

DESCRIPTION

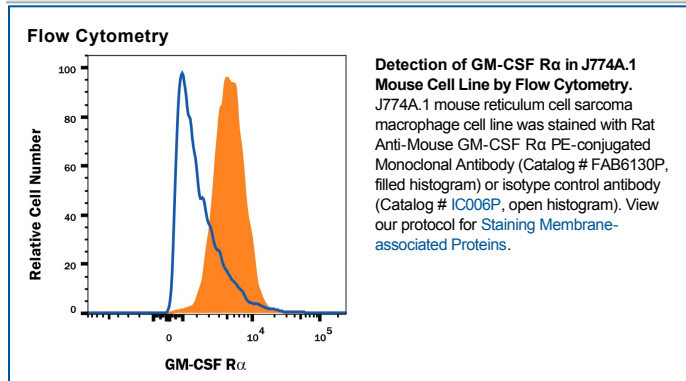
Species Reactivity	Mouse
Specificity	Detects mouse GM-CSF R α in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human (rh) GM-CSF R alpha or rhGM-CSF R beta is observed.
Source	Monoclonal Rat IgG _{2A} Clone # 698423
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse GM-CSF R α Leu30-Pro327 Accession # Q00941
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 μ L/10 ⁶ cells	See Below

DATA



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 R α), 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 mouse GM-CSF R α 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 21 aa transmembrane segment, and a 40 aa cytoplasmic domain (5). Within the ECD, mouse GM-CSF R α shares approximately 33% and 58% aa sequence identity with human and rat GM-CSF R α , respectively. Soluble forms of the human receptor retain the ability to bind GM-CSF (6, 7). GM-CSF R α 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 R α 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 R α 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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