

DESCRIPTION

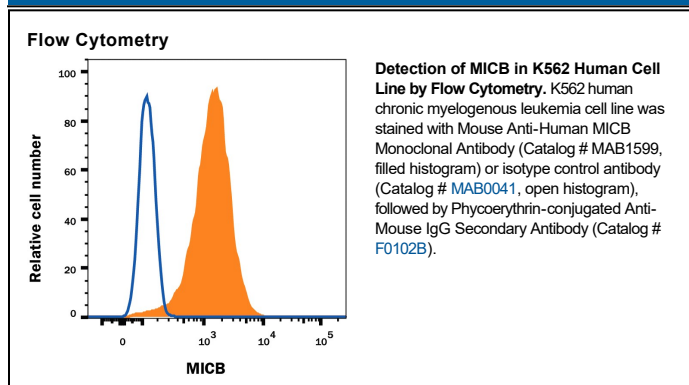
Species Reactivity	Human
Specificity	Detects human MICB in direct ELISAs and Western blots. Does not cross-react with recombinant human MICA.
Source	Monoclonal Mouse IgG _{2B} Clone # 236511
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human MICB Ala23-Gly298 Accession # CA118747
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

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
Western Blot	1 µg/mL	Recombinant Human MICB Fc Chimera, aa 23-298 (Catalog # 1599-MB)
Flow Cytometry	0.25 µg/10 ⁶ cells	See Below
Human MICB Sandwich Immunoassay		Reagent
ELISA Capture	2-8 µg/mL	Human MICB Antibody (Catalog # MAB1599)
ELISA Detection Standard	0.1-0.4 µg/mL	Human MICB Biotinylated Antibody (Catalog # BAF1599) Recombinant Human MICB Fc Chimera (Catalog # 1599-MB)
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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 β 2-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, $\gamma\delta$ T cells, and CD8⁺ $\alpha\beta$ 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.
4. Groh, V. *et al.* (2002) *Nature* **419**:734.
5. Steinle, A. *et al.* (2001) *Immunogenetics* **53**:279.
6. Pende, D. *et al.* (2002) *Cancer Res.* **62**:6178.
7. Salih, H. *et al.* (2003) *Blood* **102**:1389.