

## Technical Data Sheet

**BV605 Mouse Anti-Human CD90****Product Information**

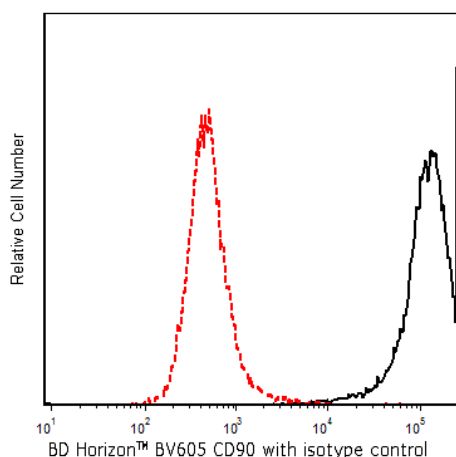
<b>Material Number:</b>	<b>562686</b>
<b>Alternate Name:</b>	THY1; Thy-1 antigen; Thy-1 membrane glycoprotein
<b>Size:</b>	25 Tests
<b>Vol. per Test:</b>	5 µl
<b>Clone:</b>	5E10
<b>Immunogen:</b>	Human HEL Cell Line
<b>Isotype:</b>	Mouse (BALB/c) IgG1, κ
<b>Reactivity:</b>	QC Testing: Human
<b>Workshop:</b>	V M07, BP222; VI BP28, E046
<b>Storage Buffer:</b>	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

**Description**

The 5E10 monoclonal antibody specifically binds to human CD90 which is also known as Thy-1. CD90 is a 25-35 kDa glycosphosphatidylinositol-anchored membrane glycoprotein of the Ig superfamily that is expressed on 1-4% of human fetal liver cells, cord blood cells, and bone marrow cells. The anti-CD90 antibody binds to a subset of immature CD34+ cells and a distinct subset of mature CD34- cells that are CD3+CD4+. The CD90+CD34+ population is highly enriched for cells capable of long-term culture. The anti-CD90 antibody is useful for enriching high proliferative potential colony-forming cells (HIPP-CFC) that are primitive progenitor cells.

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).



**Flow cytometric analysis of CD90 expression on human HEL cells.** HEL cells (Human erythroleukemia cell line; ATCC Cat. No. TIB-180) were stained with BD Horizon™ BV605 Mouse Anti-Human CD90 antibody (Cat. No. 562685/ 562686; solid line histogram) or a BD Horizon™ BV605 Mouse IgG1, κ Isotype Control (Cat. No. 562652; dashed line histogram). Flow cytometric fluorescence histograms were derived from gated 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.

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## Application Notes

### Application

Flow cytometry

Routinely Tested

### Suggested Companion Products

Catalog Number	Name	Size	Clone
562652	BV605 Mouse IgG1, $\kappa$ Isotype Control	50 $\mu$ g	X40
554656	Stain Buffer (FBS)	500 mL	(none)
562685	BV605 Mouse Anti-Human CD90	100 Tests	5E10
563794	Brilliant Stain Buffer	5 mL	(none)

### Product Notices

1. 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- $\mu$ l experimental sample (a test).
2. An isotype control should be used at the same concentration as the antibody of interest.
3. 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.
4. 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.
5. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
6. 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.
7. 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).
8. Please refer to [www.bdbiosciences.com/pharming/protocols](http://www.bdbiosciences.com/pharming/protocols) for technical protocols.
9. CF™ is a trademark of Biotium, Inc.

### References

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Craig W, Kay R, Cutler RL, Lansdorf PM. Expression of Thy-1 on human hematopoietic progenitor cells. *J Exp Med*. 1993; 177(5):1331-1342. (Immunogen: Cell separation, Flow cytometry, Immunoprecipitation, Western blot)

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Schlossman SF, Boumsell L, Gilks W, et al, ed. *Leucocyte Typing V*. New York: Oxford University Press; 1995. (Clone-specific)

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