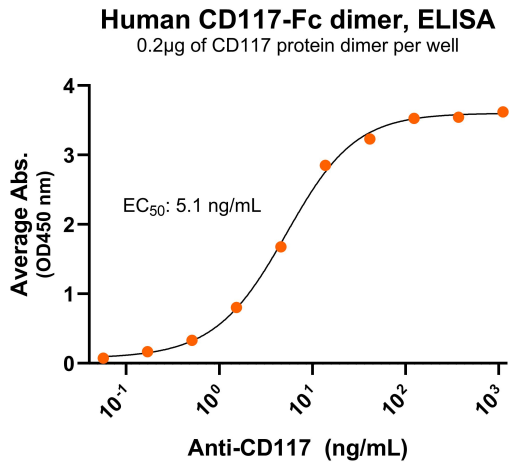
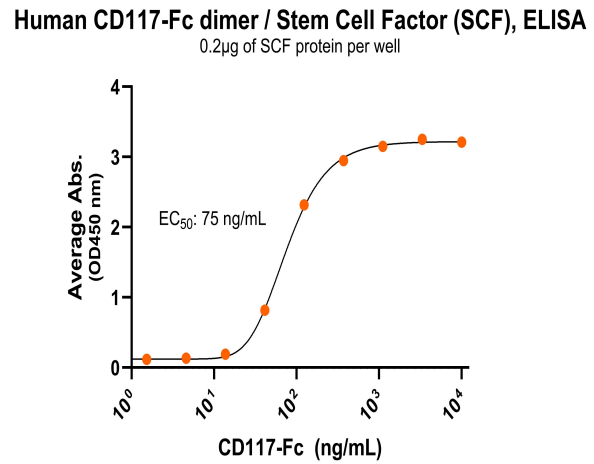


### Bioactivity – Antibody Binding



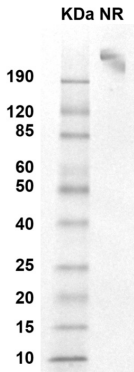
Immobilized human CD117 dimer protein, Fc Tag (Cat. No. CSP-25123-04) at 2 µg/mL (100 µL/well) can bind anti-human CD117 monoclonal antibody, with half maximal effective concentration (EC50) range of 2.5-10.2 ng/mL (QC tested).

### Bioactivity – Ligand Binding



Immobilized human Stem Cell Factor at 2 µg/mL (100 µL/well) can bind human CD117 dimer protein, Fc Tag (Cat. No. CSP-25123-04), with half maximal effective concentration (EC50) range of 37.5-150.2 ng/mL (QC tested).

### SDS-PAGE



MW: Molecular Weight marker reduced condition  
 NR: CD117 dimer under non-reduced condition

The migration range of the dimer protein with glycosylation under non-reduced condition is >190 kDa on SDS PAGE.



Bioactive, Recombinant Human CD117 Protein Dimer, Fc Tag  
Product Code: CSP-25123-04  
For Research Use Only (RUO)

**Expression Host**  
HEK293T

**Purity**  
Greater than 90% dimer form as determined by SDS-PAGE under non-reducing condition

**Protein Construct**  
CD117 dimer protein contains a CD117 extracellular domain (UniProt# P10721) fused with a proprietary dimer motif followed by a Fc tag at the C-terminus. Expressed in HEK293T cell line.

**SDS-Page Molecular Weight**  
165 kDa. The migration range of the dimer protein with glycosylation under non-reduced condition is >190 kDa on SDS PAGE.

**Shipping Conditions**  
Frozen Dry Ice

**Protein Name**  
CD117

**Alternate Name(s)**  
KIT, C-Kit, cluster of differentiation 117, CD117, PBT, mast/stem cell growth factor receptor, SCFR, KIT proto-oncogene receptor tyrosine kinase, MASTC

**Amino Acid Range**  
S25-P524

**Formulation**  
0.22µm filtered PBS, pH 7.4

**Stability & Storage**  
-80°C

## Background

Human cluster of differentiation 117 (CD117), is a member of the type III receptor tyrosine kinase family. CD117 is also known as KIT, C-Kit, mast/stem cell growth factor receptor (SCFR), KIT proto-oncogene receptor tyrosine kinase, and MASTC. CD117 contains an extracellular domain with five immunoglobulin-like loops, a transmembrane domain, a juxtamembrane domain, and an intracellular domain. CD117 is a type 1 transmembrane protein, expressed on hematopoietic stem cells, mast cells, melanocytes, germ cells, and interstitial cells of Cajal. CD117 exists as a monomer under normal physical conditions. Upon binding to its natural ligand, stem cell factor (SCF), homodimerization occurs between two CD117 monomers; this homodimerization is essential for its activation. However, oncogenic mutations can cause ligand-independent pathological dimerization and constitutive activation. CD117 is frequently overexpressed or dysregulated in cancers, including gastrointestinal stromal tumors, acute myeloid leukemia, melanoma, and small cell lung cancer. CD117 is a promising drug target, especially in precision oncology and regenerative medicine. Understanding CD117 dimerization and its activation is crucial for developing targeted therapeutics.