

## Technical Data Sheet

**BV605 Mouse Anti-Human CD117****Product Information**

<b>Material Number:</b>	<b>562687</b>
<b>Alternate Name:</b>	KIT; c-Kit; SCFR; PBT; Mast/stem cell growth factor receptor
<b>Size:</b>	50 Tests
<b>Vol. per Test:</b>	5 µl
<b>Clone:</b>	104D2
<b>Immunogen:</b>	Megakaryocytic cell line MOLM-1
<b>Isotype:</b>	Mouse (BALB/c) IgG1
<b>Reactivity:</b>	QC Testing: Human
<b>RRID:</b>	AB_2737721
<b>Workshop:</b>	VI C30
<b>Storage Buffer:</b>	Aqueous buffered solution containing ≤0.09% sodium azide.

**Description**

The 104D2 monoclonal antibody specifically binds to human CD117, the receptor for stem cell factor (SCF). It selectively recognizes NIH-3T3 cells transfected with human c-kit, the gene that codes for SCF-R. The 104D2 antibody does not block the epitope that binds SCF. In the bone marrow of humans and mice, SCF is expressed primarily on hematopoietic progenitor cells. Lack of functional SCF or deficient SCF-R caused by mutations in the Sl and W loci, respectively, can result in severe anemia and a decrease in the number of primitive progenitor cells in mice. Human hematopoietic progenitor cells can be recognized by their surface expression of CD34. This cell population constitutes a small subset (1% to 5%) of bone marrow cells. CD34+ cells contain a small subpopulation of primitive/non-committed progenitors, with the remaining fraction being cells committed to the various hematopoietic lineages. SCF alone induces extensive proliferation of erythroid-committed progenitor cells (CD34lo CD71hi CD64-). On primitive (CD34hi CD38lo CD50+) and granulo-monocytic (CD34+ CD64+) progenitor cells, SCF synergistically enhances the effects of other cytokines, the strongest of which are on the primitive progenitor cells. In addition, SCF promotes survival of primitive progenitors in the absence of proliferation. The receptor is highly expressed at similar levels on all of the three mentioned CD34+ cell subsets, whereas B-lymphoid committed progenitor cells (CD34+ CD19+) express low levels of SCF-R. Among CD34- bone marrow cells, only a small number of cells (mostly erythroid) express the receptor.

This antibody is conjugated to BD Horizon BV605 which is part of the BD Horizon Brilliant™ Violet family of dyes. With an Ex Max of 407-nm and Em Max of 602-nm, BD Horizon BV605 can be excited by a violet laser and detected with a standard 610/20-nm filter set. BD Horizon BV605 is a tandem fluorochrome of BD Horizon BV421 and an acceptor dye with an Em max at 605-nm. Due to the excitation of the acceptor dye by the green (532 nm) and yellow-green (561 nm) lasers, there will be significant spillover into the PE and BD Horizon PE-CF594 detectors off the green or yellow-green lasers. BD Horizon BV605 conjugates are very bright, often exhibiting brightness equivalent to PE conjugates and can be used as a third color off of the violet laser.

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes are used in the same experiment. Fluorescent dye interactions may cause staining artifacts which may affect data interpretation. The BD Horizon Brilliant Stain Buffer was designed to minimize these interactions. More information can be found in the Technical Data Sheet of the BD Horizon Brilliant Stain Buffer (Cat. No. 563794).

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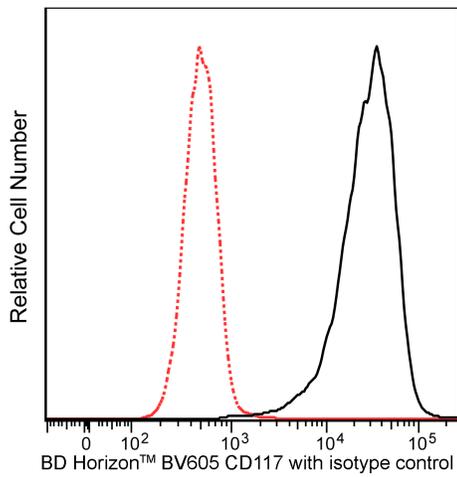
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562687 Rev. 4





**Flow cytometric analysis of CD117 expression on human TF-1 Cells.** TF-1 cells (Human erythroleukemia cell line; ATCC Cat. No. CRL-2003) were stained with the BD Horizon™ BV605 Mouse Anti-Human CD117 antibody (Cat. No. 562687; solid line histogram) or with BD Horizon™ BV605 Mouse IgG1, κ Isotype Control (Cat. No. 562652; dashed line histogram). The fluorescence histograms were derived from events with the forward and side light-scatter characteristics of viable cells. Flow cytometry was performed using a BD™ LSR II Flow Cytometry System.

## Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated with BD Horizon™ BV605 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV605 were removed.

## Application Notes

### Application

Flow cytometry	Routinely Tested
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## Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 mL	(none)
563794	Brilliant Stain Buffer	100 Tests	(none)
562652	BV605 Mouse IgG1, κ Isotype Control	50 µg	X40

## Product Notices

- This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use  $1 \times 10^6$  cells in a 100-µl experimental sample (a test).
- An isotype control should be used at the same concentration as the antibody of interest.
- Although every effort is made to minimize the lot-to-lot variation in the efficiency of the fluorochrome energy transfer, differences in the residual emission from BD Horizon™ BV421 may be observed. Therefore, we recommend that individual compensation controls be performed for every BD Horizon™ BV605 conjugate.
- Please observe the following precautions: Absorption of visible light can significantly alter the energy transfer occurring in any tandem fluorochrome conjugate; therefore, we recommend that special precautions be taken (such as wrapping vials, tubes, or racks in aluminum foil) to prevent exposure of conjugated reagents, including cells stained with those reagents, to room illumination.
- Texas Red is a registered trademark of Molecular Probes, Inc., Eugene, OR.
- Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
- For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at [www.bdbiosciences.com/colors](http://www.bdbiosciences.com/colors).
- Please refer to [www.bdbiosciences.com/us/s/resources](http://www.bdbiosciences.com/us/s/resources) for technical protocols.
- CF™ is a trademark of Biotium, Inc.

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