abcam

ab157301

PE/Cy5® Anti-c-Kit/CD117 antibody [104D2]

Anti-c-Kit/CD117 antibody [104D2] conjugated to PE/Cy5® - suitable for flow cytometry, and reacts with human samples. Clone [104D2] is a mouse monoclonal antibody and one of the most commonly used clones for flow cytometry.

Design your panel with our interactive flow cytometry panel builder. Click here.

Key facts

Isotype	IgG1
Host species	Mouse
Conjugation	PE/Cy5®
Excitation/Emission	Ex: 496nm, Em: 667nm
Storage buffer	pH: 7.4 Preservative: 0.1% Sodium azide Constituents: PBS, 0.2% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing KIT protein. The exact immunogen used to generate this antibody is proprietary information. Database link P10721
Clone number	104D2
Purification technique	Size-exclusion chromatography
Specificity	ab157301 detects the extracellular part of c-Kit.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	4 µL for 10^6 Cells
Notes	Use 4 µl reagent / 100 µl of whole blood or 10^6 cells in a suspension. ab67435 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

Species	Primates
Dilution info	-
Notes	Use 4 µl reagent / 100 µl of whole blood or 10^6 cells in a suspension. b67435 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Species	Cow
Dilution info	-
Notes	(or 100 ul of whole blood). ab67435 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Target data

See full target information c-Kit/CD117

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.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

Purified antibody is conjugated with tandem dye PE/Cy5® under optimum conditions. The conjugate is purified by size-exclusion chromatography and adjusted for direct use.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The c-Kit protein also known as CD117 is a type of receptor tyrosine kinase with a molecular weight of approximately 145 kDa. It is encoded by the KIT gene and commonly expressed on the surface of hematopoietic stem cells mast cells melanocytes and germ cells. C-Kit plays a role in the signal transduction pathways that control cell proliferation and survival. Researchers often identify c-Kit using markers like biotin c-Kit PerCP Cy5.5 or antibodies such as anti-c-Kit for experimental purposes.
Biological function summary	C-Kit influences the function and survival of certain cell types. When it binds to its ligand stem cell factor (SCF) it activates receptor dimerization and phosphorylation triggering downstream signaling. C-Kit does not act alone; it often functions in a complex with other proteins to affect cellular outcomes. Its expression is vital for the maintenance of bone marrow hematopoietic cells and contributes to melanocyte and germ cell development.
Pathways	C-Kit interacts with the PI3K/AKT and RAS/ERK pathways through its kinase activity. These pathways play important roles in cell division differentiation and survival. The c-Abl and ACK2 proteins are closely related to c-Kit function within these signaling networks contributing to regulating cellular responses to external stimuli.
Associated diseases and disorders	C-Kit mutations are frequently associated with gastrointestinal stromal tumors (GIST) and acute myeloid leukemia (AML). These conditions often involve alterations in c-Kit activity leading to uncontrolled cell growth. While studying GIST researchers have noticed interactions between c-Kit and other proteins like CBL which is involved in the modulation of c-Kit signaling. Understanding these interactions helps in designing targeted therapies for conditions involving c-Kit dysregulation.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

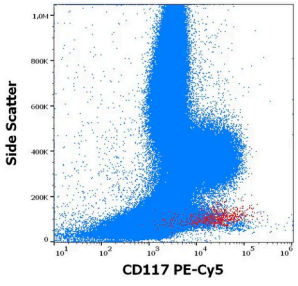
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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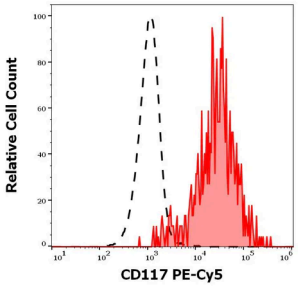
3 product images



Flow Cytometry - PE/Cy5® Anti-c-Kit/CD117 antibody [104D2] (ab157301)

C-Kit/CD117 Flow Cytometry staining of Stem cells in human peripheral blood using mouse Anti-c-Kit/CD117 antibody

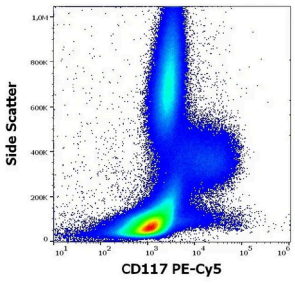
Flow cytometry surface staining pattern of human peripheral whole blood showing CD34 positive stem cells (red) stained using ab157301 (4 µl reagent / 100 µl of peripheral whole blood).



Flow Cytometry - PE/Cy5® Anti-c-Kit/CD117 antibody [104D2] (ab157301)

C-Kit/CD117 Flow Cytometry staining of Stem cells in human peripheral blood using mouse Anti-c-Kit/CD117 antibody

Separation of human CD34 positive stem cells (red-filled) from lymphocytes (black-dashed) in flow cytometry analysis (surface staining) of human peripheral whole blood stained using ab157301 (4 µl reagent / 100 µl of peripheral whole blood).



Flow Cytometry - PE/Cy5® Anti-c-Kit/CD117 antibody [104D2] (ab157301)

C-Kit/CD117 Flow Cytometry staining of Human peripheral blood using mouse Anti-c-Kit/CD117 antibody

Flow cytometry surface staining pattern of human peripheral whole blood stained using ab157301 (4 µl reagent / 100 µl of peripheral whole blood).

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