

## Anti-CD3 epsilon/CD3e Antibody-Biotin (5W730)

### Product Details

Ig Type:	Mouse IgG1
Reactivity:	Human
Conjugation:	Biotin
Clone:	5W730
Purification:	Protein A

### Applications

Application:	ELISA
Recommended	ELISA: 0.1-1 µg/mL

### Properties

Stability & Storage:	Store at 2°C-8°C for 1 month. Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles. Preservative-Free.
Shipping:	Shipping with blue ice.

### Antigen Details

Immunogen:	Recombinant Protein: Human CD3E protein (TMPY-01191)
Antigen Species:	Human
Synonyms:	CD3e molecule, epsilon (CD3-TCR complex);CD3e molecule, ε (CD3-TCR complex);CD3 ε/CD3e
Biology Area:	ITIM/ITAM Immunoreceptors and Related Molecules

### Research Background

T-cell surface glycoprotein CD3 epsilon chain, also known as CD3E, is a single-pass type I membrane protein. CD3E contains 1 Ig-like (immunoglobulin-like) domain and 1 ITAM domain. CD3E, together with CD3-gamma, CD3-delta and CD3-zeta, and the T-cell receptor alpha/beta and gamma/delta heterodimers, forms the T cell receptor-CD3 complex. The CD3 epsilon subunit of the T cell receptor (TCR) complex contains two defined signaling domains, a proline-rich sequence and an immune tyrosine activation motifs (ITAMs), and this complex undergoes a conformational change upon ligand binding that is thought to be important for the activation of T cells. In the CD3 epsilon mutant mice, all stages of T cell development and activation that are TCR-dependent were impaired, but not eliminated, including activation of mature naïve T cells with the MHCII presented superantigen, staphylococcal enterotoxin B, or with a strong TCR cross-linking antibody specific for either TCR-Cbeta or CD3 epsilon. T cell receptor-CD3 complex plays an important role in coupling antigen recognition to several intracellular signal-transduction pathways. This complex is critical for T-cell development and function, and represents one of the most complex transmembrane receptors. CD3E plays an essential role in T-cell development, and defects in CD3E gene cause severe immunodeficiency. Homozygous mutations in CD3D and CD3E genes lead to a complete block in T-cell development and thus to an early-onset severe combined immunodeficiency phenotype. Cancer Immunotherapy/Immune Checkpoint/Immunotherapy/Targeted Therapy

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