Human MICB PE-conjugated Antibody

Monoclonal Mouse IgG_{2B} Clone # 236511
Catalog Number: FAB1599P
100 Tests, 25 Tests

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human MICB in direct ELISAs and Western blots. Does not cross-react with recombinant human MICA.
Source	Monoclonal Mouse IgG_{2B} Clone # 236511
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human MICB Ala23-Gly298 Accession # CAI18747
Conjugate	Phycoerythrin Excitation Wavelength: 488 nm Emission Wavelength: 565-605 nm
Formulation	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

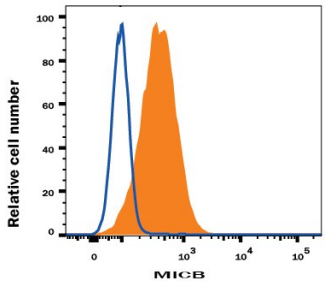
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Flow Cytometry	10 µL/10^6 cells	See Below
Knockout Validated	MICB is specifically detected in K562 myelogenous leukemia parental cell line but is not detectable in MICB knockout K562 cell line.	

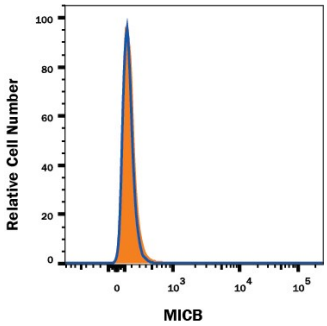
DATA

Flow Cytometry



Detection of MICB in K562 Human Cell Line by Flow Cytometry. K562 human chronic myelogenous leukemia cell line was stained with Mouse Anti-Human MICB PE-conjugated Monoclonal Antibody (Catalog # FAB1599P, filled histogram) or isotype control antibody (Catalog # IC0041P, open histogram). View our protocol for Staining Membrane-associated Proteins.

Knockout Validated



MICB Specificity is Shown by Flow Cytometry in Knockout Cell Line. MICB knockout K562 human myelogenous leukemia cell line was stained with PE-conjugated Mouse Anti-Human MICB Monoclonal Antibody (Catalog # FAB1599P, filled histogram) or isotype control antibody (Catalog # IC0041P, open histogram). No staining in the MICB knockout K562 cell line was observed. View our protocol for Staining Membrane-associated Proteins.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** • 12 months from date of receipt, 2 to 8 °C as supplied.

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Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

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BACKGROUND

MICB (MHC class I chain-related gene B) is a transmembrane glycoprotein that functions as a ligand for NKG2D. A closely related protein, MICA, shares 85% amino acid identity with MICB. These 2 proteins are distantly related to the MHC class I proteins. MICA and MICB (MICA/B) possess three extracellular immunoglobulin-like domains, but have no capacity to bind peptide or interact with β2-microglobulin. The genes encoding MICA/B are found within the major histocompatibility complex on human chromosome 6. The MICB locus is polymorphic with more than 15 recognized human alleles. MICA/B are minimally expressed on normal cells, but are frequently expressed on epithelial tumors and can be induced by bacterial and viral infections. MICA/B are ligands for NKG2D, an activating receptor expressed on NK cells, NKT cells, γδ T cells, and $CD8^+$ αβ T cells. Recognition of MICA/B by NKG2D results in the activation of cytolytic activity and/or cytokine production by these effector cells. MICA/B recognition is involved in tumor surveillance, viral infections, and autoimmune diseases. The release of soluble forms of MICA/B from tumors down-regulates NKG2D surface expression on effector cells resulting in the impairment of anti-tumor immune response (1-7).

References:

1. Groh, V. *et al.* (2001) Nature Immunol. **2**:255.
2. Stephens, H. (2001) Trends Immunol. **22**:378.
3. Bauer, S. *et al.* (1999) Science **285**:727.
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6. Pende, D. *et al.* (2002) Cancer Res. **62**:6178.
7. Salih, H. *et al.* (2003) Blood **102**:1389.

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