Biotinylated Recombinant Human CD117/c-kit Fc Chimera

Catalog Number: BT10961

DESCRIPTION

Source

Chinese Hamster Ovary cell line, CHO-derived human CD117/c-kit protein

Human CD117/c-kit (Gln26-Thr520) Accession # P10721.1	IEGRMD	Human IgG_1 (Pro100-Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis

Gln26

Structure / Form

Disulfide-linked homodimer
Biotinylated via amines

Predicted Molecular Mass

82 kDa

SPECIFICATIONS

SDS-PAGE

110-120 kDa, under reducing conditions.

Activity

Measured by its binding ability in a functional ELISA.
Biotinylated Recombinant Human CD117/c-kit Fc Chimera (Catalog # BT10961) binds Recombinant Human SCF/c-kit Ligand (Catalog # BT-SCF) with an ED_{50} of 0.400-4.00 µg/mL.

Endotoxin Level

<0.10 EU per 1 µg of the protein by the LAL method.

Purity

>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Formulation

Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution

Reconstitute at 250 µg/mL in water.

Shipping

The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

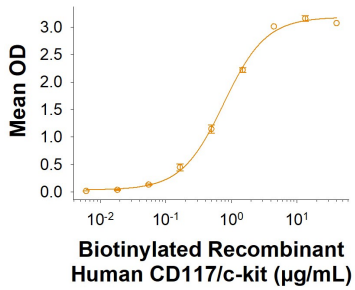
Stability & Storage

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

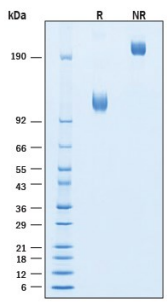
DATA

Binding Activity



Biotinylated Recombinant Human CD117/c-kit Fc Chimera Protein Binding Activity. Biotinylated Recombinant Human CD117/c-kit Fc Chimera Protein (Catalog # BT10961) binds Recombinant Human SCF/c-kit Ligand (Catalog # BT-SCF) with an ED_{50} of 0.400-4.00 µg/mL.

SDS-PAGE



Biotinylated Recombinant Human CD117/c-kit Fc Chimera Protein SDS-PAGE. 2 µg/lane of Biotinylated Recombinant Human CD117/c-kit Fc Chimera Protein (Catalog # BT10961) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 110-120 kDa and 220-240 kDa, respectively.

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BACKGROUND

Stem cell factor receptor (SCFR), also known as c-Kit and CD117, is a type III receptor tyrosine kinase that acts as the receptor for the cytokine SCF. Human SCFR is expressed in embryonic stem cells and is involved in regulation of cell survival and proliferation, hematopoiesis, gametogenesis, and melanogenesis (1-3). Mature human SCFR consists of an extracellular domain (ECD) with five tandem immunoglobulin-like domains, a single transmembrane segment, and a cytoplasmic region with a split tyrosine kinase domain. Within the ECD, human SCFR shares 73% and 76% amino acid sequence identity with mouse and rat SCFR, respectively. Several SCFR isoforms, produced by alternative mRNA splicing, have been identified in humans and can be characterized by the presence or absence of a tetrapeptide sequence (GNNK) in the juxtamembrane region of the ECD (4, 5). Binding of SCFR to SCF triggers receptor dimerization and activates downstream signaling (6). SCF is a primary growth and activation factor for mast cells and eosinophils and SCFR expression on mast cells enables them to infiltrate SCF-secreting tumors where they promote tumor growth and induce local immune suppression (7, 8). SCFR is up regulated on dendritic cells by Th2- or Th17-biasing stimuli, and it is required for subsequent dendritic cell induction of Th2 and Th17 responses (9). SCFR protects vascular smooth muscle cells from apoptosis and assists in the recovery of cardiac function following myocardial infarction (10, 11). Mutations or deletions of SCFR cause a wide variety of malignancies as well as pigmentation disorders and sterility (12).

References:

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