

Recombinant KIT / CD117 (546-976) protein

Catalog No: 81371, 81671

Expressed In: Baculovirus

Quantity: 20, 1000 µg

Concentration: 0.1 µg/µl

Source: Human

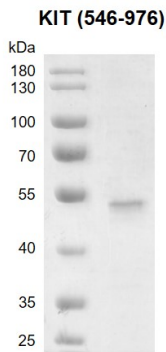
Buffer Contents: Recombinant KIT (546-976) protein is supplied in 25 mM HEPES-NaOH pH 7.5, 300 mM NaCl, 10% glycerol, 0.04% Triton X-100, 0.5 mM TCEP.

Background: KIT (KIT Proto-Oncogene, Receptor Tyrosine Kinase) is a tyrosine-protein kinase that acts as 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. KIT phosphorylates PIK3R1, PLCG1, SH2B2/APS and CBL and 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. KIT 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. Diseases associated with KIT include Gastrointestinal Stromal Tumor and Piebald Trait.

Protein Details: Recombinant KIT (546-976) protein that includes amino acids 546-976 of human KIT protein (accession number NP_000213.1) was expressed in a baculovirus expression system, and contains an N-terminal FLAG tag. The molecular weight of the protein is 50 kDa.

Application Notes: This product was manufactured as described in Protein Details. Where possible, Active Motif has developed functional or activity assays for recombinant proteins. Additional characterization such as enzyme kinetic activity assays, inhibitor screening or other biological activity assays may not have been performed for every product. All available data for a given product is shown on the lot-specific Technical Data Sheet.

Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is guaranteed for 6 months from date of arrival.



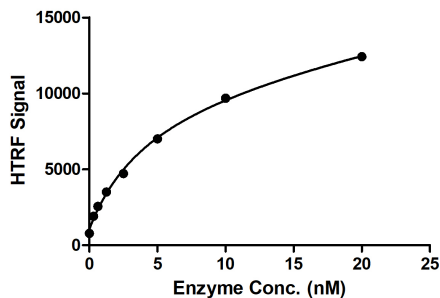
Recombinant KIT (546-976) protein

10% SDS-PAGE gel with Coomassie blue staining

MW: 50 kDa

Purity: >95%

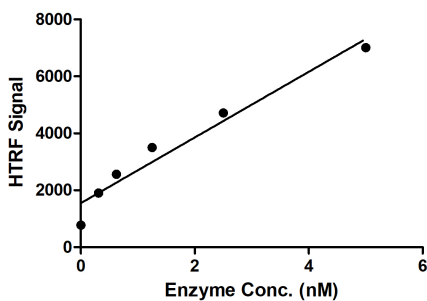
KIT (546-976) Titration



HTRF assay for KIT (546-976) activity

1 μ M TK substrate was incubated with different concentrations of KIT (546-976) protein in a 10 μ l reaction system containing 1 \times Enzymatic Buffer, 5 mM MgCl₂, 1 mM DTT, 1 mM MnCl₂, 5 nM SEB and 100 μ M ATP for 1 hour. Then 10 μ l detection reagents containing TK antibody (1:2) and SA-XL665 (1:100) diluted with 1 \times Detection Buffer were added and incubated with the reactions for 30 min. All the operations and reactions were performed at room temperature. HTRF assay was used for detection.

KIT (546-976) Titration



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