

ProteinFind® Anti-CD3 Mouse Monoclonal Antibody

Please read the datasheet carefully prior to use.

Cat. No. HI102

Version No. Version 2.0

Storage: PBS (pH7.4), 0.05% ProClin 300, 50% Glycerol; at -20°C for two years, avoid repeated freeze-thawing.

Description

The mammalian CD3 molecule, which is expressed on the surface of mature T lymphocytes, is an important surface marker of T cell population and mainly consists of δ , ϵ , γ and ζ chains. CD3 molecules are non-covalent bonded to T-cell receptor (TCR) to form a TCR-CD3 complex. When antigen presenting cells (APCs) activate TCR, TCR-mediated signals are transmitted to the cell interior via CD3 δ , CD3 ϵ , CD3 γ or CD3 ζ . All cytoplasmic regions of CD3 chains contain immunoreceptor tyrosine-based activation motifs (ITAMs), these motifs are phosphorylated by the Src family protein tyrosine kinases LCK and FYN once bound to TCR, thereby activating downstream signaling pathways^[1]. In addition to its signal transduction role in T cell activation, CD3 ϵ also plays a critical role in the proper development of T cells. The assembly of TCR-CD3 complex is initiated by the formation of two heterodimers, CD3 δ /CD3 ϵ and CD3 γ /CD3 ϵ , and the special sequence of CD3 ϵ cytoplasmic region can contribute to TCR-CD3 complex internalization, down-regulating the expression of TCR on the cell surface^[2, 3]. This product is the mouse anti-human CD3 monoclonal antibody, which is used for the specific detection of human CD3 by FC.

Species Reactivity: Human

Clone Number: Trans-1A5

Antibody Subtype: Mouse IgG2a

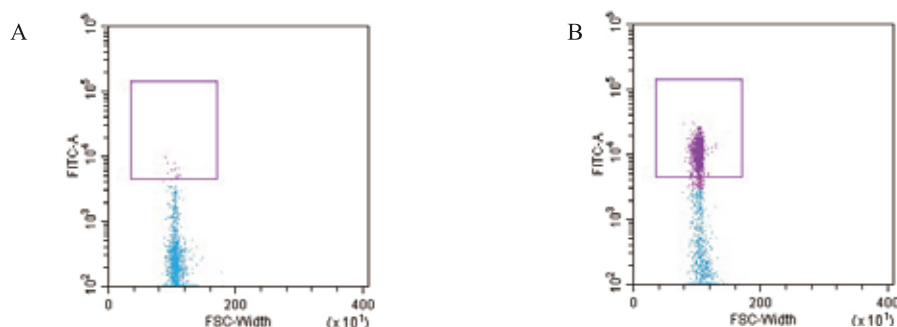
Immunogen

- Human T cells
- Entrez Gene ID: 916
- UniProt ID: P07766

Applicable Experiments and Dilution

- FC: 1:100 dilution is recommended.

Positive Control Cell Line: Human peripheral blood mononuclear cells



FC: ProteinFind® Anti-CD3 Mouse Monoclonal Antibody for FC detection of human peripheral blood.

The negative control: Mouse IgG2a Isotype Control (figure A), ProteinFind® Anti-CD3 Mouse Monoclonal Antibody (figure B).

Dilution ratio of primary antibody: 1:100



References

- [1] Barber EK, Dasgupta JD, Schlossman SF, et al. The CD4 and CD8 antigens are coupled to a protein-tyrosine kinase (p56lck) that phosphorylates the CD3 complex [J]. Proc Natl Acad Sci U S A. 1989, 86(9): 3277-81.
- [2] Borroto A, Lama J, Niedergang F, et al. The CD3 epsilon subunit of the TCR contains endocytosis signals [J]. J Immunol. 1999, 163(1): 25-31.
- [3] Martin-Blanco N, Jiménez Teja D, Bretones G, et al. CD3ε recruits Numb to promote TCR degradation [J]. International Immunology. 2016, 28(3): 127-37.

For research use only, not for clinical diagnosis.

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