Anti-CD8 Antibody

0108-7

Product Type:	Rabbit polyclonal IgG, primary antibodies
Species reactivity:	Mouse
Applications:	WB, IF-Cell, IHC-P, FC
Molecular Wt:	Predicted band size: 27 kDa

Description: CD8 (cluster of differentiation 8) is a transmembrane glycoprotein that serves as a co-receptor for the T-cell receptor (TCR). Along with the TCR, the CD8 co-receptor plays a role in T cell signaling and aiding with cytotoxic T cell-antigen interactions. Like the TCR, CD8 binds to a major histocompatibility complex (MHC) molecule, but is specific for the MHC class I protein. There are two isoforms of the protein, alpha and beta, each encoded by a different gene. In humans, both genes are located on chromosome 2 in position 2p12. The CD8 co-receptor is predominantly expressed on the surface of cytotoxic T cells, but can also be found on natural killer cells, cortical thymocytes, and dendritic cells. The CD8 molecule is a marker for cytotoxic T cell population. It is expressed in T cell lymphoblastic lymphoma and hypo-pigmented mycosis fungoides. The extracellular IgV-like domain of CD8-α interacts with the α3 portion of the Class I MHC molecule. This affinity keeps the T cell receptor of the cytotoxic T cell and the target cell bound closely together during antigen-specific activation. Cytotoxic T cells with CD8 surface protein are called CD8+ T cells. The main recognition site is a flexible loop at the α3 domain of an MHC molecule. This was discovered by doing mutational analyses. The flexible α3 domain is located between residues 223 and 229 in the genome. In addition to aiding with cytotoxic T cell antigen interactions the CD8 co-receptor also plays a role in T cell signaling. The cytoplasmic tails of the CD8 co-receptor interact with Lck (lymphocyte-specific protein tyrosine kinase). Once the T cell receptor binds its specific antigen Lck phosphorylates the cytoplasmic CD3 and ζ-chains of the TCR complex which initiates a cascade of phosphorylation eventually leading to activation of transcription factors like NFAT, NF-κB, and AP-1 which affect the expression of certain genes.

Immunogen:	Synthetic peptide within mouse CD8 aa 21-70 / 247.
Positive control:	Mouse thymus tissue.
Subcellular location:	Cell membrane.
Database links:	SwissProt: P01731 Mouse
Recommended Dilutions:	
WB	1:500
IF-Cell	1:50-1:100
IHC-P	1:50-1:100
FC	1:50
Storage Buffer:	1*PBS (pH7.4), 0.2% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.
Storage Instruction:	Store at +4℃ after thawing. Aliquot store at -20℃ or -80℃. Avoid repeated freeze / thaw cycles.
Purity:	Immunogen affinity purified.

Images

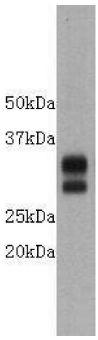

Fig1: Western blot analysis on mouse Thymus tissue lysate using anti-CD8 polyclonal antibody

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Liaw C.W., Zamoyska R., Parnes J.R.; "Structure, sequence, and polymorphism of the Lyt-2 T cell differentiation antigen gene."; J. Immunol. 137:1037-1043(1986).
2. Youn H.J., Harriss J.V., Gottlieb P.D.; "Nucleotide sequence analysis of the C.AKR Lyt-2a gene: structural polymorphism in alleles encoding the Lyt-2.1 T-cell surface alloantigen."; Immunogenetics 28:345-352(1988).
3. Zamoyska R., Vollmer A.C., Sizer K.C., Liaw C.W., Parnes J.R.; "Two Lyt-2 polypeptides arise from a single gene by alternative splicing patterns of mRNA."; Cell 43:153-163(1985).