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Anti-CD4 (Clenoliximab), Human IgG4 Antibody

Catalog # ABV11785

Product Information

Application	IHC, FC, E
Primary Accession	P01730
Reactivity	Human, Chimpanzee
Host	Recombinant
Clonality	Monoclonal
Isotype	Human IgG4, lambda
Calculated MW	51111

Additional Information

Gene ID	920
Alias Symbol	CD4
Other Names	p55; T cell surface antign T4/Leu-3.
Appearance	Colorless liquid
Formulation	200 □g affinity purified human antibody in phosphate-buffered saline (PBS) containing 0.02% Proclin 300
Reconstitution & Storage	-20 °C
Background Descriptions	
Precautions	Anti-CD4 (Clenoliximab), Human IgG4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CD4
Function	Integral membrane glycoprotein that plays an essential role in the immune response and serves multiple functions in responses against both external and internal offenses. In T-cells, functions primarily as a coreceptor for MHC class II molecule:peptide complex. The antigens presented by class II peptides are derived from extracellular proteins while class I peptides are derived from cytosolic proteins. Interacts simultaneously with the T-cell receptor (TCR) and the MHC class II presented by antigen presenting cells (APCs). In turn, recruits the Src kinase LCK to the vicinity of the TCR-CD3 complex. LCK then initiates different intracellular signaling pathways by phosphorylating various substrates ultimately leading to lymphokine production, motility, adhesion and activation of T-helper cells. In other cells such as macrophages or NK cells, plays a role in differentiation/activation, cytokine expression and cell migration in a TCR/LCK-independent pathway.

	Participates in the development of T- helper cells in the thymus and triggers the differentiation of monocytes into functional mature macrophages.
Cellular Location	Cell membrane; Single-pass type I membrane protein. Note=Localizes to lipid rafts (PubMed:12517957, PubMed:9168119). Removed from plasma membrane by HIV- 1 Nef protein that increases clathrin-dependent endocytosis of this antigen to target it to lysosomal degradation. Cell surface expression is also down-modulated by HIV-1 Envelope polyprotein gp160 that interacts with, and sequesters CD4 in the endoplasmic reticulum
Tissue Location	Highly expressed in T-helper cells. The presence of CD4 is a hallmark of T-helper cells which are specialized in the activation and growth of cytotoxic T-cells, regulation of B cells, or activation of phagocytes. CD4 is also present in other immune cells such as macrophages, dendritic cells or NK cells

Background

The antibody binds specifically to CD4, a molecule which is part of the immunolgobulin super-family, expressed on the surface of helper T cells. The CD4 molecule acts as a co-receptor in the activation of T cells, aiding the interaction between the TCR and MHC II of the antigen-presenting cell. The antibody is classified as "primatized", as the variable regions of the light and heavy chains are obtained from primates, while the lamda light chain and γ4 heavy chain constant domains are human. The antibody was engineered from the primatized IgG1 monoclonal antibody Keliximab by substituting two key residues. The role of the antibody as an immunosuppressor has been tested in vivo, by intravenous administration in chimpanzees and human volunteers. The antibody reached Phase II clinical trials with Biogen-Idec.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.