

Technical Data Sheet

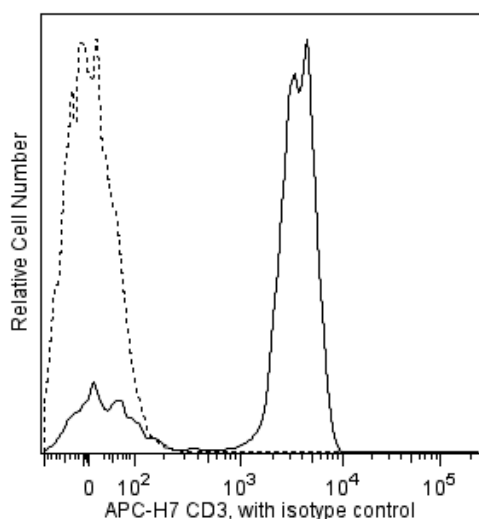
APC-H7 Mouse Anti-Human CD3

Product Information

Material Number:	560176
Alternate Name:	CD3-epsilon; CD3E; Leu4; T-cell surface antigen T3/Leu-4 epsilon chain; T3E
Size:	100 Tests
Vol. per Test:	5 µl
Clone:	SK7 (also known as Leu-4)
Immunogen:	Human Thymocytes
Isotype:	Mouse (BALB/c) IgG1, κ
Reactivity:	QC Testing: Human
Workshop:	II T118; III T492
Storage Buffer:	Aqueous buffered solution containing BSA, protein stabilizer, and ≤0.09% sodium azide.

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 cerebellum. The soluble form of this antibody has a mitogenic effect on most peripheral blood T lymphocytes, provided appropriate functional monocytes are present.



Flow cytometric analysis of APC-H7 anti-human CD3 on human lymphocytes. Whole blood was stained with APC-H7 anti-human CD3 (clone SK7, Cat. No. 560176) and compared to whole blood stained with a APC-H7 mouse IgG1 isotype control (clone MOPC-21, Cat. No. 560167). The isotype control is represented by a dashed line and the APC-H7 anti-human CD3 by the solid line. Lymphocytes were selected by light scatter. Flow cytometry was performed on 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 APC-H7 under optimum conditions, and unconjugated antibody and APC-H7 were removed.

Application Notes

Application

Flow cytometry

Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
560167	APC-H7 Mouse IgG1, κ Isotype Control	0.1 mg	MOPC-21
560275	APC-H7 Mouse Anti-Human CD3	25 Tests	SK7
554656	Stain Buffer (FBS)	500 mL	(none)
349202	BD FACSTM Lysing Solution	100 mL	(none)
555899	Lysing Buffer	100 mL	(none)

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Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1×10^6 cells in a 100- μ l experimental sample (a test).
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. BD APC-H7 is a tandem conjugate and an analog of APC-Cy7 with the same spectral properties. It has decreased intensity but it is engineered for greater stability and less spillover in the APC channel and consequently offers better performance than APC-Cy7. It has an absorption maximum of approximately 650 nm. When excited by light from a red laser, the APC fluorochrome can transfer energy to the cyanine dye, which then emits at a longer wavelength. The resulting fluorescent emission maximum is approximately 767 nm. BD recommends that a 750-nm longpass filter be used along with a red-sensitive detector such as the Hamamatsu R3896 PMT. As with APC-Cy7 special filters are required when using APC-H7 in conjunction with APC.
Note: Although our APC-H7 products demonstrate higher lot-to-lot consistency than other APC tandem conjugate products, and every effort is made to minimize the lot-to-lot variation in residual emission from APC, it is strongly recommended that every lot be tested for differences in the amount of compensation required and that individual compensation controls are run for each APC-H7 conjugate.
Note: Cy is a trademark of Amersham Biosciences Limited.
4. Although BD APC-H7 is engineered to minimize spillover to the APC channel and is more stable and less affected by light, temperature, and formaldehyde-based fixatives, compared to other APC-cyanine tandem dyes, it is still good practice to minimize as much as possible, any light, temperature and fixative exposure when working with all fluorescent conjugates.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
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. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
8. An isotype control should be used at the same concentration as the antibody of interest.

References

- Barclay NA, Brown MH, Birkeland ML, et al, ed. *The Leukocyte Antigen FactsBook*. San Diego, CA: Academic Press; 1997. (Biology)
- Beavis AJ, Pennline KJ. Allo-7: a new fluorescent tandem dye for use in flow cytometry. *Cytometry*. 1996; 24(4):390-395. (Biology)
- 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. (Biology)
- Ernst DN, Shih CC. CD3 complex. *J Biol Regul Homeost Agents*. 2000; 14(3):226-229. (Biology)
- 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. (Clone-specific: Flow cytometry, Functional assay, Immunofluorescence, Immunoprecipitation)
- Kaneoka H, Perez-Rojas G, Sasasaki 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. (Clone-specific: Activation, Functional assay, Stimulation)
- Knapp W, Dörken B, Gilks WR, et al, ed. *Leucocyte Typing IV*. New York, NY: Oxford University Press; 1989:1-1182. (Biology)
- Knowles RW. Immunochemical analysis of the T-cell-specific antigens. In: Reinherz EL, Haynes BF, Nadler LM, Bernstein ID, ed. *Leukocyte Typing II: Human T Lymphocytes*. New York, NY: Springer-Verlag; 1986:259-288. (Clone-specific: Immunoprecipitation)
- Kurrie R, Seyfert W, Trautwein A, Seiler FR. T cell activation by CD3 antibodies. In: Reinherz EL, Haynes BF, Nadler LM, Bernstein ID, ed. *Leukocyte Typing II: Human T Lymphocytes*. New York, NY: Springer-Verlag; 1986:137-146. (Clone-specific: Activation, Flow cytometry, Functional assay, Stimulation)
- 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. (Biology)
- 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. (Clone-specific: Flow cytometry, Immunoprecipitation)
- McMichael AJ, Beverley PCL, Gilks W, et al, ed. *Leukocyte Typing III: White Cell Differentiation Antigens*. New York: Oxford University Press; 1987. (Clone-specific)
- Roederer M, Kantor AB, Parks DR, Herzenberg LA. Cy7PE and Cy7APC: bright new probes for immunofluorescence. *Cytometry*. 1996; 24(3):191-197. (Biology)
- Schlossman SF, Boumsell L, Gilks W, et al, ed. *Leukocyte Typing V: White Cell Differentiation Antigens*. Oxford: Oxford University Press; 1995. (Biology)
- 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. (Clone-specific: Immunofluorescence, Western blot)
- Zola H, Swart B, Nicholson I, Voss E. *Leukocyte and Stromal Cell Molecules. The CD Markers*. Hoboken, New Jersey: John Wiley & Sons, Inc.; 2007:1-581. (Biology)

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