

ProteinFind® Anti-CD3ε Mouse Monoclonal Antibody

Please read the manual carefully before use.

Cat. No. HI101

Storage: PBS (pH7.4), 0.05% Sodium Azide, 1% BSA, 40% 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, and 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 . Cytoplasmic regions of all CD3 chains contain immunoreceptor tyrosine-based activation motifs (ITAMs), which are phosphorylated by the Src family proteins tyrosine kinases LCK and FYN once bound to TCR, thus 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 formation of two heterodimers, CD3 δ /CD3 ϵ and CD3 γ /CD3 ϵ , initiates the assembly of TCR-CD3 complex, and special sequences in the cytoplasmic region of CD3 ϵ are involved in the internalization of TCR-CD3 complex, down-regulating the expression level of TCR cell surface^[2, 3].

Species Reactivity: Human (the results of species reactivity were determined according to WB experiment).

Clone Number: Trans-14G5

Antibody Isotype: Mouse IgG1

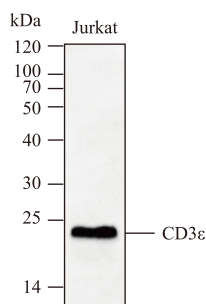
Immunogen

- Human CD3 epsilon chain intracellular peptide
- Entrez Gene ID: 916
- UniProt ID: P07766

Applicable Experiments and Dilution

- WB: 1:1000-5000 dilution is recommended.
- IF: 1:100 dilution is recommended.
- FC: 1:100 dilution is recommended.
- IHC: 1:100 dilution is recommended.

Positive Control Cell Line: Jurkat cells



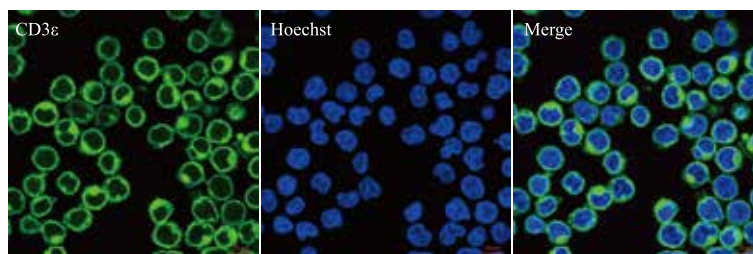
WB: ProteinFind® Anti-CD3ε Mouse Monoclonal Antibody for detection of CD3ε protein expression in Jurkat cells.

Dilution ratio of primary antibody: 1:4000

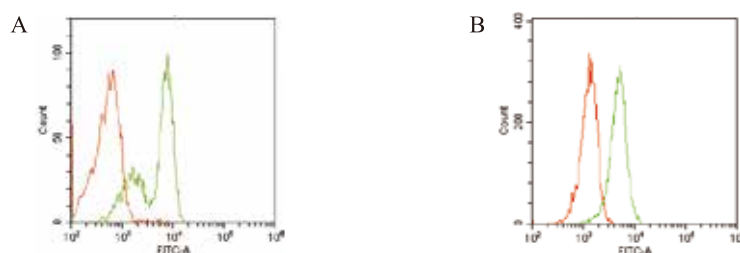
Predicted molecular weight: 23 kDa

Actual molecular weight: 23 kDa

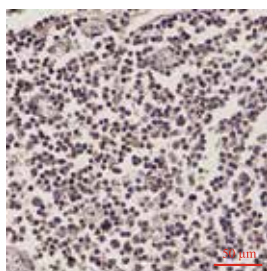




IF: *ProteinFind*[®] Anti-CD3ε Mouse Monoclonal Antibody (green) for detection of CD3ε localization in Jurkat cells. Hoechst is used to label the nucleus (blue).
Dilution ratio of primary antibody: 1:100



FC: *ProteinFind*[®] Anti-CD3ε Mouse Monoclonal Antibody (green) for FC detection of human peripheral blood (figure A) and Jurkat cells (figure B).
Negative control: Mouse IgG1 Isotype Control (red)
Dilution ratio of primary antibody: 1:100



IHC: *ProteinFind*[®] Anti-CD3ε Mouse Monoclonal Antibody for IHC detection of human normal tonsil tissue.
Antigen Retrieval Solution: citric acid
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.

Service telephone +86-10-57815020

Service email complaints@transgen.com

