

# KIT Antibody

Mouse Monoclonal Antibody (Mab)

Catalog # AM2137B

## Product Information

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<b>Application</b>	WB, IF, IHC-P-Leica, E
<b>Primary Accession</b>	<a href="#">P10721</a>
<b>Other Accession</b>	<a href="#">NP_000213</a>
<b>Reactivity</b>	Human
<b>Host</b>	Mouse
<b>Clonality</b>	Monoclonal
<b>Isotype</b>	IgM
<b>Clone Names</b>	566CT8.5.4
<b>Calculated MW</b>	109865

## Additional Information

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<b>Gene ID</b>	3815
<b>Other Names</b>	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, CD117, KIT, SCFR
<b>Target/Specificity</b>	This KIT Antibody is generated from mice immunized with human KIT recombinant protein.
<b>Dilution</b>	WB~~1:500~1:1000 IF~~1:10~50 IHC-P-Leica~~1:1000 E~~Use at an assay dependent concentration.
<b>Format</b>	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Euglobin precipitation followed by dialysis against PBS.
<b>Storage</b>	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
<b>Precautions</b>	KIT Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	KIT
<b>Synonyms</b>	SCFR
<b>Function</b>	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)

## Background

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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 leukemia, and piebaldism. Multiple transcript variants encoding different isoforms have been found for this gene.

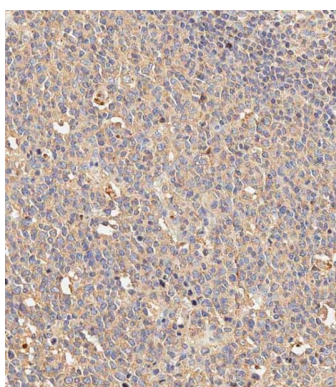
## References

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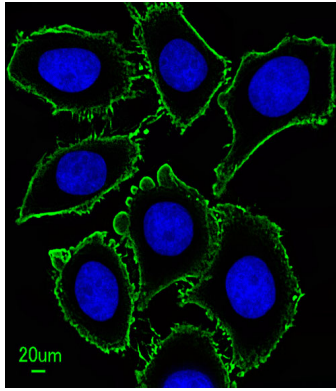
- Molderings, G.J., et al. Immunogenetics 62 (11-12), 721-727 (2010) :  
Cheng, M., et al. Circ. Res. 107(9):1083-1093(2010)  
Chi, P., et al. Nature 467(7317):849-853(2010)  
Rossi, S., et al. Am. J. Surg. Pathol. 34(10):1480-1491(2010)  
Chen, P., et al. World J. Gastroenterol. 16(33):4227-4232(2010)

## Images

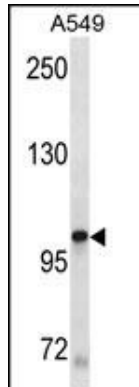
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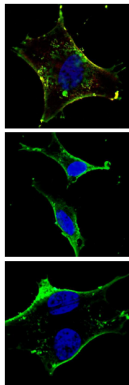
Immunohistochemical analysis of paraffin-embedded human appendix tissue using AM2137b performed on the Leica® BOND RXm. Tissue was fixed with formaldehyde at room temperature; antigen retrieval was by heat mediation with a EDTA buffer (pH9. 0). Samples were incubated with primary antibody (1:1000) for 1 hours at room temperature. A undiluted biotinylated CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.



Immunofluorescent analysis of U251 cells, using KIT Antibody (Cat. #AM2137b). AM2137b was diluted at 1:100 dilution. Dylight Fluor 488-conjugated goat anti-mouse IgM at 1:400 dilution was used as the secondary antibody (green). Cytoplasmic actin was counterstained with Dylight Fluor® 554 (red) conjugated Phalloidin (red).



KIT Antibody(Cat. #AM2137b) western blot analysis in A549 cell line lysates (35µg/lane). This demonstrates the KIT antibody detected the KIT protein (arrow).



Fluorescent confocal image of an SY5Y (SH-SY5Y; ATCC#CRL-2266) cell stained with AM2137b KIT antibody. SY5Y cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.2%, 30 min), then incubated with AM2137b KIT primary antibody (1:500, 2 h at room temperature). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-mouse antibody (green) was used (1:1000, 1h). Cytoplasmic actin was counterstained with Alexa Fluor® 555 (red) conjugated Phalloidin (5.25 µM, 25 min). Nuclei were counterstained with Hoechst 33342 (blue) (10 µg/ml, 3 min). Note the highly specific localization of the KIT immunosignal to the membranes, especially the plasma membrane. *ibid.* References for SY5Y (SH-SY5Y; ATCC#CRL-2266): 1. Ross RA, et al. Coordinate morphological and biochemical interconversion of human neuroblastoma cells. *J. Natl. Cancer Inst.* 71: 741-749, 1983. [PubMed: 6137586]; 2. Biedler JL, et al. Multiple neurotransmitter synthesis by human neuroblastoma cell lines and clones. *Cancer Res.* 38: 3751-3757, 1978. [PubMed: 29704]. *Ibid.*

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.