

## Technical Data Sheet

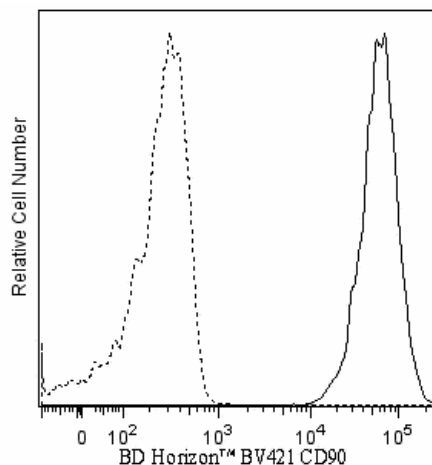
**BV421 Mouse Anti-Human CD90****Product Information**

|                         |  |
|-------------------------|--|
| <b>Material Number:</b> | <b>562556</b>  |
| <b>Alternate Name:</b>  | THY1; Thy-1 antigen; Thy-1 membrane glycoprotein                       |
| <b>Size:</b>            | 100 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<br>Tested in Development: Rhesus, Cynomolgus, Baboon |
| <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 glycoposphatidylinositol-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.

The antibody was conjugated to BD Horizon™ BV421 which is part of the BD Horizon™ Brilliant Violet™ family of dyes. With an Ex Max of 407-nm and Em Max at 421-nm, BD Horizon™ BV421 can be excited by the violet laser and detected in the standard Pacific Blue™ filter set (eg, 450/50-nm filter). BD Horizon™ BV421 conjugates are very bright, often exhibiting a 10 fold improvement in brightness compared to Pacific Blue™ conjugates.



**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™ BV421 Mouse Anti-Human CD90 antibody (Cat. No. 562556, solid line histogram) or a BD Horizon™ BV421 Mouse IgG1, κ Isotype Control (Cat. No. 562438; 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™ BV421 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV421 were removed.

**Application Notes****Application**

|                |                  |
|----------------|------------------|
| Flow cytometry | Routinely Tested |
|----------------|------------------|

**Suggested Companion Products**

| Catalog Number | Name                                | Size   | Clone  |
|----------------|-------------------------------------|--------|--------|
| 562438         | BV421 Mouse IgG1, κ Isotype Control | 50 µg  | X40    |
| 554656         | Stain Buffer (FBS)                  | 500 ml | (none) |

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| 877.232.8995  | 800.979.9408 | 32.53.720.550 | 0120.8555.90 | 65.6861.0633 | 55.11.5185.9995         |

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## 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. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
3. An isotype control should be used at the same concentration as the antibody of interest.
4. Please refer to [www.bdbiosciences.com/pharming/protocols](http://www.bdbiosciences.com/pharming/protocols) for technical protocols.
5. 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.
6. 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).
7. Pacific Blue™ is a trademark of Molecular Probes, Inc., Eugene, OR.
8. Brilliant Violet™ 421 is a trademark of Sirigen.
9. All other brands are trademarks of their respective owners.
10. Species testing during development may have been performed with a different format of the same clone. Selected applications have been tested for cross-reactivity.

## References

Baum CM, Weissman IL, Tsukamoto AS, Buckle AM, Peault B. Isolation of a candidate human hematopoietic stem-cell population. *Proc Natl Acad Sci U S A*. 1992; 89(7):2804-2808. (Biology)

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: Flow cytometry, Immunoprecipitation, Western blot)

Guesdon JL, Ternynck T, Avrameas S. The use of avidin-biotin interaction in immunoenzymatic techniques. *J Histochem Cytochem*. 1979; 27(8):1131-1139. (Biology)

Knapp W, Dörken B, Gilks WR, et al, ed. *Leucocyte Typing IV*. New York, NY: Oxford University Press; 1989:1-1182. (Biology)

Lansdorf PM, Thomas TE, AP Gee, ed. *Bone Marrow Processing and Purging*. Boca Raton FL: CRC Press; 1991. (Biology)

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

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