

Technical Data Sheet

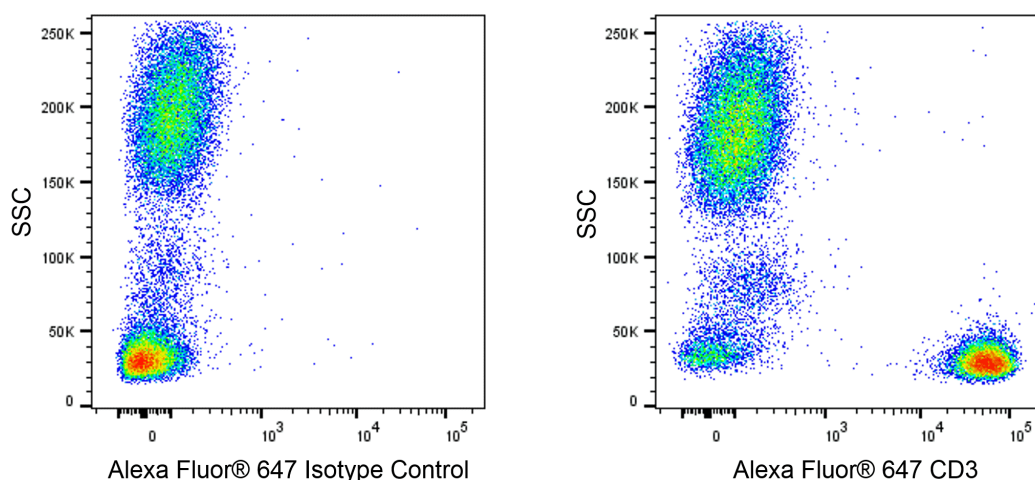
Alexa Fluor® 647 Mouse Anti-Human CD3

Product Information

Material Number:	566687
Alternate Name:	CD3E; CD3ε; T-cell surface antigen T3/Leu-4 epsilon; T3E; TCRE
Size:	25 Tests
Vol. per Test:	5 µl
Clone:	OKT3
Immunogen:	Sheep Erythrocyte Rosette-purified Human T Cells
Isotype:	Mouse (BALB/c x A/J, also known as CAF1) IgG2a, κ
Reactivity:	QC Testing: Human
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The OKT3 monoclonal antibody specifically recognizes the CD3 epsilon subunit (CD3ε/CD3ε) of the CD3 complex which consists of four transmembrane proteins (γ, δ, ε, ζ) that are associated with the T cell antigen receptor (TCR) to form the CD3/TCR complex. The CD3 complex associates with either TCR αβ or TCR γδ heterodimers that are alternatively expressed by some thymocytes, T cells or NKT cells. The CD3 complex is required for the cell surface expression and signal-transducing functions of the TCR. The CD3 complex is expressed by ~60-85% thymocytes and by all peripheral mature T cells. CD3ε is also known as T3E or TCRE. CD3ε is a ~20 kDa unglycosylated type I transmembrane protein that is encoded by *CD3E* which belongs to the immunoglobulin superfamily (IgSF). CD3ε has an Ig-like extracellular domain (ECD) and an immunoreceptor tyrosine-based activation motif (ITAM) in its cytoplasmic domain. The OKT3 antibody can reportedly fix complement, stimulate T cell proliferation and cytokine production, and block the binding of other human CD3ε-specific antibodies including UCHT1 and SK7.



Multiparameter flow cytometric analysis of CD3 expression on human peripheral blood leucocytes. Human whole blood was stained with either Alexa Fluor® 647 Mouse IgG2a, κ Isotype Control (Cat. No. 565357; Left Plot) or Alexa Fluor® 647 Mouse Anti-Human CD3 antibody (Cat. No. 566686/566687; Right Plot). Erythrocytes were lysed with BD Pharm Lyse™ Lysing Buffer (Cat. No. 555899). Two-parameter pseudocolor dot plots showing the correlated expression of CD3 (or Ig Isotype control staining) versus side light-scatter (SSC) signals were derived from gated events with the forward and side light-scatter characteristics of viable leucocyte populations. Flow cytometric analysis was performed using a BD LSRFortessa™ X-20 Cell Analyzer 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 to Alexa Fluor® 647 under optimum conditions, and unreacted Alexa Fluor® 647 was removed.

Application Notes

Application

Flow cytometry	Routinely Tested
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Suggested Companion Products

Catalog Number	Name	Size	Clone
566686	Alexa Fluor® 647 Mouse Anti-Human CD3	100 Tests	OKT3
554656	Stain Buffer (FBS)	500 mL	(none)
554657	Stain Buffer (BSA)	500 mL	(none)
565357	Alexa Fluor® 647 Mouse IgG2a, κ Isotype Control	50 µg	G155-178
555899	Lysing Buffer	100 mL	(none)
349202	BD FACS™ Lysing Solution	100 mL	(none)

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-µl experimental sample (a test).
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. 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.
5. The Alexa Fluor®, Pacific Blue™, and Cascade Blue® dye antibody conjugates in this product are sold under license from Molecular Probes, Inc. for research use only, excluding use in combination with microarrays, or as analyte specific reagents. The Alexa Fluor® dyes (except for Alexa Fluor® 430), Pacific Blue™ dye, and Cascade Blue® dye are covered by pending and issued patents.
6. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
7. Alexa Fluor® 647 fluorochrome emission is collected at the same instrument settings as for allophycocyanin (APC).
8. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
9. Please refer to www.bdbiosciences.com/pharming/protocols for technical protocols.

References

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