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CD3 FITC Monoclonal Antibody (Clone OKT3)

Mouse Monoclonal Antibody
Catalog # ABV11463

Specification

CD3 FITC Monoclonal Antibody (Clone OKT3) - Product Information

Application	**FC**
Primary Accession	P09693
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**Mouse IgG2a, Kappa**

CD3 FITC Monoclonal Antibody (Clone OKT3) - Additional Information

Gene ID 917

Positive Control	**FACS: Human PMBCs**
Application & Usage	**Flow (Cell Surface): 5 µl/1x10^6 cells, Volume per test: 5 µl (1 µg).**

Other Names
CD3

Target/Specificity
CD3

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
Phosphate-buffered aqueous solution pH 7.2, ≤0.09% Sodium azide, may contain carrier protein/stabilizer.

Handling
The antibody solution should be gently mixed before use.

Reconstitution & Storage
4°C

Background Descriptions

Precautions
CD3 FITC Monoclonal Antibody (Clone OKT3) is for research use only and not for use in diagnostic or therapeutic procedures.

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CD3 FITC Monoclonal Antibody (Clone OKT3) - Protein Information

Name CD3G

Synonyms T3G

Function
Part of the TCR-CD3 complex present on T-lymphocyte cell surface that plays an essential role in adaptive immune response. When antigen presenting cells (APCs) activate T-cell receptor (TCR), TCR- mediated signals are transmitted across the cell membrane by the CD3 chains CD3D, CD3E, CD3G and CD3Z. All CD3 chains contain immunoreceptor tyrosine-based activation motifs (ITAMs) in their cytoplasmic domain. Upon TCR engagement, these motifs become phosphorylated by Src family protein tyrosine kinases LCK and FYN, resulting in the activation of downstream signaling pathways (PubMed:2470098). In addition to this role of signal transduction in T-cell activation, CD3G plays an essential role in the dynamic regulation of TCR expression at the cell surface (PubMed:8187769). Indeed, constitutive TCR cycling is dependent on the di-leucine-based (diL) receptor-sorting motif present in CD3G.

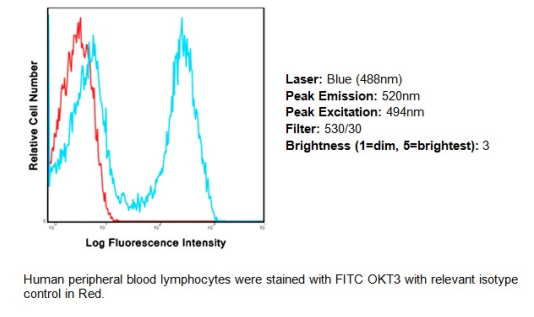
Cellular Location
Cell membrane; Single-pass type I membrane protein

CD3 FITC Monoclonal Antibody (Clone OKT3) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

CD3 FITC Monoclonal Antibody (Clone OKT3) - Images



Human peripheral blood lymphocytes were stained with FITC OKT3 with relevant isotype control in Red.

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CD3 FITC Monoclonal Antibody (Clone OKT3) - Background

CD3 (T3), a complex T cell marker, is known to associate noncovalently with the a/b or g/z heterodimer of the T cell antigen receptor (TCR) to form the most complex transmembrane (TM) receptor structures. CD3 is specially engaged in antigen recognition and is known to play an important role in mediating signals that are critical for T cell development in the thymus, proliferation, and induction of T cell-mediated immune responses against infectious agents and also in the differentiation of T cells into effector and memory populations. CD3 usually expresses in the cytoplasm of prothymocytes, and on the surface of about 95% of thymocytes, but cytoplasmic CD3 is lost as the cells differentiate into medullary thymocytes. Apart from its role as an important marker in the classification of malignant lymphomas and lymphoid leukemia, CD3 can also be useful for the identification of T cells in celiac disease, lymphocytic colitis and colorectal carcinomas associated with loss of a mismatch repair protein. CD3 indirectly plays an important role in immunomodulation whereas the anti-CD3 antibody may be used in in vitro Treg assays to generate effector T cells. The CD3 complex contains γ, δ, and ε chains, and it is part of the TCR complex, expressed by all mature T lymphocytes and by the thymocyte lineage. The OKT3 monoclonal antibody specifically reacts with the ε chain of the CD3/T lymphocyte antigen receptor complex. CD3 enhances the antigen recognition by signal transduction. The OKT3 antibody is an immunosuppressive, which has proven to be an effective therapeutic agent in liver, heart, and renal allograft rejection.