Data Sheet (Cat.No.TMPY-01802)

TargetMol

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

General Information

Synonyms:	SCO5;SCO1;Bs;Gsfsco1;v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog;W;Ssm;SOW3;Fdc;CD117;Gsfsow3;Gsfsco5;c-KIT;Tr-kit
Protein Construction:	A DNA sequence encoding the mouse KIT isoform 1 (NP_001116205.1) extracellular domain (Met 1-Thr 523) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Ser 25
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	P05532-1
Molecular Weight:	57 kDa (predicted); 70-80 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by its binding ability in a functional ELISA. Immobilized mouse KIT at 2 μg/ml (100 μl/well) can bind biotinylated mouse KITL with a linear range of 1.28-6.4 ng/ml.
Purity:	≥ 97 % as determined by SDS-PAGE. ≥ 90 % as determined by SEC-HPLC.
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:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

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.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry 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

Andre C, et al. (1997) Sequence analysis of two genomic regions containing the KIT and the FMS receptor tyrosine kinase genes. Genomics. 39(2):216-26.

Yarden Y, et al. (1987) Human proto-oncogene c-kit: a new cell surface receptor tyrosine kinase for an unidentified ligand. EMBO J. 6(11):3341-51.

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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