PRODUCT INFORMATION

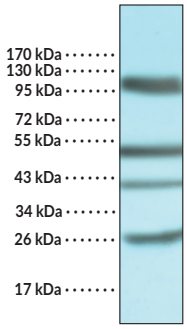
CD4 Chimeric Monoclonal Antibody (Clone CE9.1)

Item No. 37160

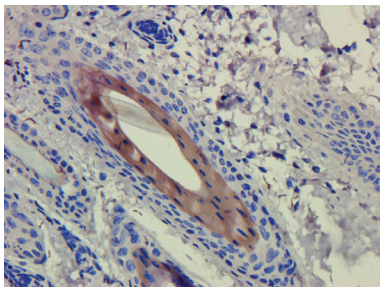
Overview and Properties

Contents:	This vial contains 200 µg of protein A-affinity purified monoclonal antibody
Synonyms:	Cluster of Differentiation 4, T Cell Surface Antigen T4, T Cell Surface Glycoprotein CD4
Immunogen:	Recombinant human CD4
Cross Reactivity:	(+) CD4
Species Reactivity:	(+) Human, chimpanzee
Uniprot No.:	P01730
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 0.02% ProClin™ 300
Clone:	CE9.1 (Clenoliximab)
Host:	This antibody is composed of a fusion of the antigen-binding domain of a primate anti-CD4 monoclonal antibody with the constant domain of human IgG4λ.
Isotype:	IgG4
Applications:	ELISA, Flow cytometry (FC), and Immunohistochemistry (IHC); the optimal working concentration/dilution should be determined empirically.

Images



WB using CD4 Chimeric Monoclonal Antibody (Clone CE9.1). Human thyroid tumor samples were resolved on a 15% SDS PAGE gel and blots probed with CD4 Chimeric Monoclonal Antibody (Clone CE9.1) at 1.5 µg/ml before detection using an anti-human IgG4 secondary antibody. Protein was detected by chemiluminescence. The expected unmodified running size for CD4 is 51kDa. Here, some non-specific bands can also be seen. WB using CD4 Chimeric Monoclonal Antibody (Clone CE9.1) successfully detected CD4 in human thyroid tissue samples.



Immunohistochemical (IHC) staining of guinea pig skin using CD4 Chimeric Monoclonal Antibody (Clone CE9.1). Anti-CD4 staining of formalin-fixed paraffin-embedded guinea pig skin tissue, at 40x magnification. CD4 Chimeric Monoclonal Antibody (Clone CE9.1) was used to stain samples at a concentration of 3 µg/ml.

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Description

CD4 is a type I transmembrane glycoprotein that functions as a T cell receptor (TCR) co-receptor.[1] It exists as a single polypeptide chain composed of four extracellular immunoglobulin-like (Ig-like) domains that interact with MHC class II molecules, a transmembrane domain, and a cytoplasmic tail that associates with the tyrosine kinase LCK and mediates signal transduction to the TCR, which is essential for T cell activation.[2] It is expressed on the surface of, and used as a marker for, T cells, and its expression is used to characterize the development stage of thymocytes. Upon binding to antigen-displaying MHC class II molecules expressed by antigen-presenting cells (APCs), naïve $CD4^+$ T cells differentiate and proliferate in a cytokine-dependent manner into a variety of T helper (Th) cell subsets, including Th1, Th2, and Th17 cells, which enhance and direct innate and adaptive immune cell responses to numerous pathogens and have additional roles in cancer, asthma and allergy, and autoimmunity.[3,4] CD4 is also the receptor for HIV attachment and entry into cells, resulting in depletion of $CD4^+$ cells in patients infected with HIV.[5,6] Cayman's CD4 Chimeric Monoclonal Antibody (Clone CE9.1) was produced recombinantly from the original CE9.1 antibody sequence and can be used for ELISA, flow cytometry (FC), and immunohistochemistry (IHC) applications. The CE9.1 antibody was generated by fusing IgG4λ constant domains to the antigen-binding domain of a primate anti-CD4 monoclonal antibody.[7]

References

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