

## Pacific Blue™ anti-human CD117 (c-kit) Antibody

<b>Catalog# / Size</b>	313253 / 25 tests 313254 / 100 tests
<b>Clone</b>	104D2
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	Stem cell factor receptor, c-kit, mast cell growth factor receptor, steel factor receptor
<b>Isotype</b>	Mouse IgG1, κ
<b>Description</b>	CD117 is a 145 kD protein tyrosine kinase also known as c-Kit. It is a receptor for stem cell factor or c-Kit ligand. CD117 is expressed on pluripotent hematopoietic progenitor cells (approximately 1-4% bone marrow cells), mast cells, and acute myeloid leukemia cells (AML). CD117 binding of c-Kit ligand induces phosphorylation of CD117 and stimulates proliferation and survival of primitive hematopoietic stem cells as well as erythroid-committed and granulomonocytic committed cells.

### Product Details

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<b>Verified Reactivity</b>	Human
<b>Reported Reactivity</b>	Cynomolgus, Cow
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Immunogen</b>	MOLM-1 megakaryocytic cell line
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA)
<b>Preparation</b>	The antibody was purified by affinity chromatography and conjugated with Pacific Blue™ under optimal conditions.
<b>Concentration</b>	Lot-specific (to obtain lot-specific concentration and expiration, please enter the lot number in our <a href="#">Certificate of Analysis</a> online tool.)
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. <b>Do not freeze.</b>
<b>Application</b>	<a href="#">FC - Quality tested</a>
<b>Recommended Usage</b>	<p>Each lot of this antibody is quality control tested by <a href="#">immunofluorescent staining with flow cytometric analysis</a>. For flow cytometric staining, the suggested use of this reagent is 5 µL per million cells in 100 µL staining volume or 5 µL per 100 µL of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.</p> <p>* Pacific Blue™ has a maximum emission of 455 nm when it is excited at 405 nm. Prior to using Pacific Blue™ conjugate for flow cytometric analysis, please verify your flow cytometer's capability of exciting and detecting the fluorochrome.</p> <p>Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation.</p> <p><a href="#">View full statement regarding label licenses</a></p>
<b>Excitation Laser</b>	Violet Laser (405 nm)
<b>Application Notes</b>	The 104D2 antibody does not block binding of c-Kit ligand. Additional reported applications (for the relevant formats) include: immunoprecipitation <sup>1</sup> , immunofluorescence microscopy <sup>1</sup> , and spatial biology (IBEX) <sup>4,5</sup> .

## Application References

(PubMed link indicates  
BioLegend citation)

1. Broudy VC, *et al.* 1999. *Blood* 94:1979. (IF, IP)
2. Yoshino N, *et al.* 2000. *Exp. Anim. (Tokyo)* 49:97. (FC)
3. Nagano M, *et al.* 2007. *Blood* 110:151. (FC) [PubMed](#)
4. Radtke AJ, *et al.* 2020. *Proc Natl Acad Sci U S A.* 117:33455-65. (SB) [PubMed](#)
5. Radtke AJ, *et al.* 2022. *Nat Protoc.* 17:378-401. (SB) [PubMed](#)

**RRID** AB\_3698969 (BioLegend Cat. No. 313253)  
AB\_3698969 (BioLegend Cat. No. 313254)

## Antigen Details

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<b>Structure</b>	Growth factor receptor with tyrosine kinase activity, subclass III, approximately 145 kD
<b>Distribution</b>	Pluripotent hematopoietic progenitor cells (approximately 1-4% bone marrow cells), mast cells, acute myeloid leukemic cells (AML)
<b>Function</b>	Growth factor receptor for stem cell factor. Induces proliferation and survival of primitive hematopoietic progenitors. Potent inducer of proliferation in erythroid-committed progenitor cells. Defects in CD117 have been linked to severe anemia and a decreased number of hematopoietic progenitor cells.
<b>Ligand/Receptor</b>	c-Kit ligand
<b>Modification</b>	Multiple phosphorylation sites
<b>Cell Type</b>	Embryonic Stem Cells, Hematopoietic stem and progenitors, Leukemia, Mast cells, Mesenchymal Stem Cells
<b>Biology Area</b>	Immunology, Stem Cells
<b>Molecular Family</b>	CD Molecules
<b>Antigen References</b>	1. Giebel LB, <i>et al.</i> 1992. <i>Oncogene</i> 7:2207. 2. Furitsu T, <i>et al.</i> 1993. <i>J. Clin. Invest.</i> 92:1736.
<b>Gene ID</b>	<a href="#">3815</a>

## Related Protocols

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- [Cell Surface Flow Cytometry Staining Protocol](#)

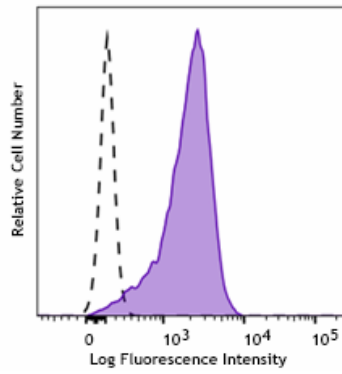
## Other Formats

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Purified anti-human CD117 (c-kit), PE anti-human CD117 (c-kit), APC anti-human CD117 (c-kit), Biotin anti-human CD117 (c-kit), PE/Cyanine5 anti-human CD117 (c-kit), PE/Cyanine7 anti-human CD117 (c-kit), PerCP/Cyanine5.5 anti-human CD117 (c-kit), Brilliant Violet 421™ anti-human CD117 (c-kit), Brilliant Violet 605™ anti-human CD117 (c-kit), Brilliant Violet 510™ anti-human CD117 (c-kit), Brilliant Violet 650™ anti-human CD117 (c-kit), Purified anti-human CD117 (c-kit) (Maxpar® Ready), PE/Dazzle™ 594 anti-human CD117 (c-kit), APC/Cyanine7 anti-human CD117 (c-kit), Brilliant Violet 711™ anti-human CD117 (c-kit), FITC anti-human CD117 (c-kit), Alexa Fluor® 488 anti-human CD117 (c-kit), Alexa Fluor® 647 anti-human CD117 (c-kit), APC/Fire™ 750 anti-human CD117 (c-kit), Brilliant Violet 785™ anti-human CD117 (c-kit), TotalSeq™-A0061 anti-human CD117 (c-kit), TotalSeq™-C0061 anti-human CD117 (c-kit), TotalSeq™-B0061 anti-human CD117 (c-kit), Alexa Fluor® 700 anti-human CD117 (c-kit), Spark NIR™ 685 anti-human CD117 (c-kit) Antibody, TotalSeq™-D0061 anti-human CD117 (c-kit), GMP APC anti-human CD117 (c-kit), GMP PE anti-human CD117 (c-kit), Spark Red™ 718 anti-human CD117 (c-kit) (Flexi-Fluor™), GMP PE/Dazzle™ 594 anti-human CD117 (c-kit), GMP PE/Cyanine7 anti-human CD117 (c-kit), Pacific Blue™ anti-human CD117 (c-kit), GMP PerCP/Cyanine5.5 anti-human CD117 (c-kit)

## Product Data

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Human leukemia cell line (Kasumi-3) was stained with anti-human CD117 (c-kit) (clone 104D2) Pacific Blue™ (filled histogram) or mouse IgG1, κ Pacific Blue™ isotype control (open histogram).

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