Human GM-CSF Rα APC-conjugated Antibody

Monoclonal Mouse IgG_{2B} Clone # 1064847
Catalog Number: FAB7063A
100 Tests

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human GM-CSF in direct ELISA.
Source	Monoclonal Mouse IgG_{2B} Clone # 1064847
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human GM-CSFRalpha Met1-Gly320 Accession # P15509
Conjugate	Allophycocyanin Excitation Wavelength: 620-650 nm Emission Wavelength: 660-670 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.

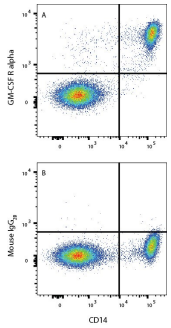
APPLICATIONS

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	PBMC cells

DATA

Flow Cytometry



Detection of GM-CSF Rα in PBMC cells by Flow Cytometry. PBMC were stained with Mouse Anti-Human CD14 PE-conjugated Monoclonal Antibody (Catalog # FAB3832P) and either (A) Mouse Anti-Human GM-CSF Rα APC-conjugated Monoclonal Antibody (Catalog # FAB7063A) or (B) Mouse IgG_{2B} Allophycocyanin Isotype Control (Catalog # IC0041A). 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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BACKGROUND

Granulocyte macrophage colony stimulating factor receptor alpha (GM-CSF Rα), also known as CD116, is a component of the receptor complex that mediates cellular responses to GM-CSF. GM-CSF promotes the differentiation and mobilization of granulocyte-macrophage, erythroid, megakaryocyte, and eosinophil progenitors. It enhances the activation of myeloid cell effector functions and plays a role in the development of Th1 biased immune responses, allergic inflammation, and autoimmunity (1-4). Mature human GM-CSF Rα is an 80 kDa type I transmembrane glycoprotein that consists of a 298 amino acid (aa) extracellular domain (ECD) with two fibronectin type III domains and a juxtamembrane WSxWS motif, a 26 aa transmembrane segment, and a 54 aa cytoplasmic domain (5). Within the ECD, human GM-CSF Rα shares approximately 33% aa sequence identity with mouse and rat GM-CSF Rα. Alternative splicing of human GM-CSF Rα generates several additional isoforms that lack the cytoplasmic and/or transmembrane regions. Soluble forms of the receptor retain the ability to bind GM-CSF (6, 7). GM-CSF Rα is expressed on hematopoietic stem cells, progenitor and differentiated cells in the myeloid lineage, vascular endothelial cells, placenta, and non-hematopoietic solid tumor cells (8). GM-CSF Rα associates with the common beta chain/CD131 (β_c), a 135 kDa transmembrane protein that is also the signal transducing component of the receptors for IL-3 and IL-5 (9, 10). Association with β_c converts GM-CSF Rα from a low affinity to a high affinity receptor for GM-CSF (9-11). The shared usage of β_c underlies the synergism between GM-CSF, IL-3, and IL-5 in their effects on myeloid cell differentiation and activation (1, 2).

References:

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