

CSF1R Protein, Cynomolgus (HEK293, His)

Cat. No.:	HY-P70124
Synonyms:	rCynReceptor protein-tyrosine kinase/CSF1R, His; Macrophage colony-stimulating factor 1 receptor; CSF-1 receptor; CSF-1-R; CSF-1R; M-CSF-R; Proto-oncogene c-Fms; CD115; CSF1R; FMS
Species:	Cynomolgus
Source:	HEK293
Accession:	XP_005558297.1/A0A2K5WG90 (I20-P517)
Gene ID:	102124214
Molecular Weight:	80-120 kDa

PROPERTIES

AA Sequence	<pre> I P V I E P S G P E L V V K P G E T V T L R C V G N G S V E W D G P I S P H W T L Y S D G P S S V L T T N N A T F Q N T R T Y R C T E P G D P L G G S A A I H L Y V K D P A R P W N V L A K E V V V F E D Q D A L L P C L L T D P V L E A G V S L V R L R G R P L L R H T N Y S F S P W H G F I I H R A K F I Q G Q D Y Q C S A L M G G R K V M S I S I R L K V Q K V I P G P P A L T L V P A E L V R I R G E A A Q I V C S A S N I D V D F D V F L Q H N T T K L A I P Q R S D F H D N R Y Q K V L T L S L G Q V D F Q H A G N Y S C V A S N V Q G K H S T S M F F R V V E S A Y L D L S S E Q N L I Q E V T V G E G L N L K V M V E A Y P G L Q G F N W T Y L G P F S D H Q P E P K L A N A T T K D T Y R H T F T L S L P R L K P S E A G R Y S F L A R N P G G W R A L T F E L T L R Y P P E V S V I W T S I N G S G T L L C A A S G Y P Q P N V T W L Q C A G H T D R C D E A Q V L Q V W V D P H P E V L S Q E P F Q K V T V Q S L L T A E T L E H N Q T Y E C R A H N S V G S G S W A F I P I S A G A R T H P P D E F L F T P </pre>
Biological Activity	Measured by its ability to inhibit the M-CSF-induced proliferation of M-NFS-60 mouse myelogenous leukemia lymphoblast cells. The ED ₅₀ for this effect is 0.003272 µg/mL in the presence of 1 ng/mL of Recombinant Human M-CSF, corresponding to a specific activity is 3.06×10 ⁵ units/mg.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

Colony-stimulating factor 1 receptor (CSF1R) is a type I transmembrane protein receptor and tyrosine kinase involved in cell survival, proliferation, and differentiation. Colony-stimulating factor-1 (CSF-1) and interleukin-34 (IL-34) are extracellular ligands of CSF1R. This endogenous cytokine activates the extracellular domain of CSF1R and triggers intracellular tyrosine kinases. Autophosphorylation of the domain subsequently activates multiple downstream pro-survival kinase cascades, including PI3K, ERK1/2, and JNK. The intracellular domain of CSF1R contains autophosphorylated tyrosine residues, which then recruit and complex with multiple downstream effector proteins/pathways, including PI3K, Grb2, SFK, Src, PKC, and others. CSF1R is ubiquitously expressed in macrophages, microglia, osteoclasts, and bone marrow dendritic cells but is rarely expressed in hematopoietic stem cells. Studies have found that CSF1R is involved in embryonic development and tissue repair, and is related to tumorigenesis and cancer progression. CSF1R can regulate tumor-associated macrophages (TAMs), causing TAMs to release tumorigenic cytokines, further dysregulate the tumor microenvironment and forming a pro-tumor phenotype. CSF1R mutations are also associated with neurodegenerative diseases and skeletal abnormalities.

Caution: Product has not been fully validated for medical applications. For research use only.

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