Human Mrc2 Antibody

Monoclonal Mouse IgG_{2B} Clone # 1063704

Catalog Number: MAB5770

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Mrc2 in direct ELISA.
Source	Monoclonal Mouse IgG_{2B} Clone # 1063704
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Mouse myeloma cell line, NS0-derived human Mrc2 Gly31-Ala1414 Accession # Q9UBG0
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose.

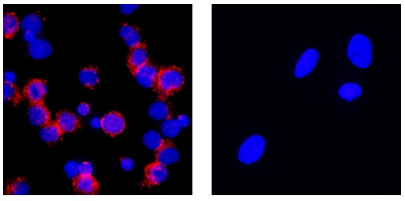
APPLICATIONS

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	0.25 µg/10^6 cells	THP-1 human acute monocytic leukemia cell line
Immunocytochemistry	8-25 µg/mL	Immersion fixed THP-1 human acute monocytic leukemia cells (positive) and A431 human epithelial carcinoma cells (negative)

DATA

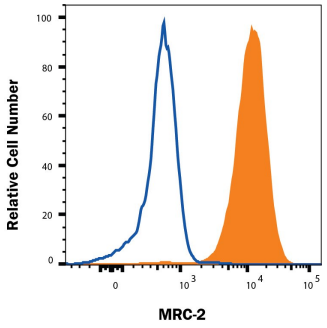
Immunocytochemistry



THP-1 (Positive) cells A431 (Negative) cells

Detection of Mrc2 in THP-1 cells (positive) and A431 cells (negative). Mrc2 was detected in immersion fixed THP-1 human acute monocytic leukemia cells (positive) and absent in A431 human epithelial carcinoma cells (negative) using Mouse Anti-Human Mrc2 Monoclonal Antibody (Catalog # MAB5770) at 8 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Non-adherent Cells.

Flow Cytometry



Detection of Mrc2 in THP-1 cells by Flow Cytometry. THP-1 cells were stained with Mouse Anti-Human Mrc2 Monoclonal Antibody (Catalog # MAB5770, filled histogram) or isotype control antibody (Catalog # MAB0041, open histogram), followed by Allophycocyanin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0101B). View our protocol for Staining Membrane-associated Proteins.

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.** • 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.

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BACKGROUND

Mrc2 (C-type Mannose Receptor 2), also know as MMR2, Endocytic Receptor 180 and uPARAP, is a 180-kDa type I transmembrane protein. It is one of the mannose receptor (MR) family members which share a common domain organization and have a broad range of biological functions (1). Mrc2 is an endocytic receptor that is found on migrating cells, including cancer cells, macrophages, fibroblasts and endothelial cells (2). Mature human Mrc2 is composed of 1449 amino acid (aa) that includes a 1384 aa extracellular domain (ECD), a 21 aa transmembrane region, and a 44 aa cytoplasmic domain. The ECD shows one ricin B-type lectin domain, one fibronectin type II domain and eight C-type lectin domains. Within the ECD, human Mrc2 shares 91% aa identity with mouse and rat Mrc2. Mrc2 plays an important role in extracellular matrix remodeling through interaction with its ligands, including Man, Fuc, NAcGlc, collagens and urokinase plasminogen activator receptor (uPAR) (1-3). This cell surface molecule has been reported to promote cell invasion through matrix remodeling by internalizing large fragments of collagen and routing it to the lysosome for intracellular degradation and cell chemotaxis (2). It has also been reported to interact with matrix metalloprotease-13 (MMP-13) and collagen V on the cell surface (4).

References:

1. Yuan, C. *et al.* (2016) Biochem. J. **473**:2359.
2. Durrel, T. *et al.* (2018) Nat. Commun. **9**:5178.
3. Behrendt, N. *et al.* (2000) J. Biol. Chem. **275**:1993.
4. Englehom, L.H. *et al.* (2001) Lab. Invest. **81**:1403.

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