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Datasheet for ABIN1672804

CSF1R ELISA Kit

1 Image

Overview

Quantity:	96 tests
Target:	CSF1R
Binding Specificity:	AA 20-512
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	62.5-4000 pg/mL
Minimum Detection Limit:	62.5 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human CSF1R/M-CSFR
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: NSO Immunogen sequence: I20-E512
Specificity:	Expression system for standard: NSO Immunogen sequence: I20-E512
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.

Product Details

Sensitivity: <10pg/mL

Material not included: Microplate reader in standard size. Automated plate washer. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection. Clean tubes and Eppendorf tubes. Washing buffer (neutral PBS or TBS). Preparation of 0.01M TBS: Add 1.2g Tris, 8.5g NaCl

Target Details

Target: CSF1R

Alternative Name: CSF1R ([CSF1R Products](#))

Background: Protein Function: Tyrosine-protein kinase that acts as cell-surface receptor for CSF1 and IL34 and plays an essential role in the regulation of survival, proliferation and differentiation of hematopoietic precursor cells, especially mononuclear phagocytes, such as macrophages and monocytes. Promotes the release of proinflammatory chemokines in response to IL34 and CSF1, and thereby plays an important role in innate immunity and in inflammatory processes. Plays an important role in the regulation of osteoclast proliferation and differentiation, the regulation of bone resorption, and is required for normal bone and tooth development. Required for normal male and female fertility, and for normal development of milk ducts and acinar structures in the mammary gland during pregnancy. Promotes reorganization of the actin cytoskeleton, regulates formation of membrane ruffles, cell adhesion and cell migration, and promotes cancer cell invasion. Activates several signaling pathways in response to ligand binding. Phosphorylates PIK3R1, PLCG2, GRB2, SLA2 and CBL. Activation of PLCG2 leads to the production of the cellular signaling molecules diacylglycerol and inositol 1,4,5- trisphosphate, that then lead to the activation of protein kinase C family members, especially PRKCD. Phosphorylation of PIK3R1, the regulatory subunit of phosphatidylinositol 3-kinase, leads to activation of the AKT1 signaling pathway. Activated CSF1R also mediates activation of the MAP kinases MAPK1/ERK2 and/or MAPK3/ERK1, and of the SRC family kinases SRC, FYN and YES1. Activated CSF1R transmits signals both via proteins that directly interact with phosphorylated tyrosine residues in its intracellular domain, or via adapter proteins, such as GRB2. Promotes activation of STAT family members STAT3, STAT5A and/or STAT5B. Promotes tyrosine phosphorylation of SHC1 and INPP5D/SHIP- 1. Receptor signaling is down-regulated by protein phosphatases, such as INPP5D/SHIP-1, that dephosphorylate the receptor and its downstream effectors, and by rapid internalization of the activated receptor. .

Background: CSF1R(Colony stimulating factor 1 receptor),also known as M-CSFR and CD115, is a cell-surface protein encoded, in humans, by the CSF1R gene. The gene is located on long arm

Target Details

of chromosome 5(5q32) on the Crick(minus) strand. The encoded protein is a tyrosine kinase transmembrane receptor and member of the CSF1/PDGF receptor family of tyrosine-protein kinases. The encoded protein is a single pass type I membrane protein and acts as the receptor for colony stimulating factor 1, a cytokine which controls the production, differentiation, and function of macrophages. Both CSF1R, and its ligand colony stimulating factor 1 play an important role in the development of the mammary gland and may be involved in the process of mammary gland carcinogenesis.

Synonyms: Macrophage colony-stimulating factor 1 receptor,CSF-1 receptor,CSF-1-R,CSF-1R,M-CSF-R,2.7.10.1,Proto-oncogene c-Fms,CD115,CSF1R,FMS,

Full Gene Name: Macrophage colony-stimulating factor 1 receptor

Cellular Localisation: Cell membrane, Single-pass type I membrane protein.

Gene ID: 1436

UniProt: [P07333](#)

Pathways: [RTK Signaling](#), [Inositol Metabolic Process](#), [Cell-Cell Junction Organization](#)

Application Details

Application Notes: Before using Kit, spin tubes and bring down all components to bottom of tube. Duplicate well assay was recommended for both standard and sample testing.

Comment: Sequence similarities: Belongs to the protein kinase superfamily. Tyr protein kinase family. CSF-1/PDGF receptor subfamily.

Tissue Specificity: Expressed in bone marrow and in differentiated blood mononuclear cells.

Plate: Pre-coated

Protocol: human CSF1R ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for CSF1R has been precoated onto 96-well plates. Standards(NSO, I20-E512) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for CSF1R is added subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex was added and unbound conjugates were washed away with PBS or TBS buffer. HRP substrate TMB was used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the human CSF1R amount of sample captured in plate.

Assay Procedure: Aliquot 0.1 mL per well of the 4000pg/mL, 2000pg/mL,1000pg/mL, 500pg/mL, 250pg/mL, 125pg/mL, 62.5pg/mL human CSF1R standard solutions into the precoated 96-well plate. Add

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0.1 mL of the sample diluent buffer into the control well (Zero well). Add 0.1 mL of each properly diluted sample of human cell culture supernates, serum or plasma (heparin, EDTA) to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each human CSF1R standard solution and each sample be measured in duplicate.

Assay Precision:

- Sample 1: n=16, Mean(pg/ml): 477, Standard deviation: 27.7, CV(%): 5.8
- Sample 2: n=16, Mean(pg/ml): 1541, Standard deviation: 92.46, CV(%): 6
- Sample 3: n=16, Mean(pg/ml): 2626, Standard deviation: 128.7, CV(%): 4.9,
- Sample 1: n=24, Mean(pg/ml): 527, Standard deviation: 32.15, CV(%): 6.1
- Sample 2: n=24, Mean(pg/ml): 1712, Standard deviation: 114.7, CV(%): 6.7
- Sample 3: n=24, Mean(pg/ml): 3015, Standard deviation: 168.84, CV(%): 5.6

Restrictions:

For Research Use only

Handling

Handling Advice:

Avoid multiple freeze-thaw cycles.

Storage:

-20 °C, 4 °C

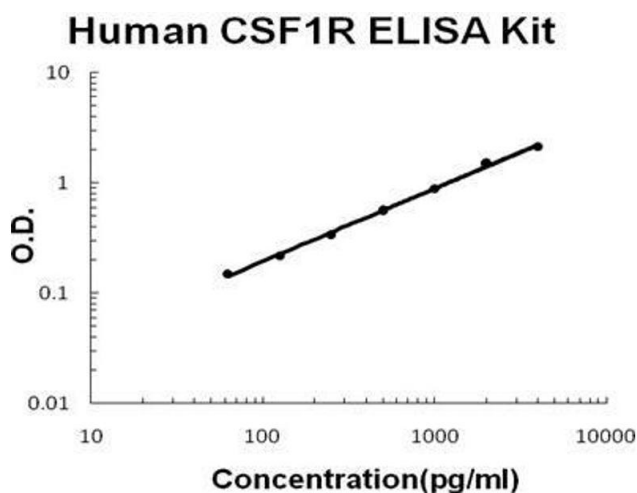
Storage Comment:

Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles

Expiry Date:

12 months

Images



ELISA

Image 1. Human CSF1R/M-CSFR PicoKine ELISA Kit standard curve