

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human GM-CSF Rα in direct ELISA.
Source	Recombinant Monoclonal Mouse IgG ₁ Clone # 31909
Purification	Protein A or G purified from ascites
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human GM-CSF Rα Extracellular domain
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *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.

Immunohistochemistry Optimal dilution of this antibody should be experimentally determined.

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

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).

PRODUCT SPECIFIC NOTICES

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