

MICA/B (D-8): sc-271535



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 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.

CHROMOSOMAL LOCATION

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

SOURCE

MICA/B (D-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 355-385 at the C-terminus of MICA of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} 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-271535 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.

RESEARCH USE

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

APPLICATIONS

MICA/B (D-8) 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), 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.

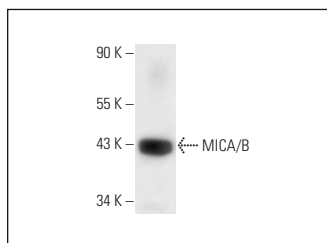
Molecular Weight of glycosylated MICA/B: 62 kDa.

Positive Controls: U-87 MG cell lysate: sc-2411, Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

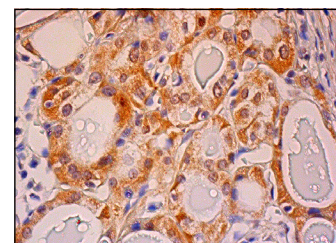
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



MICA/B (D-8): sc-271535. Western blot analysis of MICA/B expression in HeLa whole cell lysate.



MICA/B (D-8): sc-271535. Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Gavlovsky, P.J., et al. 2016. Alternative splice transcripts for MHC class I-like MICA encode novel NKG2D ligands with agonist or antagonist functions. *J. Immunol.* 197: 736-746.
- Tonnerre, P., et al. 2016. MICA mutant A5.1 influences BK polyomavirus reactivation and associated nephropathy after kidney transplantation. *J. Infect. Dis.* 214: 807-816.
- Okita, R., et al. 2016. MHC class I chain-related molecule A and B expression is upregulated by cisplatin and associated with good prognosis in patients with non-small cell lung cancer. *Cancer Immunol. Immunother.* 65: 499-509.
- Okita, R., et al. 2019. Effect of platinum-based chemotherapy on the expression of natural killer group 2 member D ligands, programmed cell death-1 ligand 1 and HLA class I in non-small cell lung cancer. *Oncol. Rep.* 42: 839-848.
- Su, X., et al. 2023. A novel TrxR1 inhibitor regulates NK and CD8⁺ T cell infiltration and cytotoxicity, enhancing the efficacy of anti-PD-1 immunotherapy against hepatocarcinoma. *J. Immunol.* 210: 681-695.



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.