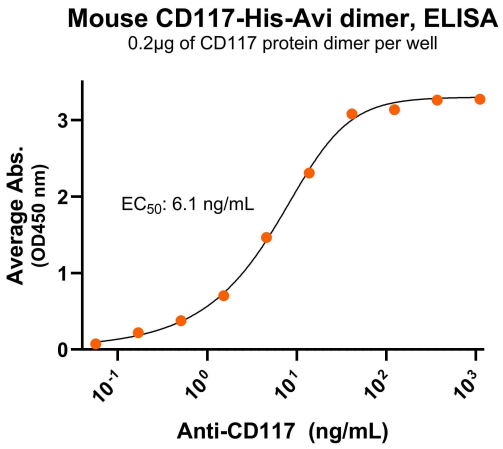
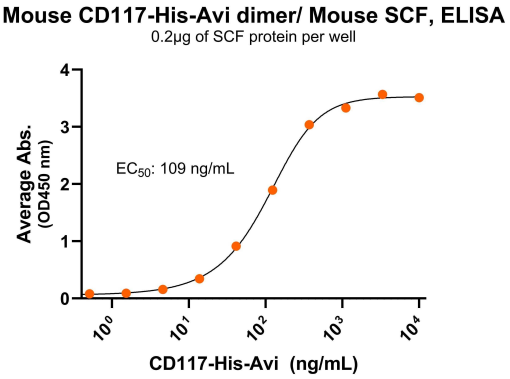
Bioactive, Mouse CD117 Protein Dimer, His-Avi Tag
Product Code: CSP-25193-03
For Research Use Only (RUO)

Bioactivity – Antibody Binding



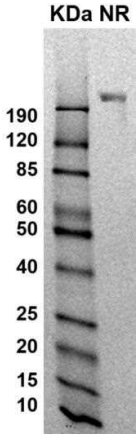
Immobilized mouse CD117-His-Avi dimer protein (CSP-25193-03) at 2 μg/mL (100 μL/well) can bind anti-mouse CD117 monoclonal antibody with half maximal effective concentration (EC50) range of 3-12.1 ng/mL (QC tested).

Bioactivity – Ligand Binding



Immobilized mouse stem cell factor (SCF) at 2 μg/mL (100 μL/well) can bind mouse CD117-His-Avi dimer protein (CSP-25193-03) with half maximal effective concentration (EC50) range of 54.7-218.6 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-reducing condition is >190 kDa on SDS PAGE.

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Expression Host
HEK293T

Protein Name
CD117

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

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

Protein Construct
CD117 dimer protein contains a CD117 extracellular domain (UniProt# P05532) fused with a proprietary cis-dimer motif followed by a tandem His-Avi tag at the C-terminus. Expressed in HEK293T cell line.

Amino Acid Range
S25-P527

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

Formulation
0.22μm filtered PBS, pH 7.4

Shipping Conditions
Frozen Dry Ice

Stability & Storage
-80^{0}C

Background

Mouse 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 human 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.