

Product datasheet

Recombinant human c-Kit protein (Fc Chimera) ab88349

[3 Images](#)

Description

Product name	Recombinant human c-Kit protein (Fc Chimera)
Biological activity	Activity: The ED ₅₀ of ab88349 is typically 1-3 ug/ml as measured by its ability to neutralize SCF mediated proliferation using the human growth factor dependent M-07e cell line.
Purity	> 95 % SDS-PAGE.
Expression system	HEK 293 cells
Accession	<u>P10721</u>
Protein length	Protein fragment
Animal free	No
Nature	Recombinant
Species	Human
Sequence	

GSSQPSVSPGEPSPPSIHPGKSDLVRVGD EIRLLCTDPG
FVKWTFEIL
DET NENKQNEWITEKAEATNTGKYTC TNKHGLSNSIYFVVR
DPAKLFLV
DRSLYGKEDNDTLVRCPLTDPEVTNYS LKGCQGKPLPKD
LRFIPDPA G
IMIKSVKRAYHRLCLHCSVDQEGKSVLSEK FILKVRPAFKA
VPVVS V SK
ASYLLREG EEFVTCTIKDVSSSVYSTWKRENSQTKLQEK
YNSWHH GDF
NYERQATLTISSARVNDSGVFM CYANNTFGSANVTTTLE V
VDKGF INIF
PMINTTVFVNDGENVDLIVEYEA FPKPEHQWYIMNRTFTD
KWE DYPKS
ENESNIRYSELHLTRLKGTEGGTYFLV SNSDVNAAIAFN
VY VNTKPE
ILTYDRLVNGMLQCVAAGFPEPTIDWYFCPGTEQRCSASV
LP VDVQTLN
SSGPPFGKLVVQSSIDSSAFKHNGTVECKAYNDVGK TSA
YF NFAFKGNN
KEQIHPHTGSSNTKVDKKVEPKSCDKTHTCPPCPAPELL

G GPSVFLFPP
KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV
HNAKTKPREE
QYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPI
EKTISKAKGQP
REPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVE
WESNGQPENNYK
TTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFCFSVM
HEALHNHYTQKSL SLSPGK

Predicted molecular weight	83 kDa including tags
Amino acids	23 to 520
Tags	Fc tag C-Terminus
Additional sequence information	Fused with the Fc region of Human IgG1 at the C-terminus.

Specifications

Our **Abpromise guarantee** covers the use of **ab88349** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	Functional Studies SDS-PAGE
Form	Lyophilized

Preparation and Storage

Stability and Storage	Shipped at 4°C. Store at +4°C. Avoid freeze / thaw cycle. Reconstitute for long term storage. Constituents: 1% Human serum albumin, 10% Trehalose This product is an active protein and may elicit a biological response in vivo, handle with caution.
Reconstitution	It is recommended that 0.5 ml of sterile phosphate-buffered saline be added to the vial. Following reconstitution short-term storage at 4°C is recommended, and longer-term storage of aliquots at -18 to -20°C. Repeated freeze thawing is not recommended.

General Info

Function	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. 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
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PIK3R1, CBL, CRK (isoform Crk-II), LYN, MAPK1/ERK2 and/or MAPK3/ERK1, PLCG1, SRC and SHC1.

Tissue specificity

Isoform 1 and isoform 2 are detected in spermatogonia and Leydig cells. Isoform 3 is detected in round spermatids, elongating spermatids and spermatozoa (at protein level). Widely expressed. Detected in the hematopoietic system, the gastrointestinal system, in melanocytes and in germ cells.

Involvement in disease

Piebald trait
Gastrointestinal stromal tumor
Testicular germ cell tumor
Leukemia, acute myelogenous

Sequence similarities

Belongs to the protein kinase superfamily. Tyr protein kinase family. CSF-1/PDGF receptor subfamily.

Contains 5 Ig-like C2-type (immunoglobulin-like) domains.

Contains 1 protein kinase domain.

Post-translational modifications

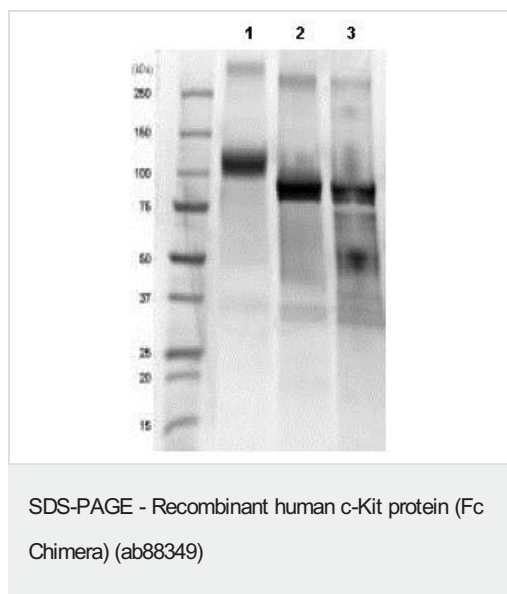
Ubiquitinated by SOCS6. KIT is rapidly ubiquitinated after autophosphorylation induced by KITLG/SCF binding, leading to internalization and degradation.

Autophosphorylated on tyrosine residues. KITLG/SCF binding enhances autophosphorylation. Isoform 1 shows low levels of tyrosine phosphorylation in the absence of added KITLG/SCF (in vitro). Kinase activity is down-regulated by phosphorylation on serine residues by protein kinase C family members. Phosphorylation at Tyr-568 is required for interaction with PTPN11/SHP-2, CRK (isoform Crk-II) and members of the SRC tyrosine-protein kinase family. Phosphorylation at Tyr-570 is required for interaction with PTPN6/SHP-1. Phosphorylation at Tyr-703, Tyr-823 and Tyr-936 is important for interaction with GRB2. Phosphorylation at Tyr-721 is important for interaction with PIK3R1. Phosphorylation at Tyr-823 and Tyr-936 is important for interaction with GRB7.

Cellular localization

Cell membrane and Cytoplasm. Detected in the cytoplasm of spermatozoa, especially in the equatorial and subacrosomal region of the sperm head.

Images



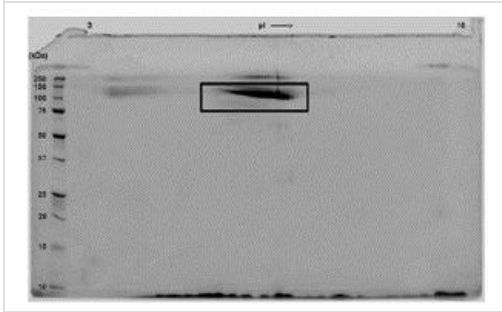
1D SDS-PAGE of ab88349 before and after treatment with glycosidases to remove oligosaccharides.

Lane 1: ab88349

Lane 2: ab88349 treated with PNGase F to remove potential N-linked glycans

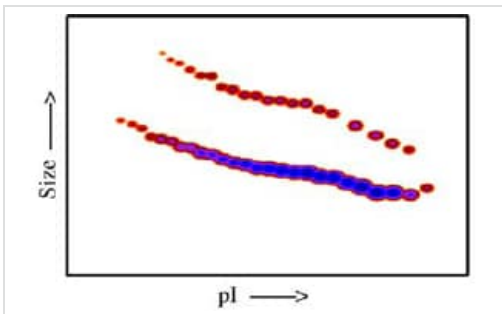
Lane 3: ab88349 treated with a glycosidase cocktail to remove potential N- and O-linked glycans.

Appearance of additional band at lower MWt after treatment with PNGase F indicates the presence of N-linked glycans. The subsequent drop in MWt after treatment with a glycosidase cocktail indicates the presence of O-linked glycans.



SDS-PAGE - Recombinant human c-Kit protein (Fc Chimera) (ab88349)

A sample of ab88349 without carrier protein was reduced and alkylated and focused on a 3-10 IPG strip then run on a 4-20% Tris-HCl 2D gel. 40 µg of protein was loaded. Spot trains indicate presence of multiple isoforms of ab88349.



Functional Studies - Recombinant human c-Kit protein (Fc Chimera) (ab88349)

Densitometry of protein isoforms visualised by 2-DE. The densitometry scan demonstrates the purified human cell expressed protein exists in multiple isoforms, which differ according to their level of post-translational modification.

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