

**CD4 Antibody [8G1B12]**  
Catalog # ASC12006**Specification****CD4 Antibody [8G1B12] - Product Information**

Application	IF, IHC
Primary Accession	<a href="#">P01730</a>
Other Accession	<a href="#">NP_000607</a> , <a href="#">920</a>
Reactivity	Human, Mouse, Rat
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Application Notes	CD4 antibody can be used for detection of CD4 by Western blot at 0.5 - 1 µg/mL. Antibody can also be used for immunohistochemistry starting at 5 µg/mL

**CD4 Antibody [8G1B12] - Additional Information**Gene ID **920****Target/Specificity**

Mouse monoclonal CD4 antibody was raised against a 193 amino acid recombinant protein from near the amino terminus of human CD4.

**Reconstitution & Storage**

CD4 monoclonal antibody can be stored at -20°C, stable for one year.

**Precautions**

CD4 Antibody [8G1B12] is for research use only and not for use in diagnostic or therapeutic procedures.

**CD4 Antibody [8G1B12] - 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

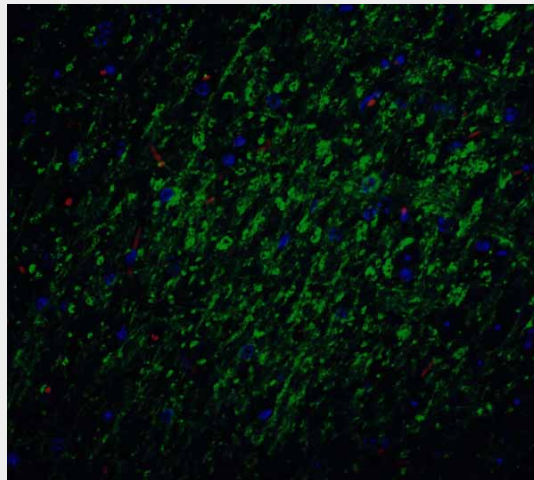
Highly expressed in T-helper cells. The presence of CD4 is a hallmark of T-helper cells which are specialized in the activation and growth of cytotoxic T-cells, regulation of B cells, or activation of phagocytes. CD4 is also present in other immune cells such as macrophages, dendritic cells or NK cells

### CD4 Antibody [8G1B12] - Protocols

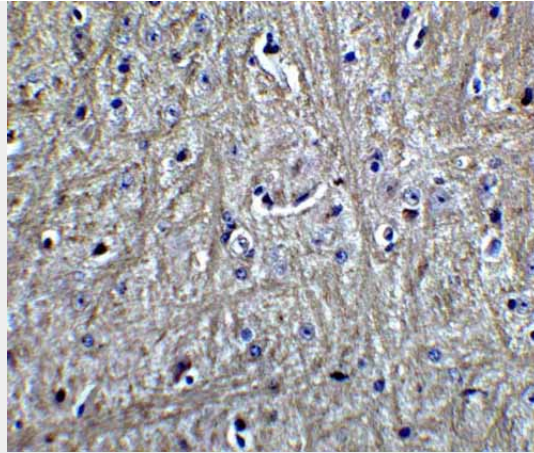
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### CD4 Antibody [8G1B12] - Images



Immunofluorescence of Survivin in mouse brain tissue with Survivin Antibody at 20 µg/mL.



Immunohistochemistry of RPSA in mouse brain tissue with RPSA Antibody at 5 µg/mL.

### **CD4 Antibody [8G1B12] - Background**

CD4 Monoclonal Antibody: CD4 is a member of the immunoglobulin superfamily and is implicated as associative recognition element in MHC (Major Histocompatibility Complex) class II-restricted immune response. On T-lymphocytes, it defines the helper/inducer subset. The mature 55 kd CD4 protein consists of a 372 amino acid extracellular segment composed of four tandem immunoglobulin-like VJ regions. The CD4 molecule is a major receptor for human immunodeficiency virus (HIV), binding directly to the envelope glycoprotein gp120 on HIV, with the co-receptors being CCR5 or CXCR4. It has been shown that the V-like domains are critical for binding with HIV envelope gp120.

### **CD4 Antibody [8G1B12] - References**

Bowers K, Pitcher C, and Marsh M. CD4 : a co-receptor in the immune response and HIV infection. *Int. J. Biochem. Cell Biol.* 1997; 29 :871-5.  
Arthos J, Deen KC, Chaikin MA, et al. Identification of the residues in human CD4 critical for the binding of HIV. *Cell* 1989; 57:469-81.