

Product Information

ANTI-GRANULOCYTE-MACROPHAGE COLONY STIMULATING FACTOR RECEPTOR α (GM-CSF R α) Developed in Goat, Affinity Isolated Antibody

Product Number **G 4154**

Product Description

Anti-Granulocyte-Macrophage Colony Stimulating Factor Receptor α (GM-CSF R α) is developed in goat using a purified recombinant human granulocyte-macrophage colony stimulating factor receptor α (GM-CSF R α) extracellular domain expressed in the insect cell line Sf 21, as immunogen. Affinity isolated antigen specific antibody is obtained from goat anti-GM-CSF R α antiserum by immuno-specific purification which removes essentially all goat serum proteins, including immunoglobulins, which do not specifically bind to the peptide.

Anti-Granulocyte-Macrophage Colony Stimulating Factor Receptor α recognizes recombinant human GM-CSF R α by various immunochemical techniques including immunoblotting and ELISA.

Four distinct colony-stimulating factors (CSFs) promoting survival, proliferation and differentiation of bone marrow precursor cells have been well characterized: granulocyte-macrophage-CSF (GM-CSF), granulocyte-CSF (G-CSF), macrophage-CSF (M-CSF), and interleukin-3 (IL-3, Multi-CSF).^{1, 2, 3} GM-CSF is a multipotential growth factor, stimulating proliferation of progenitor cells from more than one hematopoietic lineage (granulocyte, macrophage, and eosinophil).^{1, 2, 3} GM-CSF stimulates colony formation from pluripotent progenitor cells at extremely low concentrations and is an essential survival and proliferative factor for hematopoietic progenitor cells in all divisions up to maturity. GM-CSF exerts its actions through binding to its receptor (GM-CSF R).

Granulocyte-macrophage colony stimulating factor receptor, a heterodimer, is a member of the gp140 (β_c) family of the cytokine receptors superfamily.^{4, 5} The GM-CSF receptor comprises an 80 kDa GM-CSF-binding α chain and a 140 kDa signal-transducing β chain (β_c or gp 140) shared with IL-3 and IL-5.^{4, 6, 7, 8} The α -chain binds with low affinity to GM-CSF, whereas the β -chain does not bind GM-CSF by itself but binds with high affinity when associated with the α -chain.⁹ GM-CSF receptors have been found on most types of myeloid progenitors and on mature monocytes,

neutrophils, eosinophils, basophils, and dendritic cells. A soluble form of the GM-CSF receptor is also expressed.

Reagents

Anti-Granulocyte Macrophage Colony Stimulating Factor Receptor α (GM-CSF R α) is supplied as 100 μ g of antiserum lyophilized from a 0.2 μ m filtered solution in phosphate buffered saline (PBS).

Preparation Instructions

To one vial of lyophilized powder, add 1 ml of sterile phosphate buffered saline (PBS) to produce a 0.1 mg/ml stock solution of antibody.

Storage/Stability

Prior to reconstitution, store at -20°C . Reconstituted product may be stored at 2°C to 8°C for at least one month. For prolonged storage, freeze in working aliquots at -20°C . Avoid repeated freezing and thawing.

Product Profile

For immunoblotting, a working concentration of 0.1 to 0.2 μ g/ml antibody is recommended. The detection limit for recombinant human GM-CSF R α is approximately 20 ng/lane under non-reducing and reducing conditions.

For ELISAs, a working concentration of 0.5 to 1.0 μ g/ml antibody is recommended. The detection limit for recombinant human GM-CSF R α is approximately 0.3 ng/well.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working dilutions by titration test.

Endotoxin: < 10 ng/mg determined by the LAL (Limulus Amoebocyte Lysate) method.

References

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