lanes : Anti-MICA antibody [EPR24086-121] (ab259934) at 1/1000 dilution

Lane 1 : HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate
Lane 2 : THP-1 (Human monocytic leukemia monocyte) whole cell lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/20000 dilution

Predicted band size: 43 kDa
Observed band size: 60 kDa
why is the actual band size different from the predicted?

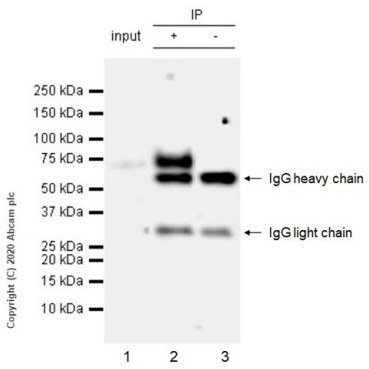
This data was developed using ab259934, the same antibody clone in a different buffer formulation.

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Negative control: THP-1 (PMID: 28154561).

MICA is a glycoprotein and can be de-glycosylated by PNGase F. The molecular mass observed is consistent with the literature (PMID: 10359807, 9396860).

Exposure time: 3 minutes.



Immunoprecipitation - Anti-MICA antibody [EPR24086-121] - BSA and Azide free (ab276141)

This data was developed using ab259934, the same antibody clone in a different buffer formulation.

MICA was immunoprecipitated from 0.35 mg HUVEC (human umbilical vein endothelial cell) whole cell lysate with ab259934 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab259934 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP)(ab131366) was used at 1/5000 dilution.

Lane 1: HUVEC (human umbilical vein endothelial cell) whole cell lysate 10 ug

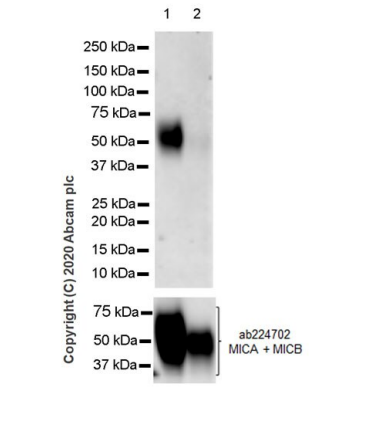
Lane 2: ab259934 IP in HUVEC whole cell lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab259934 in HUVEC whole cell lysate

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 3 seconds.

This blot was developed using a higher sensitivity ECL substrate.



Western blot - Anti-MICA antibody [EPR24086-121] - BSA and Azide free (ab276141)

All lanes : Anti-MICA antibody [EPR24086-121] (ab259934) at 1/1000 dilution

Lane 1 : His-tagged human recombinant protein MHC class I polypeptide-related sequence A, 10 ng
Lane 2 : His-tagged human recombinant protein MHC class I polypeptide-related sequence B, 10 ng

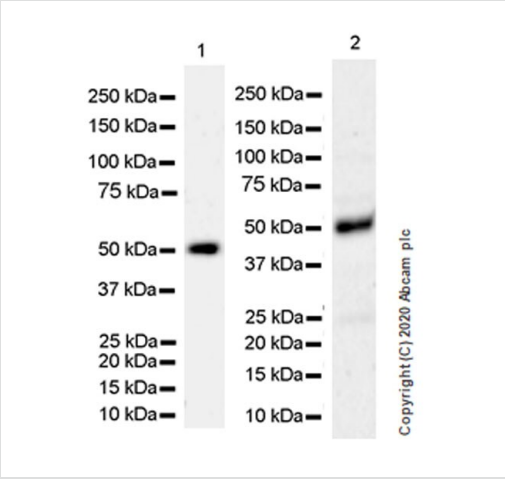
Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/20000 dilution

Predicted band size: 43 kDa
Observed band size: 50 kDa why is the actual band size different from the predicted?

This data was developed using ab259934, the same antibody clone in a different buffer formulation.

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Exposure time: 3 minutes.



Western blot - Anti-MICA antibody [EPR24086-121] - BSA and Azide free (ab276141)

All lanes : Anti-MICA antibody [EPR24086-121] (ab259934) at 1/1000 dilution

Lane 1 : Human breast cancer tissue lysate
Lane 2 : Human colon cancer tissue lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : VeriBlot for IP secondary antibody(HRP)(ab131366) at 1/1000 dilution

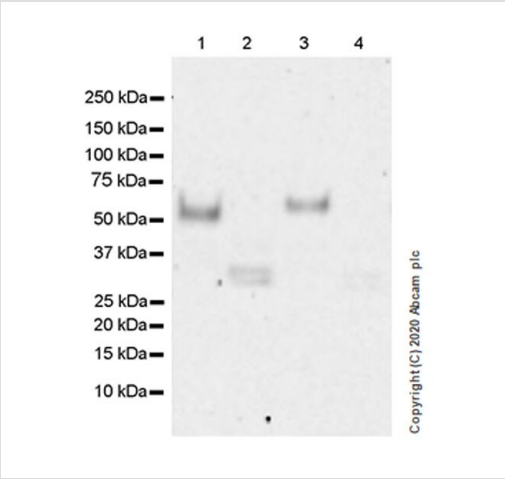
Predicted band size: 43 kDa
Observed band size: 50-60 kDa why is the actual band size different from the predicted?

This data was developed using ab259934, the same antibody clone in a different buffer formulation.

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

MICA is a glycoprotein and can be de-glycosylated by PNGase F. The molecular mass observed is consistent with the literature (PMID: 10359807, 9396860).

Exposure time: 3 minutes.



Western blot - Anti-MICA antibody [EPR24086-121] - BSA and Azide free (ab276141)

All lanes : Anti-MICA antibody [EPR24086-121] (ab259934) at 1/1000 dilution

Lane 1 : HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate
Lane 2 : HeLa whole cell lysate treated with PNGase F
Lane 3 : HUVEC (human umbilical vein endothelial cell) whole cell lysate
Lane 4 : HUVEC whole cell lysate treated with PNGase F

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/20000 dilution

Predicted band size: 43 kDa

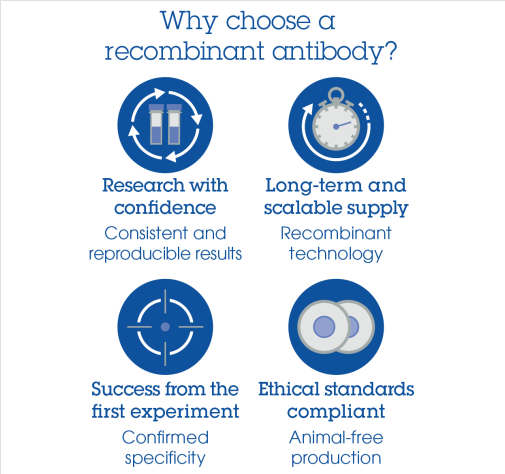
Observed band size: 32,50-60 kDa why is the actual band size different from the predicted?

This data was developed using ab259934, the same antibody clone in a different buffer formulation.

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

MICA is a glycoprotein and can be de-glycosylated by PNGase F. The molecular mass observed is consistent with the literature (PMID: 10359807, 9396860).

Exposure time: 3 minutes.



Anti-MICA antibody [EPR24086-121] - BSA and Azide free (ab276141)

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