CD117/c-kit Protein, Human (141a.a, His)

Cat. No.:	HY-P74341
Synonyms:	Mast/stem cell growth factor receptor Kit; SCFR; CD117; Kit; Sl
Species:	Human
Source:	E. coli
Accession:	P10721 (V50-Q190)
Gene ID:	3815
Molecular Weight:	Approximately 18 kDa

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of 137 mM NaCl, 2.7 mM KCl, 10 mM Na_2HPO_4, 1.8 mM KH_2PO_4, 15% Glycerol, pH 2.7.. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	CD117/c-kit, a tyrosine-protein kinase, serves as a cell-surface receptor for the cytokine KITLG/SCF, playing a pivotal role in the orchestration of cellular processes such as cell survival, proliferation, hematopoiesis, stem cell maintenance, gametogenesis, mast cell development, migration, and melanogenesis. Upon binding to KITLG/SCF, KIT activates diverse signaling pathways, leading to the phosphorylation of PIK3R1, PLCG1, SH2B2/APS, and CBL. The AKT1 signaling pathway is activated through the phosphorylation of PIK3R1, the regulatory subunit of phosphatidylinositol 3-kinase. Additionally, KIT transmits signals via GRB2, activating RAS, RAF1, and the MAP kinases MAPK1/ERK2 and/or MAPK3/ERK1. Furthermore, KIT induces the activation of STAT family members STAT1, STAT3, STAT5A, and STAT5B. PLCG1 activation results in the production of diacylglycerol and inositol 1,4,5-trisphosphate. Protein phosphatases modulate KIT signaling, and the receptor undergoes rapid internalization and degradation. Activated KIT promotes phosphorylation events involving PTPN6/SHP-1, PTPRU, STAT1, STAT3, STAT5A, STAT5B, PIK3R1, CBL, CRK (isoform Crk-II), LYN, MAPK1/ERK2 and/or MAPK3/ERK1, PLCG1, SRC, and SHC1.

Caution: Product has not been fully validated for medical applications. For research use only.

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