

Technical Data Sheet

BV480 Mouse Anti-Human CD3

Product Information

Material Number:	746437
Size:	50 µg
Clone:	SK7 (also known as Leu-4)
Alternative Name:	CD3-epsilon; CD3E; Leu4; T-cell surface antigen T3/Leu-4 epsilon chain; T3E
Reactivity:	Human (Tested in Development)
Isotype:	Mouse BALB/c IgG1, κ
Immunogen:	Human Thymocytes
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Workshop No.:	II T118; III T492
Entrez Gene ID:	916
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

The SK7 (Leu-4) monoclonal antibody specifically binds to the epsilon chain of the CD3 antigen/T-cell antigen receptor (TCR) complex. This complex is composed of at least six proteins that range in molecular weight from 20 to 30 kDa. The antigen recognized by CD3 antibodies is noncovalently associated with either α/β or γ/δ TCR (70 to 90 kDa). The CD3 antigen is present on 61% to 85% of normal peripheral blood lymphocytes 60% to 85% of thymocytes and on Purkinje cells in the cerebellum. The soluble form of this antibody has a mitogenic effect on most peripheral blood T lymphocytes, provided appropriate functional monocytes are present.

The antibody was conjugated to BD Horizon™ BV480 which is part of the BD Horizon Brilliant™ Violet family of dyes. With an Ex Max of 436-nm and Em Max at 478-nm, BD Horizon BV480 can be excited by the violet laser and detected in the BD Horizon BV510 (525/40-nm) filter set. BV480 has less spillover into the BV605 detector and, in general, is brighter than BV510.

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 BV480 under optimal conditions that minimize unconjugated dye and antibody.

Recommended Assay Procedure

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes (including BD OptiBuild Brilliant reagents) 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).

Suggested Companion Products

Catalog Number	Name	Size	Clone
564219	Human BD Fc Block™	50 mg	
349202	Lysing Solution 10X Concentrate	100 NA	
565652	BV480 Mouse IgG1, κ Isotype Control	50 µg	X40
554656	Stain Buffer (FBS)	500 mL	
554657	Stain Buffer (BSA)	500 mL	
563794	Brilliant Stain Buffer	100 Tests	
555899	Lysing Buffer	100 mL	

Product Notices

1. This antibody was developed for use in flow cytometry.
2. The production process underwent stringent testing and validation to assure that it generates a high-quality conjugate with consistent performance and specific binding activity. However, verification testing has not been performed on all conjugate lots.
3. Researchers should determine the optimal concentration of this reagent for their individual applications.
4. An isotype control should be used at the same concentration as the antibody of interest.
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.
7. Please refer to www.bdbiosciences.com/us/s/resources for technical protocols.
8. BD Horizon Brilliant Stain Buffer is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,575,303; 8,354,239.
9. BD Horizon Brilliant Violet 480 is covered by one or more of the following US patents: 8,575,303; 8,354,239.

References

- Barclay NA, Brown MH, Birkeland ML, et al, ed. The Leukocyte Antigen FactsBook. San Diego, CA: Academic Press; 1997; .
- Beavis AJ, Pennline KJ. Allo-7: a new fluorescent tandem dye for use in flow cytometry. *Cytometry*. 1996; 24(4):390-395.
- Beverley PC, Callard RE. Distinctive functional characteristics of human "T" lymphocytes defined by E rosetting or a monoclonal anti-T cell antibody. *Eur J Immunol*. 1981; 11(4):329-334.
- Ernst DN, Shih CC. CD3 complex. *J Biol Regul Homeost Agents*. 2000; 14(3):226-229.
- Guesdon JL, Ternynck T, Avrameas S. The use of avidin-biotin interaction in immunoenzymatic techniques. *J Histochem Cytochem*. 1979; 27(8):1131-1139.
- Kan EA, Wang CY, Wang LC, Evans RL. Noncovalently bonded subunits of 22 and 28 kd are rapidly internalized by T cells reacted with anti-Leu-4 antibody. *J Immunol*. 1983; 131(2):536-539.
- Kaneoka H, Perez-Rojas G, Sasasuki T, Benike CJ, Engleman EG. Human T lymphocyte proliferation induced by a pan-T monoclonal antibody (anti-Leu 4): heterogeneity of response is a function of monocytes. *J Immunol*. 1983; 131(1):158-164.
- Knapp W. W. Knapp .. et al., ed. Leucocyte typing IV : white cell differentiation antigens. Oxford New York: Oxford University Press; 1989; :1-1182.
- Knowles RW. Immunochemical analysis of the T-cell-specific antigens. In: Reinherz EL. Ellis L. Reinherz .. et al., ed. Leucocyte typing II. New York: Springer-Verlag; 1986; :259-288.
- Kurrle R, Seyfert W, Trautwein A, Seiler FR. T cell activation by CD3 antibodies. In: Reinherz EL. Ellis L. Reinherz .. et al., ed. Leucocyte typing II. New York: Springer-Verlag; 1986; :137-146.
- Lanier LL, Allison JP, Phillips JH. Correlation of cell surface antigen expression on human thymocytes by multi-color flow cytometric analysis: implications for differentiation. *J Immunol*. 1986; 137(8):2501-2507.
- Ledbetter JA, Evans RL, Lipinski M, Cunningham-Rundles C, Good RA, Herzenberg LA. Evolutionary conservation of surface molecules that distinguish T lymphocyte helper/inducer and cytotoxic/suppressor subpopulations in mouse and man. *J Exp Med*. 1981; 153(2):310-323.
- Ledbetter JA, Frankel AE, Herzenberg. Human Leu T-cell differentiation antigens: quantitative expression on normal lymphoid cells and cell lines. In: Hammerling G, Hammerling U, Kearney J, ed. Monoclonal Antibodies and T Cell Hybridomas: Perspectives and Technical News. New York: Elsevier/North Holland Biomedical Press; 1981; :16-22.
- McMichael AJ. A.J. McMichael .. et al., ed. Leucocyte typing III : white cell differentiation antigens. Oxford New York: Oxford University Press; 1987; :1-1050.
- Roederer M, Kantor AB, Parks DR, Herzenberg LA. Cy7PE and Cy7APC: bright new probes for immunofluorescence. *Cytometry*. 1996; 24(3):191-197.
- Schlossman SF. Stuart F. Schlossman .. et al., ed. Leucocyte typing V : white cell differentiation antigens : proceedings of the fifth international workshop and conference held in Boston, USA, 3-7 November, 1993. Oxford: Oxford University Press; 1995; .
- Schlossman SF. Stuart F. Schlossman .. et al., ed. Leucocyte typing V : white cell differentiation antigens : proceedings of the fifth international workshop and conference held in Boston, USA, 3-7 November, 1993. Oxford: Oxford University Press; 1995; .
- van Dongen JJM, Krissansen GW, Wolvers-Tettero ILM, et al. Cytoplasmic expression of the CD3 antigen as a diagnostic marker for immature T-cell malignancies. *Blood*. 1988; 71(3):603-612.
- Zola H. Leukocyte and stromal cell molecules : the CD markers. Hoboken, N.J.: Wiley-Liss; 2007; .

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United States
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