Product Data Sheet

CD117/c-kit Protein, Human (HEK293, His)

Cat. No.: HY-P72752

Synonyms: Mast/stem cell growth factor receptor Kit; SCFR; PBT; CD117; KIT

Species: Source: HEK293

P10721 (Q26-T520) Accession:

Gene ID: 3815

Molecular Weight: Approximately 150 kDa

PROPERTIES

AA Sequence	QPSVSPGEPS PPSIHPGKSD LIVRVGDEIR LLCTDPGFVK WTFEILDETN ENKQNEWITE KAEATNTGKY TCTNKHGLSN SIYVFVRDPA KLFLVDRSLY GKEDNDTLVR CPLTDPEVTN YSLKGCQGKP LPKDLRFIPD PKAGIMIKSV KRAYHRLCLH CSVDQEGKSV LSEKFILKVR PAFKAVPVVS VSKASYLLRE GEEFTVTCTI KDVSSSVYST WKRENSQTKL QEKYNSWHHG
	DFNYERQATL TISSARVNDS GVFMCYANNT FGSANVTTTL EVVDKGFINI FPMINTTVFV NDGENVDLIV EYEAFPKPEH QQWIYMNRTF TDKWEDYPKS ENESNIRYVS ELHLTRLKGT EGGTYTFLVS NSDVNAAIAF NVYVNTKPEI LTYDRLVNGM LQCVAAGFPE PTIDWYFCPG TEQRCSASVL PVDVQTLNSS GPPFGKLVVQ SSIDSSAFKH NGTVECKAYN DVGKTSAYFN FAFKGNNKEQ IHPHT
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μ g/mL in ddH $_2$ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
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

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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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