

## APC anti-human CD117 (c-kit) Antibody

<b>Catalog# / Size</b>	313205 / 25 tests 313206 / 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 APC 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>	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.
<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> <li>4. Radtke AJ, <i>et al.</i> 2020. <i>Proc Natl Acad Sci U S A.</i> 117:33455-65. (SB) <a href="#">PubMed</a></li> <li>5. Radtke AJ, <i>et al.</i> 2022. <i>Nat Protoc.</i> 17:378-401. (SB) <a href="#">PubMed</a></li> </ol>
<b>Product Citations</b>	<ol style="list-style-type: none"> <li>1. Qiu J, <i>et al.</i> 2020. <i>Cell Rep.</i> 33:108465. <a href="#">PubMed</a></li> <li>2. Gordon E, <i>et al.</i> 2016. <i>Proc Natl Acad Sci U S A.</i> 113: 8765 - 8770. <a href="#">PubMed</a></li> <li>3. Zhan CS, <i>et al.</i> 2020. <i>FASEB J.</i> 14006:34. <a href="#">PubMed</a></li> <li>4. Rao S, <i>et al.</i> 2021. <i>Cell Stem Cell.</i> 28(5):833-845.e5. <a href="#">PubMed</a></li> <li>5. Lu B, <i>et al.</i> 2018. <i>Cancer Cell.</i> 34:970. <a href="#">PubMed</a></li> </ol>

6. Frazier T, *et al.* 2018. Adipocyte. 0.41875. [PubMed](#)
7. Imai Y, *et al.* 2021. JID Innov. 1:100003. [PubMed](#)
8. Mandl M, *et al.* 2014. PLoS One. 9:112140. [PubMed](#)
9. Leibel SL, *et al.* 2022. iScience. 25:103797. [PubMed](#)
10. Ruan S, *et al.* 2020. Front Pharmacol. 11:150. [PubMed](#)
11. Sputova K, *et al.* 2013. Genome Integr. 29:4. [PubMed](#)
12. Ran L, *et al.* 2018. Cancer Discov. 8:234. [PubMed](#)
13. Luni C, *et al.* 2011. Biotechnol Prog. 27:1154. [PubMed](#)
14. Raman S, *et al.* 2021. Cell Reports Medicine. 2(7):100344. [PubMed](#)
15. Zou T, *et al.* 2019. Nat Commun. 10:1205. [PubMed](#)
16. Shalabi SF, *et al.* 2021. Nat Aging. 1:838. [PubMed](#)
17. He H, *et al.* 2019. J Cell Mol Med. 23:4139. [PubMed](#)
18. Engeroff P, *et al.* 2020. J Allergy Clin Immunol. 145:301. [PubMed](#)
19. Keck S, *et al.* 2021. Cellular and Molecular Gastroenterology and Hepatology. 12(2):507-545. [PubMed](#)

**RRID** AB\_314984 (BioLegend Cat. No. 313205)  
 AB\_314985 (BioLegend Cat. No. 313206)

## 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

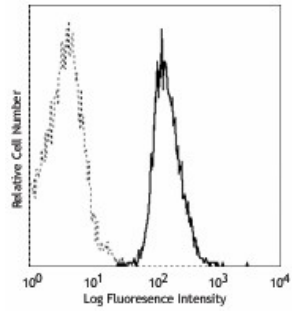
[Cell Surface Flow Cytometry Staining Protocol](#)

## 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 erythroleukemia cell line TF-1  
stained with 104D2 APC



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