

c-Kit / CD117 Antibody (clone 4F7)
Mouse Monoclonal Antibody
Catalog # ALS14349**Specification**

c-Kit / CD117 Antibody (clone 4F7) - Product Information

Application	IHC
Primary Accession	P10721
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Calculated MW	110kDa KDa

c-Kit / CD117 Antibody (clone 4F7) - Additional Information**Gene ID** 3815**Other Names**

Mast/stem cell growth factor receptor Kit, SCFR, 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, CD117, KIT, SCFR

Target/Specificity

Human c-Kit

Reconstitution & Storage

Short term 4°C, long term aliquot and store at -20°C, avoid freeze thaw cycles.

Precautions

c-Kit / CD117 Antibody (clone 4F7) is for research use only and not for use in diagnostic or therapeutic procedures.

c-Kit / CD117 Antibody (clone 4F7) - Protein Information**Name** KIT**Synonyms** SCFR**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

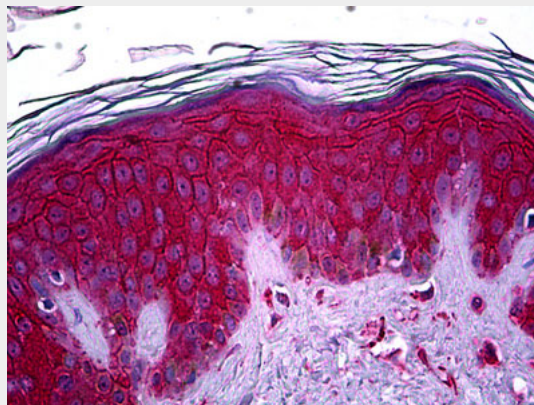
[Isoform 3]: In testis, detected in spermatogonia in the basal layer and in interstitial Leydig cells but not in Sertoli cells or spermatocytes inside the seminiferous tubules (at protein level) (PubMed:20601678). Expression is maintained in ejaculated spermatozoa (at protein level) (PubMed:20601678)

c-Kit / CD117 Antibody (clone 4F7) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

c-Kit / CD117 Antibody (clone 4F7) - Images



Anti-c-Kit antibody IHC of human skin.

c-Kit / CD117 Antibody (clone 4F7) - Background

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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.

c-Kit / CD117 Antibody (clone 4F7) - References

Yarden Y.,et al.EMBO J. 6:3341-3351(1987).
Giebel L.B.,et al.Oncogene 7:2207-2217(1992).
Andre C.,et al.Genomics 39:216-226(1997).
Jin P.,et al.Arthritis Res. Ther. 10:R73-R73(2008).
Neumann I.,et al.Pediatr. Blood Cancer 55:464-470(2010).