Human CD4 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF-379-NA

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD4 in direct ELISAs and Western blots. In direct ELISAs, less than 5% cross-reactivity with recombinant mouse CD4, recombinant feline CD4, recombinant cotton rat CD4, and recombinant canine CD4 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*S. frugiperda* insect ovarian cell line *Sf* 21-derived recombinant human CD4 Lys26-Trp390 Accession # P01730
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

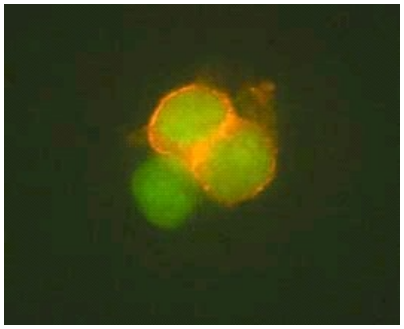
APPLICATIONS

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.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Human CD4 (Catalog # 514-CD)
Immunocytochemistry	5-15 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	Immersion fixed paraffin-embedded sections of human tonsil
Neutralization	Measured by its ability to neutralize PHA-induced IL-2 secretion in human peripheral blood mononuclear cells (PBMC) [Dalesandro, M. *et al.* (1993) Intl. Immunol. **5**:283]. The Neutralization Dose (ND_{50}) is typically 1-6 µng/mL in the presence of 1 µg/mL Phytohemagglutinin (PHA).	

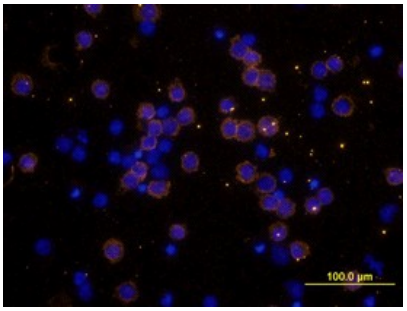
DATA

Immunocytochemistry



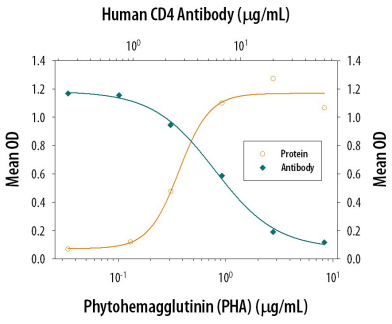
CD4 in Human T Cells.
CD4 was detected in immersion fixed human T cells using 2 µg/mL Goat Anti-Human CD4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-379-NA) for 3 hours at room temperature. Cells were stained (red) and counterstained (green). View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

Immunocytochemistry



CD4 in Human PBMCs.
CD4 was detected in immersion fixed human peripheral blood mononuclear cells (PBMCs) using Goat Anti-Human CD4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-379-NA) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (yellow; Catalog # NL001) and counterstained with DAPI (blue). View our protocol for Fluorescent ICC Staining of Non-adherent Cells.

Neutralization



IL-2 Secretion Induced by PHA and Neutralization by Human CD4 Antibody.
Phytohemagglutinin (PHA) stimulates IL-2 secretion in human peripheral blood mononuclear cells (PBMC), in a dose-dependent manner (orange line), as measured by the Human IL-2 Quantikine ELISA Kit (Catalog # D2050). IL-2 secretion elicited by PHA (1 µg/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human CD4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-379-NA). The ND_{50} is typically 1-6 µg/mL.

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PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

CD4 is an approximately 55 kDa type I membrane glycoprotein that is expressed predominantly on most thymocytes and a subset of mature T lymphocytes. In humans, CD4 is also expressed to a lesser extent on monocytes and macrophage related cells. Human CD4 cDNA encodes a 458 amino acid (aa) residue precursor protein with a 25 aa residue signal peptide, a 371 aa residue extracellular region containing four immunoglobulin homology domains, a 24 aa residue transmembrane domain and a 38 aa residue cytoplasmic domain. CD4 is a coreceptor required for T cell recognition of antigens that are presented by class II major histocompatibility complexes. CD4 has been shown to be a coreceptor of HIV entry and specifically binds gp120, the external envelope glycoprotein of HIV.

References:

1. Capon, D.I. *et al.* (1991) Annu. Rev. Immunol. **9**:649.