

TotalSeq™-A0061 anti-human CD117 (c-kit) Antibody

Catalog# / Size	313241 / 10 µg
Clone	104D2
Regulatory Status	RUO
Other Names	Stem cell factor receptor, c-kit, mast cell growth factor receptor, steel factor receptor
Isotype	Mouse IgG1, κ
Barcode Sequence	AGACTAATAGCTGAC
Description	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

Verified Reactivity	Human
Reported Reactivity	Cynomolgus, Cow
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	MOLM-1 megakaryocytic cell line
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 1 mM EDTA.
Preparation	The antibody was purified by chromatography and conjugated with TotalSeq™-A oligomer under optimal conditions.
Concentration	0.5 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C. Do not freeze.
Application	PG - Quality tested
Recommended Usage	<p>Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis and the oligomer sequence is confirmed by sequencing. TotalSeq™-A antibodies are compatible with 10x Genomics Single Cell Gene Expression Solutions.</p> <p>To maximize performance, it is strongly recommended that the reagent be titrated for each application, and that you centrifuge the antibody dilution before adding to the cells at 14,000xg at 2 - 8°C for 10 minutes. Carefully pipette out the liquid avoiding the bottom of the tube and add to the cell suspension. For Proteogenomics analysis, the suggested starting amount of this reagent for titration is ≤ 1.0 µg per million cells in 100 µL volume. Refer to the corresponding TotalSeq™ protocol for specific staining instructions.</p> <p>Buyer is solely responsible for determining whether Buyer has all intellectual property rights that are necessary for Buyer's intended uses of the BioLegend TotalSeq™ products. For example, for any technology platform Buyer uses with TotalSeq™, it is Buyer's sole responsibility to determine whether it has all necessary third party intellectual property rights to use that platform and TotalSeq™ with that platform.</p>
Application Notes	The 104D2 antibody does not block binding of c-Kit ligand. Additional reported applications (for the relevant formats) include: immunoprecipitation ¹ , immunofluorescence microscopy ¹ , and spatial biology (IBEX) ^{4,5} .
Additional Product Notes	TotalSeq™ reagents are designed to profile protein levels at a single cell level following an optimized protocol similar to the CITE-seq workflow. A compatible single cell device (e.g. 10x Genomics Chromium System and Reagents) and sequencer (e.g. Illumina analyzers) are required.

Please contact [technical support](#) for more information, or visit biolegend.com/totalseq.

The barcode flanking sequences are CCTTGGCACCCGAGAATTCCA (PCR handle), and BAAA*A*A (capture sequence). B represents either C, G, or T, and * indicates a phosphorothioated bond, to prevent nuclease degradation.

View more applications data for this product in our [Scientific Poster Library](#).

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. Witkowski MT, *et al.* 2020. *Cancer Cell.* 37:867. [PubMed](#)
2. Hao Y, *et al.* 2021. *Cell.* 184:3573. [PubMed](#)

RRID

AB_2734287 (BioLegend Cat. No. 313241)

Antigen Details

Structure	Growth factor receptor with tyrosine kinase activity, subclass III, approximately 145 kD
Distribution	Pluripotent hematopoietic progenitor cells (approximately 1-4% bone marrow cells), mast cells, acute myeloid leukemic cells (AML)
Function	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.
Ligand/Receptor	c-Kit ligand
Modification	Multiple phosphorylation sites
Cell Type	Embryonic Stem Cells, Hematopoietic stem and progenitors, Leukemia, Mast cells, Mesenchymal Stem Cells
Biology Area	Immunology, Stem Cells
Molecular Family	CD Molecules
Antigen References	<ol style="list-style-type: none">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.
Gene ID	3815

Related Protocols

[TotalSeq™-A Antibodies and Cell Hashing with 10x Single Cell 3' Reagent Kit v3 3.1 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)

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