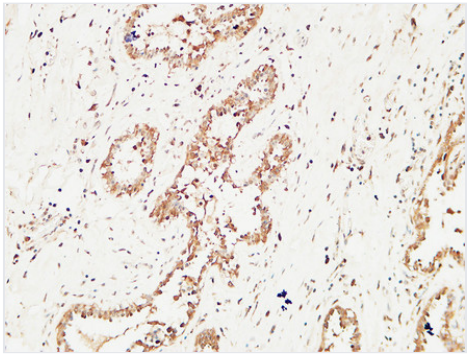
c-KIT Antibody – Rabbit Polyclonal

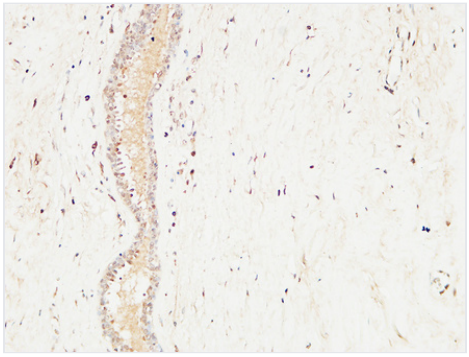
PRODUCT OVERVIEW

Product Name	c-Kit, Polyclonal Antibody
Full Product Name	c-Kit Polyclonal Antibody
Product Gene Name	anti-c-Kit antibody
Product Synonym Gene Name	KIT
Product Synonym Names	KIT; SCFR; Mast/stem cell growth factor receptor Kit; SCFR; 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
Clonality	Polyclonal
Host	Rabbit
Species Reactivity	Human, Mouse, Rat, Monkey
Form/Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Preparation and Storage	Store at -20°C
Chromosome Location	Chromosome: 4; NC_000004.11 (55524095..55606881). Location: 4q11-q12
OMIM	164920
3D Structure	ModBase 3D Structure for P10721
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.
Cellular Location	[Isoform 1]: 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.
Tissue Location	[Isoform 3]: In testis, detected in spermatogonia in the basal layer and in interstitial Leydig cells but not in Sertoli cells or spermatocytes inside the seminiferous tubules (at protein level) (PubMed:20601678). Expression is maintained in ejaculated spermatozoa (at protein level) (PubMed:20601678)
Applications Tested/Suitable for anti-c-Kit antibody	Western Blot (WB), Immunohistochemistry-Paraffin (IHC-P), Immunofluorescence (IF)
Application Notes for anti-c-Kit antibody	WB~~1:1000, IF~~1:50~200

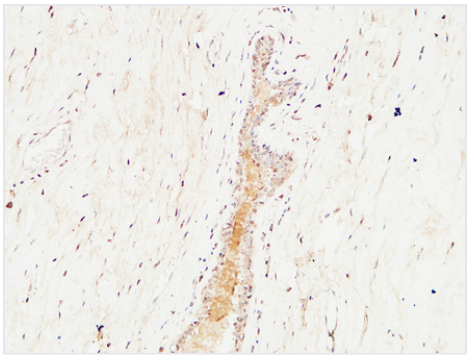
Related Product Information for anti-c-Kit antibody	Tyrosine-protein kinase that acts as cell-surface receptor for the cytokine KITLG/SCF and plays an essential role in the regulation of cell survival and proliferation, hematopoiesis, stem cell maintenance, gametogenesis, mast cell development, migration 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 PIK3R1, CBL, CRK (isoform Crk-II), LYN, MAPK1/ERK2 and/or MAPK3/ERK1, PLCG1, SRC and SHC1.
Other Notes	Small volumes of anti-c-Kit antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for c-Kit purchase	MBS9243125 is an antibody targeting c-Kit. Also known as c-Kit Polyclonal Antibody. Reactive in Human, Mouse, Rat, Monkey. Host: Rabbit.



Immunohistochemistry (IHC) of anti-c-Kit antibody
Immunohistochemical analysis of paraffin-embedded Human Mammary cancer. 1, Antibody was diluted at 1:400 (4°C,overnight). 2, High-pressure and temperature EDTA, pH8.0 was used forantigen retrieval. 3,Secondary antibody was diluted at 1:200(room temperature, 30min).



Immunohistochemistry (IHC)-Paraffin of anti-c-Kit antibody
Immunohistochemical analysis of paraffin-embedded Human Mammary cancer. 1, Antibody was diluted at 1:400(4°C,overnight). 2, High-pressure and temperature EDTA, pH8.0 was used for antigen retrieval. 3,Secondary antibody was diluted at 1:200(room temperature, 30



Immunohistochemistry (IHC)-Paraffin of anti-c-Kit antibody
Immunohistochemical analysis of paraffin-embedded Human Mammary cancer. 1, Antibody was diluted at 1:400 (4°C,overnight). 2, High-pressure and temperature EDTA, pH8.0 was used for antigen retrieval. 3,Secondary antibody was diluted at 1:200(room temperature, 30min).

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for c-Kit. It may not necessarily be applicable to this product.

NCBI GI #	4557695
NCBI GeneID	3815
NCBI Accession #	NP_000213.1

UniProt Primary Accession #	P10721
UniProt Secondary Accession #	Q6IQ28; Q99662; Q9UM99; B5A956; D5LXN2; D5M931; F5H8F8
UniProt Related Accession #	P10721
GenBank Nucleotide #	NM_000222.2
NCBI Official Full Name	mast/stem cell growth factor receptor Kit isoform 1
NCBI Official Synonym Full Names	v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog
NCBI Official Symbol	KIT
NCBI Official Synonym Symbols	PBT; SCFR; C-Kit; CD117
UniProt Protein Name	Mast/stem cell growth factor receptor Kit
UniProt Synonym Protein Names	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
Protein Family	Kit ligand
UniProt Gene Name	KIT
UniProt Synonym Gene Names	SCFR; SCFR; PBT
UniProt Entry Name	KIT_HUMAN
NCBI Protein Information	mast/stem cell growth factor receptor Kit; p145 c-kit; proto-oncogene c-Kit; piebald trait protein; soluble KIT variant 1; tyrosine-protein kinase Kit; proto-oncogene tyrosine-protein kinase Kit; v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene-like
NCBI Summary for c-Kit	This gene encodes the human homolog of the proto-oncogene c-kit. C-kit was first identified as the cellular homolog of the feline sarcoma viral oncogene v-kit. This protein is a type 3 transmembrane receptor for MGF (mast cell growth factor, also known as stem cell factor). Mutations in this gene are associated with gastrointestinal stromal tumors, mast cell disease, acute myelogenous lukemia, and piebaldism. Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2008]

UniProt Comments for c-Kit	Kit: a receptor tyrosine kinase and a member of the subfamily that includes PDGF, CSF-1 and FLT-3/flk-2 receptors. Receptor for stem cell factor. Plays a critical role in hematopoietic stem cell, mast cell, melanocyte and germ cell development. Ligand binding induces autophosphorylation, dimerization and activation, leading to the recruitment and phosphorylation of downstream SH2-containing signaling components including PLC-gamma, PI3 kinase p85, SHP2 and CrkL, linking c-Kit to various cell signaling pathways. Molecular lesions that impair the kinase activity of c-Kit are associated with a variety of developmental disorders, while mutations that constitutively activate c-Kit can lead to hyperplasia and tumorigenesis. Activating mutations cause >90% of gastrointestinal stromal tumors (GIST); successfully treated with inhibitors Gleevec (imatinib, Glivec) and Sutent (Sutinib, SU11248). Activating mutations also induce mastocytosis. Autocrine/paracrine stimulation may drive some lung and other tumors. Loss of expression associated with melanoma progression. Familial loss of function mutations cause piebaldism, with defects in hair and skin pigmentation due to lack of melanocytes. Protein type: Membrane protein, integral; Kinase, protein; Protein kinase, TK; Oncoprotein; EC 2.7.10.1; Protein kinase, tyrosine (receptor); TK group; PDGFR family Chromosomal Location of Human Ortholog: 4q12 Cellular Component: extracellular space; internal side of plasma membrane; mast cell granule; acrosome; plasma membrane; integral to membrane; intercellular junction; external side of plasma membrane Molecular Function: protein binding; protein homodimerization activity; protease binding; metal ion binding; protein-tyrosine kinase activity; cytokine binding; stem cell factor receptor activity; receptor signaling protein tyrosine kinase activity; transmembrane receptor protein tyrosine kinase activity; ATP binding Biological Process: nerve growth factor receptor signaling pathway; activation of MAPK activity; somatic stem cell maintenance; germ cell programmed cell death; positive regulation of JAK-STAT cascade; lymphoid progenitor cell differentiation; positive regulation of long-term neuronal synaptic plasticity; positive regulation of tyrosine phosphorylation of Stat3 protein; regulation of cell shape; epithelial cell proliferation; germ cell migration; erythrocyte differentiation; somatic stem cell division; T cell differentiation; fibroblast growth factor receptor signaling pathway; embryonic hemopoiesis; mast cell chemotaxis; stem cell differentiation; detection of mechanical stimulus involved in sensory perception of sound; positive regulation of phosphoinositide 3-kinase cascade; positive regulation of tyrosine phosphorylation of Stat1 protein; immature B cell differentiation; positive regulation of transcription factor activity; regulation of pigmentation during development; glycosphingolipid metabolic process; mast cell cytokine production; peptidyl-tyrosine phosphorylation; protein amino acid autophosphorylation; signal transduction; myeloid progenitor cell differentiation; ovarian follicle development; positive regulation of MAPKKK cascade; positive regulation of cell proliferation; melanocyte differentiation; negative regulation of programmed cell death; visual learning; hemopoiesis; inflammatory response; positive regulation of Notch signaling pathway; epidermal growth factor receptor signaling pathway; lamellipodium biogenesis; phosphoinositide-mediated signaling; dendritic cell cytokine production; cytokine and chemokine mediated signaling pathway; male gonad development; stem cell maintenance; positive regulation of phosphoinositide 3-kinase activity; mast cell degranulation; regulation of cell proliferation; positive regulation of pseudopodium formation; gut development; positive regulation of tyrosine phosphorylation of Stat5 protein; pigmentation; actin cytoskeleton reorganization; innate immune response; spermatogenesis; spermatid development; positive regulation of cell migration Disease: Gastrointestinal Stromal Tumor; Mast Cell Disease; Piebald Trait; Testicular Germ Cell Tumor
Research Articles on c-Kit	**1.** These data suggest that KIT and PDGFRA mutations and standardized mitotic count deserve to be investigated to evaluate the relapse risk of Gastrointestinal stromal tumors
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