

c-Kit/CD117 Protein, Mouse, Recombinant (hFc)

General Information

Synonyms:	SCO1;Gsfsc01;W;v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog;Tr-kit;c-KIT;Bs;Ssm;CD117;SCO5;Gsfso3;SOW3;Fdc;Gsfsc05
Protein Construction:	A DNA sequence encoding the mouse KIT isoform 1 (NP_001116205.1) extracellular domain (Met 1-Thr 523) was fused with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Ser 25
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	P05532-1
Molecular Weight:	82.5 kDa (predicted); 100-110 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by its binding ability in a functional ELISA. Immobilized mouse KITL at 2 µg/ml (100 µl/well) can bind mouse KIT / CD117 with a linear range of 1.28-32 ng/ml.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Shipping:

In general, Lyophilized powders are shipping with blue ice.

Protein Background

c-Kit is a type 3 transmembrane receptor for MGF (mast cell growth factor, also known as stem cell factor). c-Kit contains 5 Ig-like C2-type (immunoglobulin-like) domains and 1 protein kinase domain. It belongs to the protein kinase superfamily, tyr protein kinase family, and CSF-1/PDGF receptor subfamily. c-Kit has tyrosine-protein kinase activity. Binding of the ligands leads to the autophosphorylation of KIT and its association with substrates

such as phosphatidylinositol 3-kinase. Antibodies to c-Kit are widely used in immunohistochemistry to help distinguish particular types of tumor in histological tissue sections. It is used primarily in the diagnosis of GISTs. In GISTs, c-Kit staining is typically cytoplasmic, with stronger accentuation along the cell membranes. C-Kit antibodies can also be used in the diagnosis of mast cell tumors and in distinguishing seminomas from embryonal carcinomas. Mutations in the c-Kit gene are associated with gastrointestinal stromal tumors, mast cell disease, acute myelogenous leukemia, and piebaldism. Defects in KIT are a cause of acute myelogenous leukemia (AML). AML is a malignant disease in which hematopoietic precursors are arrested in an early stage of development. Note=Somatic mutations that lead to constitutive activation of KIT are detected in AML patients.Cancer ImmunotherapyImmune CheckpointImmunotherapyTargeted Therapy

Reference

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- Leong KG, et al. (2008) Generation of a prostate from a single adult stem cell. *Nature*. 456(7223): 804-8.
- Edling CE, et al. (2007) c-Kit--a hematopoietic cell essential receptor tyrosine kinase. *Int J Biochem Cell Biol*. 39(11): 1995-8.
- McIntyre A, et al. (2005) Amplification and overexpression of the KIT gene is associated with progression in the seminoma subtype of testicular germ cell tumors of adolescents and adults. *Cancer Res*. 65(18):8085-9.

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