

Recombinant Human KIT Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50596

Size: 10ug, 100ug

Protein Name: Mast/stem cell growth factor receptor Kit (SCFR) (EC 2.7.10.1) (Piebald trait protein) (PBT) (Proto-oncogene c-Kit) (Tyrosine-protein kinase Kit) (p145 c-kit) (v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog) (CD antigen CD117)

Synonym: KIT, SCFR

UniProt ID: P10721

UniProt Link: www.uniprot.org/uniprotkb/P10721/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 976 AA

Molecular Weight: 110 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MRGARGAWDFLCVLLLLLRVQTGSSQPSVSPGEPSPPSIHPGKSDLIVRVGDEIRLLCTDPGFVKWT
FEILDETENKQNEWITEKAEATNTGKYTCTNKHGLSNSIYVFVRDPAKLFLVDRSLYGKEDNDTLVR
CPLTDPEVTNYSKGCQGKPLPKDLRFIPDPKAGIMIKSVKRAYHRLCLHCSVDQEGKSVLSEKFILK
VRPAFAKAVPVSVSKASYLLREGEEFTVTCTIKDVSSSVYSTWKRENSQTKLQEKYNSWHHGDFNY
ERQATLTISSARVNDSGVFMCIYANNTFGSANVTTLLEVVDKGFNIFPMINTTVFVNDGENVDLIVEYE
AFPKPEHQQWIYMNRTFTDKWEDYPKSENESENIRYVSELHLTRLKGTEGGTYTFLVNSSDVNAAIAF
NVYVNTKPEILTYDRLVNGMLQCVAAGFPEPTIDWYFCPGTEQRCSASVLPVDVQTLNSSGPPFGKL
VVQSSIDSSAFKHNGTVECKAYNDVGKTSAYFNFAFGKNNKEQIHPHTLFTPLLIGFVIVAGMMCIIVM
ILTYKYLQKPMYEVQWKVVEEINGNNYVYIDPTQLPYDHWKFEPRNRLSFGKTLGAGAFGKVVEATA
YGLIKSDAAMTVAVKMLKPSAHLTEREALMSELKVL SYLGNHMNIVNLLGACTIGGPTLVITEYCCYG
DLLNFLRRKRDSFICSKQEDHAEAAALYKNLLHSESSCSDSTNEYMDMKPGVSVYVPTKADKRRSV
RIGSYIERDVTPTAIMEDDELALDLEDLLSFSYQVAKGMAFLASKNCIHRDLAARNILLTHGRITKICDFG
LARDIKNDSNYVVKGNARLPVKWMAPEISFNCVYTFESDVWSYGIFLWELFSLGSSPYPGMPVDSK
FYKMIKEGFRMLSPEHAPAEMYDIMKTCWDADPLKRPTFKQIVQLIEKQISESTNHIYSNLANCSPNR
QKPVVDHRSVRINSVGSTASSSQPLLHDDV

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Mast/stem cell growth factor receptor Kit (SCFR) (EC 2.7.10.1) (Piebald trait protein) (PBT) (Proto-oncogene c-Kit) (Tyrosine-protein kinase Kit) (p145 c-kit) (v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog) (CD antigen CD117) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Tyrosine-protein kinase that acts as a cell-surface receptor for the cytokine KITLG/SCF and plays an essential role in the regulation of cell survival and proliferation, hematopoiesis, stem cell maintenance, gametogenesis, mast cell development, migration and function, and in melanogenesis. In response to KITLG/SCF binding, KIT can activate several signaling pathways. Phosphorylates PIK3R1, PLCG1, SH2B2/APS and CBL. Activates the AKT1 signaling pathway by phosphorylation of PIK3R1, the regulatory subunit of phosphatidylinositol 3-kinase. Activated KIT also transmits signals via GRB2 and activation of RAS, RAF1 and the MAP kinases MAPK1/ERK2 and/or MAPK3/ERK1. Promotes activation of STAT family members STAT1, STAT3, STAT5A and STAT5B. Activation of PLCG1 leads to the production of the cellular signaling molecules diacylglycerol and inositol 1,4,5-trisphosphate. KIT signaling is modulated by protein phosphatases, and by rapid internalization and degradation of the receptor. Activated KIT promotes phosphorylation of the protein phosphatases PTPN6/SHP-1 and PTPRU, and of the transcription factors STAT1, STAT3, STAT5A and STAT5B. Promotes phosphorylation of PIK3R1, CBL, CRK (isoform Crk-II), LYN, MAPK1/ERK2 and/or MAPK3/ERK1, PLCG1, SRC and SHC1.

Subcellular Localization: [Isoform 1]: Cell membrane; Single-pass type I membrane protein.; [Isoform 2]: Cell membrane; Single-pass type I membrane protein.; [Isoform 3]: Cytoplasm .
Note=Detected in the cytoplasm of spermatozoa, especially in the equatorial and subacrosomal region of the sperm head.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.