

## Alexa Fluor<sup>®</sup> 700 anti-human CD117 (c-kit) Antibody

<b>Catalog# / Size</b>	313245 / 25 tests 313246 / 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

---

<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 Alexa Fluor <sup>®</sup> 700 under optimal conditions.
<b>Concentration</b>	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our <a href="#">Concentration and Expiration Lookup</a> or <a href="#">Certificate of Analysis</a> online tools.)
<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>* Alexa Fluor<sup>®</sup> 700 has a maximum emission of 719 nm when it is excited at 633 nm / 635 nm. Prior to using Alexa Fluor<sup>®</sup> 700 conjugate for flow cytometric analysis, please verify your flow cytometer's capability of exciting and detecting the fluorochrome.</p> <p>Alexa Fluor<sup>®</sup> 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>	Red Laser (633 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> .
<b>Application References</b>	<ol style="list-style-type: none"><li>1. Broudy VC, <i>et al.</i> 1999. <i>Blood</i> 94:1979. (IF, IP)</li><li>2. Yoshino N, <i>et al.</i> 2000. <i>Exp. Anim. (Tokyo)</i> 49:97. (FC)</li><li>3. Nagano M, <i>et al.</i> 2007. <i>Blood</i> 110:151. (FC) <a href="#">PubMed</a></li></ol>

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\_2860833 (BioLegend Cat. No. 313245)  
AB\_2860834 (BioLegend Cat. No. 313246)

## Antigen Details

---

<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

---

[Cell Surface Flow Cytometry Staining Protocol](#)

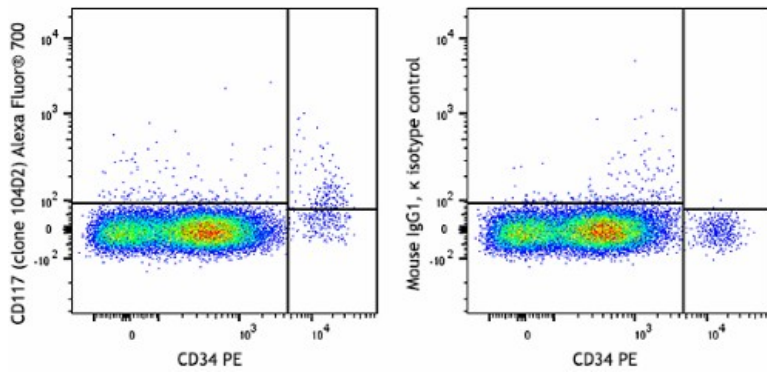
## Other Formats

---

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, APC/Fire™ 750 anti-human CD117 (c-kit), TotalSeq™-D0061 anti-human CD117 (c-kit), GMP APC anti-human CD117 (c-kit), GMP PE anti-human CD117 (c-kit)

## Product Data

---



Human peripheral blood mononuclear cells were stained with CD34 (clone 581) and CD117 (clone 104D2) Alexa Fluor® 700 (left) or mouse IgG1, κ Alexa Fluor® 700 isotype control (right). Data shown was gated on lineage-negative cells.

For research use only. Not for diagnostic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

\*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, [www.biolegend.com/ordering#license](http://www.biolegend.com/ordering#license)). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products, reverse engineer functionally similar materials, or to provide a service to third parties without written approval of BioLegend. By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.

BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 [www.biolegend.com](http://www.biolegend.com)  
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587