

GMP Ultra-LEAF™ Purified anti-human CD3 SF Antibody

Catalog# / Size	317353 / 100 µg 317354 / 1 mg
Clone	OKT3
Workshop	HCDM listed
Other Names	T3, CD3ε
Isotype	Mouse IgG2a, κ
Description	CD3ε is a 20 kD chain of the CD3/T cell receptor (TCR) complex, which is composed of two CD3ε, one CD3γ, one CD3δ, one CD3ζ (CD247), and a T cell receptor (α/β or γ/δ) heterodimer. It is found on all mature T lymphocytes, NK T cells, and some thymocytes. CD3, also known as T3, is a member of the immunoglobulin superfamily that plays a role in antigen recognition, signal transduction, and T cell activation.

Product Details

Reactivity	Human
Antibody Type	Monoclonal
Host Species	Mouse
Formulation	0.1 µm filtered in phosphate-buffered solution, pH 7.2, containing no preservative. Endotoxin level is < 0.01 EU/µg of the protein (< 0.001 ng/µg of the protein) as determined by the LAL test.
Preparation	The Ultra-LEAF™ (Low Endotoxin, Azide-Free) antibody was purified by affinity chromatography.
Concentration	1.0 mg/mL
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C. This Ultra-LEAF™ solution contains no preservative; handle under aseptic conditions.
Application	Activ FC Cell Culture
Recommended Usage	1 µg/mL of antibody in PBS, for plate coating protocols; 10 µg/mL of OKT3 antibody for soluble antibody activation methods
Application Notes	The OKT3 monoclonal antibody reacts with an epitope on the epsilon-subunit within the human CD3 complex.

Clone OKT3 can block the binding of clones SK7 and UCHT1.⁴ The OKT3 antibody is able to induce T cell activation. Additional reported applications (for the relevant formats) include: immunohistochemical staining of acetone-fixed frozen sections and activation of T cells. The LEAF™ purified antibody (Endotoxin <0.1 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays (Cat. No. 317304). For highly sensitive assays, we recommend Ultra-LEAF™ purified antibody (Cat. No. 317326) with a lower endotoxin limit than standard LEAF™ purified antibodies (Endotoxin <0.01 EU/µg).

Additional Product Notes This antibody is intended for activation and expansion of CD3 T cells in research and *ex vivo* cell culture applications. The antibody was GMP manufactured under serum-free conditions, including serum-free hybridoma cell culture, without additional animal or human-derived materials.

OKT3 antibody can be used in combination with anti-human CD28 antibodies to efficiently activate T cells when used at 1 µg/mL of antibody in PBS, for plate coating protocols. Plates should be coated for 2 hours in a tissue culture incubator, or overnight at 4°C. For soluble antibody activation protocols we recommend 10 µg/mL of OKT3 antibody and 5 µg/mL of anti-human CD28.

Application References

- Schlossman S, et al. Eds. 1995. Leucocyte Typing V. Oxford University Press. New York.

- (PubMed link indicates BioLegend citation)
2. Knapp W. 1989. Leucocyte Typing IV. Oxford University Press New York.
 3. Barclay N, et al. 1997. The Leucocyte Antigen Facts Book. Academic Press Inc. San Diego.
 4. Li B, et al. 2005. Immunology 116:487.
 5. Jeong HY, et al. 2008. J. Leucocyte Biol. 83:755. PubMed
 6. Alter G, et al. 2008. J. Virol. 82:9668. PubMed
 7. Manevich-Mendelson E, et al. 2009. Blood 114:2344. PubMed
 8. Pinto JP, et al. 2010. Immunology. 130:217. PubMed
 9. Biggs MJ, et al. 2011. J. R. Soc. Interface. 8:1462. PubMed

Disclaimer

GMP Ultra-LEAF™ antibodies. BioLegend GMP Ultra-LEAF™ antibodies are manufactured in a dedicated GMP facility and compliant with ISO 13485:2016. For research or *ex vivo* cell processing use. Not for use in diagnostic or therapeutic procedures. Our processes include:

- Batch-to-batch consistency
- Material traceability
- Documented procedures
- Documented employee training
- Equipment maintenance and monitoring records
- Lot-specific certificates of analysis
- Quality audits per ISO 13485:2016
- QA review of released products

BioLegend GMP Ultra-LEAF™ antibodies are manufactured and tested in accordance with USP Chapter 1043, Ancillary Materials for Cell, Gene and Tissue-Engineered Products and Ph. Eur. Chapter 5.2.12

Antigen Details

Structure	Ig superfamily, the subunits CD3 γ , CD3 δ , CD3 ζ (CD247) and TCR (α/β or γ/δ) form the CD3/TCR complex, 20 kD
Distribution	Mature T and NK T cells, thymocyte differentiation
Function	Antigen recognition, signal transduction, T cell activation
Ligand/Receptor	Peptide antigen bound to MHC
Cell Type	NKT cells, T cells, Thymocytes, Tregs
Biology Area	Immunology
Molecular Family	CD Molecules
Antigen References	<ol style="list-style-type: none">1. Barclay N, et al. 1993. The Leucocyte FactsBook. Academic Press. San Diego.2. Beverly P, et al. 1981. Eur. J. Immunol. 11:329.3. Lanier L, et al. 1986. J. Immunol. 137:2501.
Gene ID	916

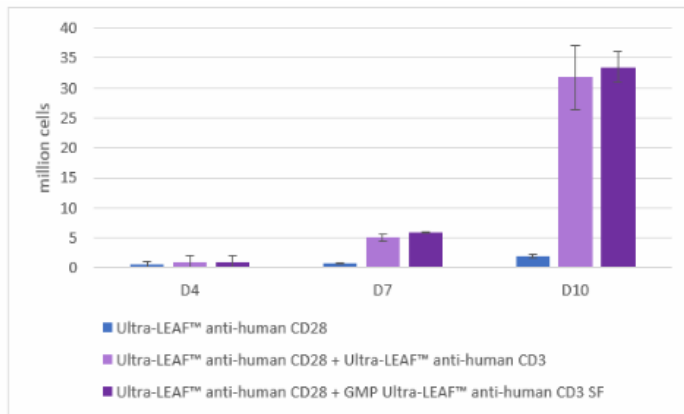
Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

Purified anti-human CD3, FITC anti-human CD3, PE anti-human CD3, Alexa Fluor® 488 anti-human CD3, Alexa Fluor® 647 anti-human CD3, Pacific Blue™ anti-human CD3, APC anti-human CD3, Biotin anti-human CD3, Brilliant Violet 605™ anti-human CD3, Brilliant Violet 650™ anti-human CD3, Ultra-LEAF™ Purified anti-human CD3, Brilliant Violet 711™ anti-human CD3, Brilliant Violet 785™ anti-human CD3, Brilliant Violet 510™ anti-human CD3, PE/Cyanine7 anti-human CD3, PerCP/Cyanine5.5 anti-human CD3, PerCP anti-human CD3, Alexa Fluor® 700 anti-human CD3, APC/Cyanine7 anti-human CD3, Brilliant Violet 421™ anti-human CD3,

Product Data



PBMC derived T cells were activated in the presence of Ultra-LEAF™ anti-human CD28 antibody alone, or combined with Ultra-LEAF™ anti-human CD3 or GMP Ultra-LEAF™ anti-human CD3 SF for a period of 4 days. Activation was done via plate coating, with 1 µg/mL of each antibody. Cells were cultured for a total of 10 days, and viable cell number was determined.

Symbols Glossary*

Symbol	Meaning	Symbol Title	Symbol No.	Symbol	Meaning	Symbol Title	Symbol No.
	Catalog number	Catalogue number	5.1.6		Indicates the need for the user to consult the instructions for use.	Consult instructions for use	5.4.3
	Indicates the temperature limits to which the medical device can be safely exposed.	Temperature limit	5.3.7		Indicates a medical device that needs protection from light sources.	Keep away from sunlight	5.3.2
	Indicates the upper limit of temperature to which the medical device can be safely exposed.	Upper limit of temperature	5.3.6		Indicates the date after which the medical device is not to be used.	Use-by date	5.1.4
	Indicates the medical device manufacturer.	Manufacturer	5.1.1		Indicates the authorized representative in the European Community.	Authorized representative in the European Community	5.1.2
	Indicates the manufacturer's batch code so that the batch or lot can be identified.	Batch code	5.1.5		Indicates a medical device that is intended to be used as an in vitro diagnostic medical device.	<i>In vitro</i> diagnostic medical device	5.5.1

* Symbol information is from EN ISO 15223-1:2016 Medical devices – Symbols to be used with medical device labels, labelling and information to be supplied – Part 1: General requirements

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8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587