Human CD3 Alexa Fluor® 488-conjugated Antibody

Monoclonal Mouse IgG_{2B} Clone # 1033713

Catalog Number: FAB10670G

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD3ε in direct ELISAs.
Source	Monoclonal Mouse IgG_{2B} Clone # 1033713
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Human embryonic kidney cell HEK293-derived human CD3ε Gln22-Asp126 Accession # P07766
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

CD3ε (T-Cell Surface Glycoprotein CD3 Epsilon) is a type I transmembrane protein that belongs to the Ig (Immunoglobulin) superfamily. Human CD3ε consists of 104 amino acid (aa) extracellular domain, 26 aa transmembrane domain and 55 aa cytoplasmic domain (1). With the extracellular domain, human CD3ε shares 44.2% and 49% homology with mouse and rat CD3ε respectively. There are four CD3 proteins: CD3δ, CD3ε, CD3γ, and CD3ζ. All CD3 proteins contain ITAM (Immunoreceptor Tyrosine-based Activation Motifs) in the cytoplasmic tail, which becomes phosphorylated by Src family protein tyrosine kinases LCK and FYN upon TCR engagement (2). CD3 proteins form heterodimers of CD3δ/CD3ε and CD3γ/CD3ε, which bind to TCR and form trimeric TCRα/CD3ε/CD3γ and TCRβ/CD3γ/CD3ε. The resulting heterohexamer further associates with CD3ζ homodimer and forms TCR/CD3 signaling complex (3, 4). Similar complex is also formed with TCRγ and TCRδ (5). CD3ε plays essential role in adaptive immune response. Mutations in CD3ε lead to SCID (severe combined immunodeficiency) (6).

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