Recombinant Human M-CSF R/CD115 Protein(Fc Tag)

Catalog Number: PDMH100320

Note: *Centrifuge before opening to ensure complete recovery of vial contents.*

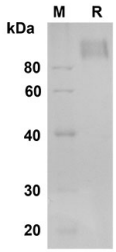
Description

Species	Human
Source	Mammalian-derived Human M-CSF R/CD115 proteins Ile20-Glu512,with an C-terminal Fc
Calculated MW	79.1 kDa
Observed MW	90 kDa
Accession	P07333
Bio-activity	Not validated for activity

Properties

Purity	> 90% as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU/mg of the protein as determined by the LAL method
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with 5% Trehalose and 5% Mannitol.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.5 mg/mL. Concentration is measured by UV-Vis.

Data



SDS-PAGE analysis of Human M-CSF R/CD115 proteins , 2 μg/lane of Recombinant Human M-CSF R/CD115 proteins was resolved with SDS-PAGE under reducing conditions , showing bands at 90 kDa.

Background

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M-CSFR encoded by the proto-oncogene c-fms is the receptor for colony stimulating factor 1 (CSF1R) , a cytokine involved in the proliferation , differentiation , and activation of macrophages. This cell surface glycoprotein is consisted by an extracellular ligand-binding domain , a single membrane-spanning segment , and an intracellular tyrosine kinase domain. Binding of CSF1 activates the receptor kinase , leading to "autophosphorylation" of receptor subunits and the concomitant phosphorylation of a series of cellular proteins on tyrosine residues. CSF1R is a tyrosine kinase receptor that is absolutely required for macrophage differentiation and thus occupies a central role in hematopoiesis. CSF1 and its receptor (CSF1R , product of c-fms proto-oncogene) were initially implicated as essential for normal monocyte development as well as for trophoblastic implantation. This apparent role for CSF1/CSF1R in normal mammary gland development is very intriguing because this receptor/ligand pair has also been found to be important in the biology of breast cancer in which abnormal expression of CSF1 and its receptor correlates with tumor cell invasiveness and adverse clinical prognosis. Tumor cell expression of CSF1R is under the control of several steroid hormones (glucocorticoids and progestins) and the binding of several bHLH transcription factors , while tumor cell expression of CSF-1 appears to be regulated by other hormones , some of which are involved in normal lactogenic differentiation. However , studies have demonstrated that CSF1 and CSF1R have additional roles in mammary gland development during pregnancy and lactation. The role of CSF1 and CSF1R in normal and neoplastic mammary development that may elucidate potential relationships of growth factor-induced biological changes in the breast during pregnancy and tumor progression.

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