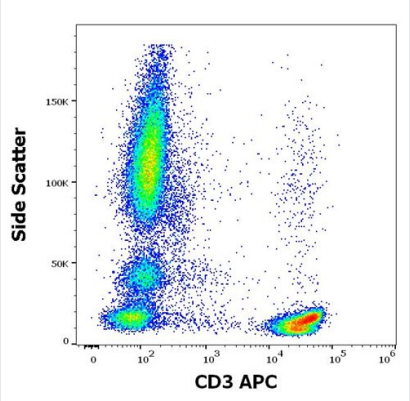
CD3 Antibody

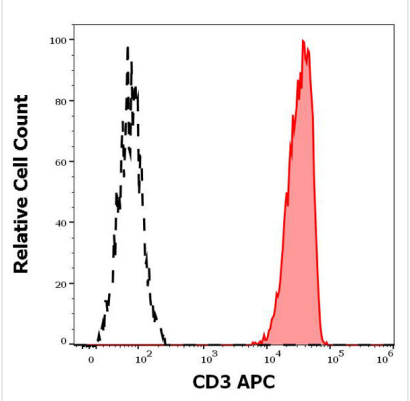
PRODUCT OVERVIEW

Product Name	CD3, Antibody
Full Product Name	Anti-Hu CD3 APC
Product Gene Name	anti-CD3 antibody
Product Synonym Gene Name	CD3E
Product Synonym Names	CD3 antigen, epsilon polypeptide; CD3E; T3E; TCRE
Isotype	Mouse IgG2b
Clone Number	TB3
Species Reactivity	Human
Form/Format	APC Purified antibody is conjugated with activated allophycocyanin (APC) under optimum conditions and unconjugated antibody and free fluorochrome are removed by size-exclusion chromatography. Stabilizing phosphate buffered saline (PBS), pH 7.4, 15 m
Specificity	The mouse monoclonal antibody TB3 recognizes an extracellular epitope on CD3 antigen of the TCR/CD3 complex on mature human T cells. This antibody has superior binding than the clone TB2.
Preparation and Storage	Store at 2-8 degree C. Protect from prolonged exposure to light. Do not freeze.
Molecular Weight	207
OMIM	gene 615615
3D Structure	ModBase 3D Structure for P07766
Applications Tested/Suitable for anti-CD3 antibody	Flow Cytometry (FC/FACS)(QC tested)
Application Notes for anti-CD3 antibody	FC/FACS: The reagent is designed for analysis of human blood cells using 10 ul reagent/100 ul of whole blood or 10^6 cells in a suspension. The content of a vial (1 ml) is sufficient for 100 tests.
Related Product Information for anti-CD3 antibody	CD3 complex is crucial in transducing antigen-recognition signals into the cytoplasm of T cells and in regulating the cell surface expression of the TCR complex. T cell activation through the antigen receptor (TCR) involves the cytoplasmic tails of the CD3 subunits CD3 gamma, CD3 delta, CD3 epsilon and CD3 zeta. These CD3 subunits are structurally related members of the immunoglobulins super family encoded by closely linked genes on human chromosome 11. The CD3 components have long cytoplasmic tails that associate with cytoplasmic signal transduction molecules. This association is mediated at least in part by a double tyrosine-based motif present in a single copy in the CD3 subunits. CD3 may play a role in TCR-induced growth arrest, cell survival and proliferation. The CD3 antigen is present on 68-82% of normal peripheral blood lymphocytes, 65-85% of thymocytes and Purkynje cells in the cerebellum. It is never expressed on B or NK cells. Decreased percentages of T lymphocytes may be observed in some autoimmune diseases.
Product References and Citations for anti-CD3 antibody	*Khvastunova AN, Kuznetsova SA, Al-Radi LS, Vylegzhanina AV, Zakirova AO, Fedyanina OS, Filatov AV, Vorobjev IA, Ataullakhanov F: Anti-CD antibody microarray for human leukocyte morphology examination allows analyzing rare cell populations and suggesting preliminary diagnosis in leukemia. Sci Rep. 2015 Jul 27;5:12573., URL: https://pubmed.ncbi.nlm.nih.gov/26212756/, *Huang Y, Wange RL: T cell receptor signaling: beyond complex complexes. J Biol Chem. 2004 Jul 9;279(28):28827-30., URL: https://pubmed.ncbi.nlm.nih.gov/15084594/,*Alarcón B, Swamy M, van Santen HM, Schamel WW: T-cell antigen-receptor stoichiometry: pre-clustering for sensitivity. EMBO Rep. 2006 May;7(5):490-5., URL: https://pubmed.ncbi.nlm.nih.gov/16670682/,*Kuhns MS, Davis MM, Garcia KC: Deconstructing the form and function of the TCR/CD3 complex. Immunity. 2006 Feb;24(2):133-9., URL: https://pubmed.ncbi.nlm.nih.gov/16473826/,

Other Notes	Small volumes of anti-CD3 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for CD3 purchase	MBS1802374 is an antibody targeting CD3. Also known as Anti-Hu CD3 APC. Reactive in Human.



Flow Cytometry (FC/FACS) of anti-CD3 antibody
Flow cytometry surface staining pattern of human peripheral whole blood stained using anti-human CD3 (TB3) APC antibody (10 ?l reagent / 100 ?l of peripheral whole blood)



Flow Cytometry (FC/FACS) of anti-CD3 antibody
Separation of human CD3 positive lymphocytes (red-filled) from CD3 negative lymphocytes (black-dashed) in flow cytometry analysis (surface staining) of human peripheral whole blood stained using anti-human CD3 (TB3) APC antibody (10 ?l reagent / 100 ?l of peripheral whole blood).

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CD3. It may not necessarily be applicable to this product.

NCBI GI #	1345708
NCBI GeneID	916
NCBI Accession #	P07766.2
UniProt Primary Accession #	P07766
UniProt Secondary Accession #	A8K997
UniProt Related Accession #	P07766
NCBI Official Full Name	T-cell surface glycoprotein CD3 epsilon chain
NCBI Official Synonym Full Names	CD3e molecule, epsilon (CD3-TCR complex)
NCBI Official Symbol	CD3E
NCBI Official Synonym Symbols	T3E; TCRE; IMD18
UniProt Protein Name	T-cell surface glycoprotein CD3 epsilon chain
UniProt Synonym Protein Names	T-cell surface antigen T3/Leu-4 epsilon chain; CD_antigen: CD3e
Protein Family	CD302 antigen
UniProt Gene Name	CD3E
UniProt Synonym Gene Names	T3E
UniProt Entry Name	CD3E_HUMAN
NCBI Protein Information	T-cell surface glycoprotein CD3 epsilon chain; CD3-epsilon; T-cell surface antigen T3/Leu-4 epsilon chain; CD3e antigen, epsilon polypeptide (TiT3 complex); T-cell antigen receptor complex, epsilon subunit of T3

NCBI Summary for CD3	The protein encoded by this gene is the CD3-epsilon polypeptide, which together with CD3-gamma, -delta and -zeta, and the T-cell receptor alpha/beta and gamma/delta heterodimers, forms the T-cell receptor-CD3 complex. This complex plays an important role in coupling antigen recognition to several intracellular signal-transduction pathways. The genes encoding the epsilon, gamma and delta polypeptides are located in the same cluster on chromosome 11. The epsilon polypeptide plays an essential role in T-cell development. Defects in this gene cause immunodeficiency. This gene has also been linked to a susceptibility to type I diabetes in women. [provided by RefSeq, Jul 2008]
UniProt Comments for CD3	CD3E: a T cell surface glycoprotein that is a component of the T cell antigen receptor. The recruitment of Nck by CD3 epsilon reveals a ligand-induced conformational change essential for T cell receptor signaling and synapse formation. Contains 1 immunoglobulin-like domain and 1 ITAM domain. Protein type: Receptor, misc.; Membrane protein, integral Chromosomal Location of Human Ortholog: 11q23 Cellular Component: T cell receptor complex; integral to plasma membrane; plasma membrane; immunological synapse; alpha-beta T cell receptor complex; intercellular junction; external side of plasma membrane Molecular Function: protein binding; transmembrane receptor activity; receptor signaling complex scaffold activity; protein heterodimerization activity; receptor signaling protein activity; T cell receptor binding; SH3 domain binding; protein kinase binding Biological Process: regulation of immune response; T cell activation; positive regulation of interleukin-2 biosynthetic process; signal complex assembly; positive regulation of calcium-mediated signaling; negative thymic T cell selection; T cell receptor signaling pathway; positive regulation of interleukin-4 production; regulation of apoptosis; G-protein coupled receptor protein signaling pathway; positive regulation of interferon-gamma production; positive regulation of peptidyl-tyrosine phosphorylation; cell surface receptor linked signal transduction; negative regulation of smoothened signaling pathway; T cell costimulation; protein complex assembly; positive regulation of alpha-beta T cell proliferation; positive regulation of T cell proliferation; positive regulation of T cell anergy; transmembrane receptor protein tyrosine kinase signaling pathway; response to nutrient Disease: Immunodeficiency 18
Research Articles on CD3	**1.** that Nck recruitment to the TCR is fundamental to mount an efficient T cell response in vivo, and that the Nck-CD3epsilon interaction may represent a target for pharmacological modulation of the immune response.
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