SANTA CRUZ BIOTECHNOLOGY, INC.

MICA/B (F-6): sc-137242

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.

CHROMOSOMAL LOCATION

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

SOURCE

MICA/B (F-6) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of MICA of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MICA/B (F-6) is available conjugated to agarose (sc-137242 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-137242 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137242 PE), fluorescein (sc-137242 FITC), Alexa Fluor® 488 (sc-137242 AF488), Alexa Fluor® 546 (sc-137242 AF546), Alexa Fluor® 594 (sc-137242 AF594) or Alexa Fluor® 647 (sc-137242 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-137242 AF680) or Alexa Fluor® 790 (sc-137242 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

MICA/B (F-6) 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 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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: MICA (h2): 293T Lysate: sc-113460, U-87 MG cell lysate: sc-2411 or Jurkat whole cell lysate: sc-2204.

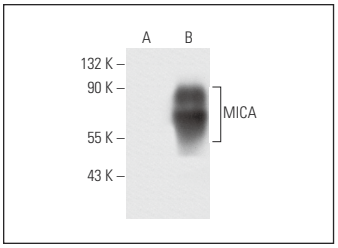
STORAGE

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

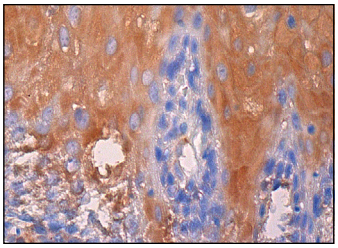
RESEARCH USE

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

DATA



MICA/B (F-6): sc-137242. Western blot analysis of MICA expression in non-transfected: sc-117752 (**A**) and human MICA transfected: sc-113460 (**B**) 293T whole cell lysates.



MICA/B (F-6): sc-137242. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

1. Del Toro-Arreola, S., et al. 2011. MHC class I-related chain A and B ligands are differentially expressed in human cervical cancer cell lines. Cancer Cell Int. 11: 15.
2. Tsukagoshi, M., et al. 2016. Overexpression of natural killer group 2 member D ligands predicts favorable prognosis in cholangiocarcinoma. Cancer Sci. 107: 116-122.
3. Montalban-Arques, A., et al. 2016. Propionibacterium acnes overabundance and natural killer group 2 member D system activation in corpus-dominant lymphocytic gastritis. J. Pathol. 240: 425-436.
4. Murakami, T., et al. 2017. Neoadjuvant chemoradiotherapy of pancreatic cancer induces a favorable immunogenic tumor microenvironment associated with increased major histocompatibility complex class I-related chain A/B expression. J. Surg. Oncol. 116: 416-426.
5. Ou, Z.L., et al. 2019. Hypoxia-induced shedding of MICA and HIF1A-mediated immune escape of pancreatic cancer cells from NK cells: role of circ_0000977/miR-153 axis. RNA Biol. 16: 1592-1603.
6. Ding, H., et al. 2021. MICA-G129R: a bifunctional fusion protein increases PRLR-positive breast cancer cell death in co-culture with natural killer cells. PLoS ONE 16: e0252662.
7. Sasagawa, S., et al. 2024. Improvement of histone deacetylase inhibitor efficacy by SN38 through TWIST1 suppression in synovial sarcoma. Cancer Innov. 3: e113.
8. Kim, J.E., et al. 2025. Isoxazole-based molecules restore NK cell immune surveillance in hepatocarcinogenesis by targeting TM4SF5 and SLAMF7 linkage. Signal Transduct. Target. Ther. 10: 15.

PROTOCOLS

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