SANTA CRUZ BIOTECHNOLOGY, INC.

# CD4 (Du CD4-2): sc-80725

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*The Power to Question*

## BACKGROUND

The T cell receptor (TCR) is a heterodimer composed of either α and β or γ and δ chains. CD3 chains and the CD4 or CD8 co-receptors are also required for efficient signal transduction through the TCR. The TCR is expressed on T helper and T cytotoxic cells that can be distinguished by their expression of CD4 and CD8; T helper cells express CD4 proteins and T cytotoxic cells display CD8. CD4 is also expressed on cortical cells, mature medullary thymocytes, microglial cells and dendritic cells. CD4 (also designated T4 and Leu 3), is a membrane glycoprotein that contains four extracellular immunoglobin-like domains. The TCR in association with CD4 can bind class II MHC molecules presented by the antigen-presenting cells. The CD4 protein functions by increasing the avidity of the interaction between the TCR and an antigen-class II MHC complex. An additional role of CD4 is to function as a receptor for HIV.

## REFERENCES


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2. Arthos, J., et al. 1989. Identification of the residues in human CD4 critical for the binding of HIV. Cell 57: 469-481.
3. Healey, D., et al. 1990. Novel anti-CD4 monoclonal antibodies separate human immunodeficiency virus infection and fusion of $CD4^+$ cells from virus binding. J. Exp. Med. 172: 1233-1242.
4. Allison, J.P., et al. 1991. The immuno-biology of T cells with invariant gamma delta antigen receptors. Ann. Rev. Immunol. 9: 679-705.
5. Janeway, C.A., Jr. 1992. The T cell receptor as a multicomponent signalling machine: CD4/CD8 coreceptors and CD45 in T cell activation. Ann. Rev. Immunol. 10: 645-674.
6. Ehrich, E.W., et al. 1993. T cell receptor interaction with peptide/major histocompatibility complex (MHC) and superantigen/MHC ligands is dominated by antigen. J. Exp. Med. 178: 713-722.
7. Julius, M., et al. 1993. Distinct roles for CD4 and CD8 as coreceptors in antigen receptor signalling. Immunol. Today 14: 177-183.
8. Vignali, D.A. 1994. The interaction between CD4 and MHC class II molecules and its effect on T cell function. Behring Institute Mitteilungen 94: 133-147.


## SOURCE

CD4 (Du CD4-2) is a mouse monoclonal antibody raised against Pekin duck CD4 from 293T cells.

## PRODUCT

Each vial contains 100 µg $IgG_{2a}$ in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

CD4 (Du CD4-2) is recommended for detection of CD4 of duck origin by immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and flow cytometry (1 µg per 1 x $10^6$ cells).

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.