SANTA CRUZ BIOTECHNOLOGY, INC.

# MICA/B (6D4): sc-23868

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## 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 Vδ1 γδ 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 γδ T cells. Science 279: 1737-1740.
6. Steinle, A., et al. 1998. Diversification, expression and γδ 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 γδ 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 (6D4) is a mouse monoclonal antibody raised against mouse LTK-MICA transfectants.

## PRODUCT

Each vial contains 200 µg $IgG_{2a}$ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as phycoerythrin (sc-23868 PE) or fluorescein (sc-23868 FITC) conjugates for flow cytometry, 100 tests.

## 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 (6D4) is recommended for detection of MICA and MICB of human origin by immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and flow cytometry (1 µg per 1 x $10^6$ cells).

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.

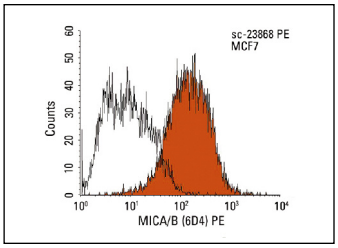
Molecular Weight of glycosylated MICA/B: 62 kDa.

Positive Controls: HeLa (IP) cell lysate: sc-24785, Jurkat (IP) cell lysate: sc-24788 or MCF7 (IP) cell lysate: sc-24793.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA




MICA/B (6D4): sc-23868. FCM analysis of MCF7 cells. Black line histogram represents the isotype control, normal mouse $IgG_{2a}$: sc-2866.

## SELECT PRODUCT CITATIONS


1. Baba, T., et al. 2007. Lack and restoration of sensitivity of lung cancer cells to cellular attack with special reference to expression of human leukocyte antigen class I and/or major histocompatibility complex class I chain related molecules A/B. Cancer Sci. 98: 1795-1802.
2. Agüera-González, S., et al. 2009. Brief residence at the plasma membrane of the MHC class I-related chain B is due to clathrin-mediated cholesterol-dependent endocytosis and shedding. J. Immunol. 182: 4800-4808.


## RESEARCH USE

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

## PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.