

## Brilliant Violet 711™ anti-human CD117 (c-kit) Antibody

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| <b>Catalog# / Size</b>   | 313229 / 25 tests<br>313230 / 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 Brilliant Violet 711™ 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.</p> <p>Brilliant Violet 711™ excites at 405 nm and emits at 711 nm. The bandpass filter 710/50 nm is recommended for detection, although filter optimization may be required depending on other fluorophores used. <b>Be sure to verify that your cytometer configuration and software setup are appropriate for detecting this channel.</b> Refer to your instrument manual or manufacturer for support. Brilliant Violet 711™ is a trademark of Sirigen Group Ltd.</p> <p><a href="#">Learn more about Brilliant Violet™.</a></p> <p>This product is subject to proprietary rights of Sirigen Inc. and is made and sold under license from Sirigen Inc. The purchase of this product conveys to the buyer a non-transferable right to use the purchased product for research purposes only. This product may not be resold or incorporated in any manner into another product for resale. Any use for therapeutics or diagnostics is strictly prohibited. This product is covered by U.S. Patent(s), pending patent applications and foreign equivalents.</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](#)

#### Product Citations

1. Zhu YP *et al.* 2018. *Cell reports.* 24(9):2329-2341 . [PubMed](#)
2. Gordon E, *et al.* 2016. *Proc Natl Acad Sci U S A.* 113: 8765 - 8770. [PubMed](#)

#### RRID

AB\_2566216 (BioLegend Cat. No. 313229)  
AB\_2566217 (BioLegend Cat. No. 313230)

## 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.<br>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](#)

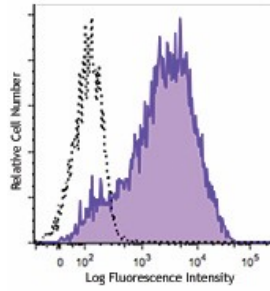
## Other Formats

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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, 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

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Human erythroleukemia cell line (HEL) was stained with CD117 (clone 104D2) Brilliant Violet 711™ (filled histogram) or mouse IgG1, κ Brilliant Violet 711™ isotype control (open histogram).

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