

MICA/B (A-9): sc-376590

BACKGROUND

MICA and MICB are stress-induced antigens that are related to major histocompatibility complex (MHC) class I molecules. MICA and MICB are frequently expressed in epithelial tumors. These highly glycosylated cell surface proteins are stably expressed without conventional class I peptide ligands or association with β -2-Microglobulin. The expression is induced on proliferating or heat shock-stressed epithelial cells. MICA and MICB are broadly recognized by intestinal epithelial V δ 1 $\gamma\delta$ T cells expressing variable TCRs, suggesting that these antigens may play a central role in the signaling of cellular distress to evoke immune responses in the intestinal epithelium.

REFERENCES

1. Bahram, S., et al. 1994. A second lineage of mammalian major histocompatibility complex class I genes. *Proc. Natl. Acad. Sci. USA* 91: 6259-6263.
2. Bahram, S., et al. 1996. Nucleotide sequence of the human MHC class I MICA gene. *Immunogenetics* 44: 80-81.
3. Bahram, S., et al. 1996. Genomic structure of the human MHC class I MICB gene. *Immunogenetics* 45: 161-162.
4. Groh, V., et al. 1996. Cell stress-regulated human major histocompatibility complex class I gene expressed in gastrointestinal epithelium. *Proc. Natl. Acad. Sci. USA* 93: 12445-12450.
5. Groh, V., et al. 1998. Recognition of stress-induced MHC molecules by intestinal epithelial $\gamma\delta$ T cells. *Science* 279: 1737-1740.
6. Steinle, A., et al. 1998. Diversification, expression and $\gamma\delta$ T cell recognition of evolutionarily distant members of the MIC family of major histocompatibility complex class I-related molecules. *Proc. Natl. Acad. Sci. USA* 95: 12510-12515.
7. Groh, V., et al. 1999. Broad tumor-associated expression and recognition by tumor-derived $\gamma\delta$ T cells of MICA and MICB. *Proc. Natl. Acad. Sci. USA* 96: 6879-6884.

CHROMOSOMAL LOCATION

Genetic locus: MICA/MICB (human) mapping to 6p21.33.

SOURCE

MICA/B (A-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 99-137 within an internal region of MICA of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376590 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

MICA/B (A-9) is recommended for detection of MICA and MICB of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MICA/B siRNA (h): sc-43931, MICA/B shRNA Plasmid (h): sc-43931-SH and MICA/B shRNA (h) Lentiviral Particles: sc-43931-V.

Molecular Weight of truncated MICA/B: 38 kDa.

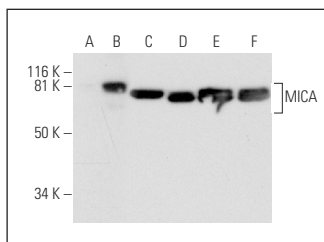
Molecular Weight of glycosylated MICA/B: 62 kDa.

Positive Controls: U-87 MG cell lysate: sc-2411, MICA (h2): 293T Lysate: sc-113460 or MCF7 whole cell lysate: sc-2206.

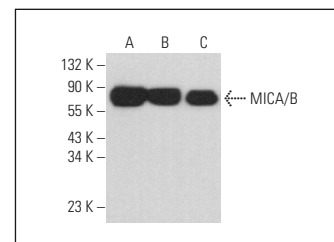
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



MICA/B (A-9): sc-376590. Western blot analysis of MICA expression in non-transfected 293T: sc-117752 (A), human MICA transfected 293T: sc-113460 (B), MCF7 (C), U-87 MG (D), THP-1 (E) and HeLa (F) whole cell lysates.



MICA/B (A-9): sc-376590. Western blot analysis of MICA/B expression in MCF7 (A), A-431 (B) and RT-4 (C) whole cell lysates.

RESEARCH USE

For research use only, not for use in diagnostic procedures.



See **MICA/B (F-6): sc-137242** for MICA/B antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.