10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

MICA Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8626c

Product Information

Application	WB, IHC-P, FC, IF, E
Primary Accession	Q29983
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	42915
Antigen Region	68-97

Additional Information

Gene ID	100507436
Other Names	MHC class I polypeptide-related sequence A, MIC-A, MICA {ECO:0000312|EMBL:CAI419071}
Target/Specificity	This MICA antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 68-97 amino acids from the Central region of human MICA.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:25 IF~~1:25 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	MICA Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MICA {ECO:0000312|EMBL:CAI41907.1}
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).

Cellular Location

Cell membrane; Single-pass type I membrane protein. Cytoplasm Note=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.

Tissue Location

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.

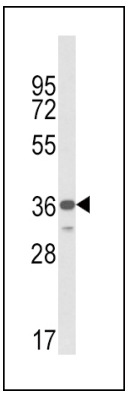
Background

MICA is the higly polymorphic MHC (HLA) class I chain-related gene A. The protein product is expressed on the cell surface, although unlike canonical class I molecules does not seem to associate with beta-2-microglobulin. It is thought that MICA functions as a stress-induced antigen that is broadly recognized by intestinal epithelial gamma delta T cells.

References

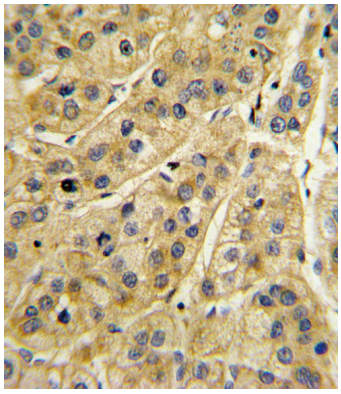
Bahram,S., et.al., Proc. Natl. Acad. Sci. U.S.A. 91 (14), 6259-6263 (1994) Klein,J.et.al., Proc. Natl. Acad. Sci. U.S.A. 91 (14), 6251-6252 (1994) Parham,P., et.al., J. Immunol. 142 (11), 3937-3950 (1989)

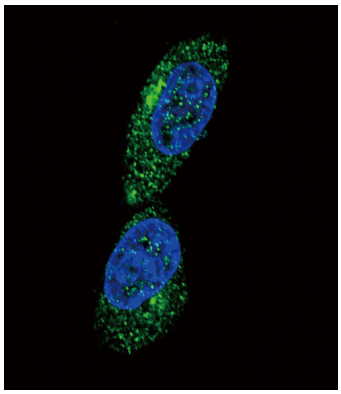
Images



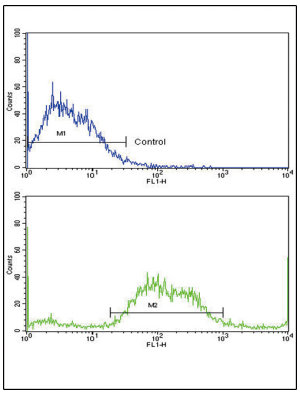
Western blot analysis of MICA Antibody (Center) (Cat. #AP8626c) in MDA-MB231 cell line lysates (35ug/lane). MICA (arrow) was detected using the purified Pab.

Formalin-fixed and paraffin-embedded human hepatocarcinoma with MICA Antibody (Center), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.





Confocal immunofluorescent analysis of MICA Antibody (Center)(Cat#AP8626c) with MDA-MB231 cell followed by Alexa Fluor寨?488-conjugated goat anti-rabbit IgG (green). DAPI was used to stain the cell nuclear (blue).



Flow cytometric analysis of SK-Br-3 cells using MICA Antibody (Center)(bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Citations

- Allele Specific Expression of MICA Variants in Human Fibroblasts Suggests a Pathogenic Mechanism.
- 2-deoxy D-glucose prevents cell surface expression of NKG2D ligands through inhibition of N-linked glycosylation.