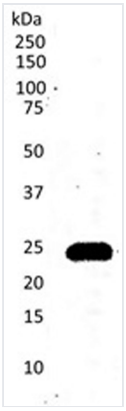
CD3 Antibody – Rat Monoclonal

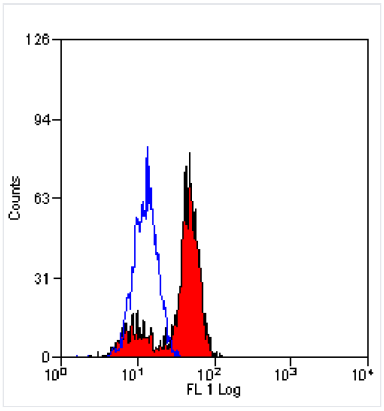
PRODUCT OVERVIEW

Product Name	CD3, Monoclonal Antibody
Full Product Name	RAT ANTI HUMAN CD3
Product Gene Name	anti-CD3 antibody
Clonality	Monoclonal
Isotype	IgG1
Clone Number	CD3-12
Host	Rat
Form/Format	Purified Purified IgG - liquid
Concentration	IgG concentration 1.0 mg/ml (lot specific)
Preparation and Storage	Store at 4 degree C or at -20 degree C if preferred. This product should be stored undiluted. Storage in frost free freezers is not recommended. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use. Shelf Life: 18 months from date of despatch.
Molecular Weight	23,147 Da
OMIM	186830
3D Structure	ModBase 3D Structure for P07766
Perservative Stabilisers	0.09% Sodium Azide Preparation||Purified IgG prepared from tissue culture supernatant
Histology Positive Control Tissue	Tonsil Buffer Solution||Phosphate buffered saline
Target Species	Human
Applications Tested/Suitable for anti-CD3 antibody	Immunohistology Frozen, Flow cytometry (FC/FACS)*, Immunofluorescence (IF), Immunohistology Paraffin*
Application Notes for anti-CD3 antibody	**Immunohistology - Frozen:** Maximum Dilution: 1/100; **Flow Cytometry:** Minimum Dilution: 1/50; Maximum Dilution: 1/100; Application Note: **Membrane permeabilization is required for this application. MyBioSource recommends the use of Leucoperm for this purpose.** **Immunohistology - Paraffin:** Maximum Dilution: 1/100; Application Note: **This product requires antigen retrieval using heat treatment prior to staining of paraffin sections. Tris/EDTA buffer pH 9.0 is recommended for this purpose.**
Related Product Information for anti-CD3 antibody	Rat anti Human CD3, clone CD3-12 raised against a peptide representing an invariant cytoplasmic sequence within the CD3? chain recognizes human CD3?. CD3 is a multimeric protein complex composed of four distinct polypeptide chains (?, gamma, delta, ?) that assemble and function as three pairs of dimers (? gamma, ?delta, ??). The CD3 complex serves as a T cell co-receptor that associates non-covalently with the T cell receptor (TCR) (Malissen 2008; Guy and Vignali 2009; Smith-Garvin et al. 2009). CD3 is a defining feature of cells belonging to the T cell lineage and can therefore be used as T cell marker. As Rat anti Human CD3, clone CD3-12 has been specifically raised against an epitope within the epsilon peptide chain, highly conserved among species clone CD3-12 has a very broad species crossreactivity for the CD3 marker. (Jones et al. 1993; Kothlow et al. 2005)

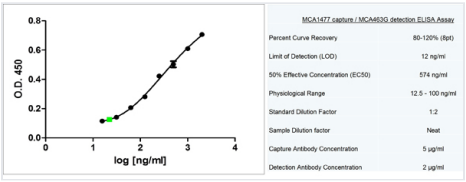
Other Notes	Small volumes of anti-CD3 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for CD3 purchase	MBS219799 is an antibody targeting CD3. Also known as RAT ANTI HUMAN CD3. Host: Rat.



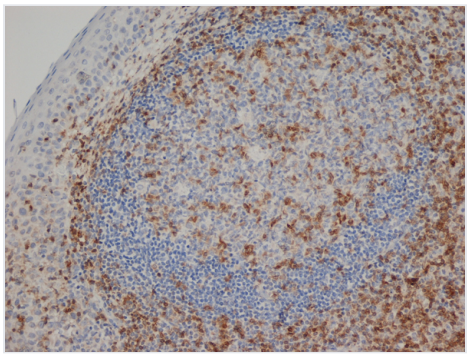
Testing Data of anti-CD3 antibody
Western blot analysis of Jurkat human acute T-cell leukemia whole cell lysate probed with Mouse anti Human CD3 antibody (MBS215051) followed by HRP conjugated Goat anti Mouse IgG, visualized by chemiluminescence



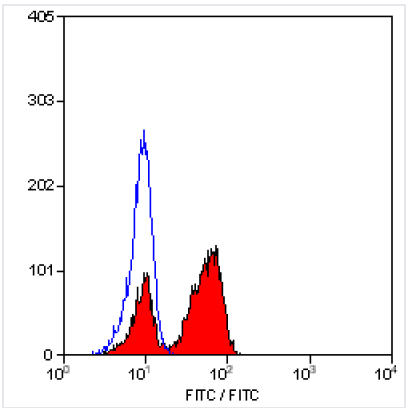
Testing Data of anti-CD3 antibody
Staining of human peripheral blood lymphocytes with Rat anti Human CD3 (MBS215051) following permeabilisation with Leucoperm



Testing Data of anti-CD3 antibody
ELISA analysis of human CD3 expression using Rat anti Human CD3?, clone CD3-12 as a capture reagent and biotinylated Mouse anti Human CD3, clone UCHT1 (MBS219235G) as a detection reagent with recombinant human CD3 as antigen to produce the standard curve. Detection is by HRP conjugated streptavidin and substrate. Microtitre plate is read at O.D. 450 nm on the iMark Microplate Absorbance Reader . A serum (green) sample is included undiluted



Testing Data of anti-CD3 antibody
Formalin fixed, paraffin embedded human tonsil stained with Rat anti Human CD3 (MBS215051) following heat mediated antigen retrieval in EDTA buffer pH9.0



Testing Data of anti-CD3 antibody
Staining of human peripheral blood lymphocytes with Rat anti Human CD3 (MBS215051). Permeabilised with Leucoperm

ADDITIONAL DETAILS

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

NCBI GI #	4502671

NCBI GeneID	916
NCBI Accession #	NP_000724.1
UniProt Primary Accession #	P07766
UniProt Secondary Accession #	A8K997
UniProt Related Accession #	P07766
GenBank Nucleotide #	NM_000733.3
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; CD3e antigen, epsilon polypeptide (TiT3 complex); T-cell antigen receptor complex, epsilon subunit of T3; T-cell surface antigen T3/Leu-4 epsilon chain
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; regulation of apoptosis; positive regulation of interleukin-4 production; G-protein coupled receptor protein signaling pathway; positive regulation of peptidyl-tyrosine phosphorylation; positive regulation of interferon-gamma production; 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; response to nutrient; transmembrane receptor protein tyrosine kinase signaling pathway 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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