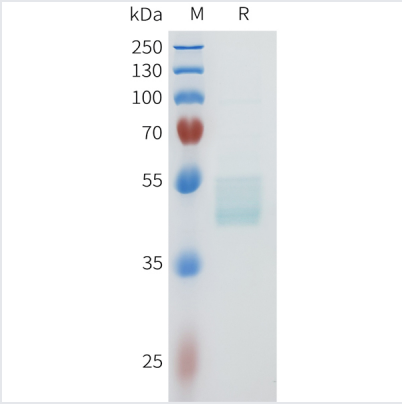
CD117 Human Recombinant Protein

PRODUCT OVERVIEW

Product Name	CD117, Recombinant Protein
Full Product Name	Human CD117 (113-211) Protein, hFc Tag
Product Gene Name	CD117 recombinant protein
Product Synonym Names	PBT; SCFR; C-Kit; KIT; MASTC; Recombinant human CD117 (113-211) Protein with C-terminal human Fc tag
Sequence	CD117 (Asp113-Va l211) hFc (Glu99-Ala 330)
Host	HEK293
Form/Format	Lyophilized from sterile PBS, pH 7.4. Normally 5% – 8% trehalose is added as protectants before lyophilization. Please see Certificate of Analysis for specific instructions of reconstitution.
Purity/Purification	The purity of the protein is greater than 95% as determined by SDS-PAGE and Coomassie blue staining.
Preparation and Storage	Store at -20 degree C to -80 degree C for 12 months in lyophilized form. After reconstitution, if not intended for use within a month, aliquot and store at -80 degree C (Avoid repeated freezing and thawing). Lyophilized proteins are shipped at ambient temperature.
Molecular Weight	109,865 Da
Chromosome Location	Chromosome: 4; NC_000004.11 (55524095..55606881). Location: 4q11-q12
OMIM	164920
3D Structure	ModBase 3D Structure for P10721
Tag	C-Human Fc
Product Categories/Family for CD117 recombinant protein	ECD Proteins
Related Product Information for CD117 recombinant protein	This gene encodes a receptor tyrosine kinase. This gene was initially identified as a homolog of the feline sarcoma viral oncogene v-kit and is often referred to as proto-oncogene c-Kit. The canonical form of this glycosylated transmembrane protein has an N-terminal extracellular region with five immunoglobulin-like domains, a transmembrane region, and an intracellular tyrosine kinase domain at the C-terminus. Upon activation by its cytokine ligand, stem cell factor (SCF), this protein phosphorylates multiple intracellular proteins that play a role in in the proliferation, differentiation, migration and apoptosis of many cell types and thereby plays an important role in hematopoiesis, stem cell maintenance, gametogenesis, melanogenesis, and in mast cell development, migration and function. This protein can be a membrane-bound or soluble protein. Mutations in this gene are associated with gastrointestinal stromal tumors, mast cell disease, acute myelogenous leukemia, and piebaldism. Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, May 2020]
Other Notes	Small volumes of CD117 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for CD117 purchase	MBS1884092 is a recombinant protein targeting CD117. Also known as Human CD117 (113-211) Protein, hFc Tag. Host: HEK293.



SDS-PAGE of CD117 recombinant protein
Figure 1. Human CD117(113-211) Protein, hFc Tag on SDS-PAGE under reducing condition.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CD117. It may not necessarily be applicable to this product.

NCBI GI #	4557695
NCBI GeneID	3815
NCBI Accession #	NP_000213.1
UniProt Primary Accession #	P10721
UniProt Secondary Accession #	Q6IQ28; Q99662; Q9UM99; B5A956; D5LXN2; D5M931; F5H8F8
UniProt Related Accession #	P10721
GenBank Nucleotide #	NM_000222.2
NCBI Official Full Name	mast/stem cell growth factor receptor Kit isoform 1
NCBI Official Synonym Full Names	v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog
NCBI Official Symbol	KIT
NCBI Official Synonym Symbols	PBT; SCFR; C-Kit; CD117
UniProt Protein Name	Mast/stem cell growth factor receptor Kit
UniProt Synonym Protein Names	Piebald trait protein; PBT; Proto-oncogene c-Kit; Tyrosine-protein kinase Kit; p145 c-kit; v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog
Protein Family	Mast/stem cell growth factor receptor
UniProt Gene Name	KIT
UniProt Synonym Gene Names	SCFR; SCFR; PBT
UniProt Entry Name	KIT_HUMAN
NCBI Protein Information	mast/stem cell growth factor receptor Kit; p145 c-kit; proto-oncogene c-Kit; piebald trait protein; soluble KIT variant 1; tyrosine-protein kinase Kit; proto-oncogene tyrosine-protein kinase Kit; v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene-like
NCBI Summary for CD117	This gene encodes the human homolog of the proto-oncogene c-kit. C-kit was first identified as the cellular homolog of the feline sarcoma viral oncogene v-kit. This protein is a type 3 transmembrane receptor for MGF (mast cell growth factor, also known as stem cell factor). Mutations in this gene are associated with gastrointestinal stromal tumors, mast cell disease, acute myelogenous lukemia, and piebaldism. Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2008]

UniProt Comments for CD117	Kit: a receptor tyrosine kinase and a member of the subfamily that includes PDGF, CSF-1 and FLT-3/flk-2 receptors. Receptor for stem cell factor. Plays a critical role in hematopoietic stem cell, mast cell, melanocyte and germ cell development. Ligand binding induces autophosphorylation, dimerization and activation, leading to the recruitment and phosphorylation of downstream SH2-containing signaling components including PLC-gamma, PI3 kinase p85, SHP2 and CrkL, linking c-Kit to various cell signaling pathways. Molecular lesions that impair the kinase activity of c-Kit are associated with a variety of developmental disorders, while mutations that constitutively activate c-Kit can lead to hyperplasia and tumorigenesis. Activating mutations cause >90% of gastrointestinal stromal tumors (GIST); successfully treated with inhibitors Gleevec (imatinib, Glivec) and Sutent (Sutinib, SU11248). Activating mutations also induce mastocytosis. Autocrine/paracrine stimulation may drive some lung and other tumors. Loss of expression associated with melanoma progression. Familial loss of function mutations cause piebaldism, with defects in hair and skin pigmentation due to lack of melanocytes. Protein type: Membrane protein, integral; Kinase, protein; Protein kinase, TK; Oncoprotein; EC 2.7.10.1; Protein kinase, tyrosine (receptor); TK group; PDGFR family Chromosomal Location of Human Ortholog: 4q12 Cellular Component: extracellular space; internal side of plasma membrane; mast cell granule; acrosome; plasma membrane; integral to membrane; intercellular junction; external side of plasma membrane Molecular Function: protein binding; protein homodimerization activity; protease binding; metal ion binding; protein-tyrosine kinase activity; cytokine binding; stem cell factor receptor activity; receptor signaling protein tyrosine kinase activity; transmembrane receptor protein tyrosine kinase activity; ATP binding Biological Process: nerve growth factor receptor signaling pathway; activation of MAPK activity; somatic stem cell maintenance; germ cell programmed cell death; positive regulation of JAK-STAT cascade; lymphoid progenitor cell differentiation; positive regulation of long-term neuronal synaptic plasticity; positive regulation of tyrosine phosphorylation of Stat3 protein; regulation of cell shape; epithelial cell proliferation; germ cell migration; erythrocyte differentiation; somatic stem cell division; T cell differentiation; fibroblast growth factor receptor signaling pathway; embryonic hemopoiesis; mast cell chemotaxis; stem cell differentiation; detection of mechanical stimulus involved in sensory perception of sound; positive regulation of phosphoinositide 3-kinase cascade; positive regulation of tyrosine phosphorylation of Stat1 protein; immature B cell differentiation; positive regulation of transcription factor activity; regulation of pigmentation during development; glycosphingolipid metabolic process; mast cell cytokine production; peptidyl-tyrosine phosphorylation; protein amino acid autophosphorylation; signal transduction; myeloid progenitor cell differentiation; ovarian follicle development; positive regulation of MAPKKK cascade; positive regulation of cell proliferation; melanocyte differentiation; negative regulation of programmed cell death; visual learning; hemopoiesis; inflammatory response; positive regulation of Notch signaling pathway; epidermal growth factor receptor signaling pathway; lamellipodium biogenesis; phosphoinositide-mediated signaling; dendritic cell cytokine production; cytokine and chemokine mediated signaling pathway; male gonad development; stem cell maintenance; positive regulation of phosphoinositide 3-kinase activity; mast cell degranulation; regulation of cell proliferation; positive regulation of pseudopodium formation; gut development; positive regulation of tyrosine phosphorylation of Stat5 protein; pigmentation; actin cytoskeleton reorganization; innate immune response; spermatogenesis; spermatid development; positive regulation of cell migration Disease: Gastrointestinal Stromal Tumor; Mast Cell Disease; Piebald Trait; Testicular Germ Cell Tumor
Research Articles on CD117	**1.** These data suggest that KIT and PDGFRA mutations and standardized mitotic count deserve to be investigated to evaluate the relapse risk of Gastrointestinal stromal tumors
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