Datasheet for ABIN343704

anti-CD4 antibody

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Overview

Quantity:	0.1 mg
Target:	CD4
Reactivity:	Mouse
Host:	Rat
Clonality:	Monoclonal
Conjugate:	This CD4 antibody is un-conjugated
Application:	Flow Cytometry (FACS), Immunoprecipitation (IP), Immunohistochemistry (Frozen Sections) (IHC (fro)), Immunocytochemistry (ICC), Functional Studies (Func)

Product Details

Immunogen:	Mouse CTL clone V4 cells
Clone:	GK1-5
Isotype:	IgG2b
Specificity:	The rat monoclonal antibody GK1.5 reacts with an extracellular epitope of mouse CD4 transmembrane glycoprotein (55 kDa).
Cross-Reactivity (Details):	Mouse
Purification:	Purified by protein-G affinity chromatography.
Purity:	> 95 % (by SDS-PAGE)

Target Details

Target:	CD4
Alternative Name:	CD4 (CD4 Products)
Background:	CD4 Molecule,CD4 (T4) is a single chain transmembrane glycoprotein and belongs to immunoglobulin supergene family. In extracellular region there are 4 immunoglobulin-like domains (1 Ig-like V-type and 3 Ig-like C2-type). Transmembrane region forms 25 aa, cytoplasmic tail consists of 38 aa. Domains 1,2 and 4 are stabilized by disulfide bonds. The intracellular domain of CD4 is associated with p56Lck, a Src-like protein tyrosine kinase. It was described that CD4 segregates into specific detergent-resistant T-cell membrane microdomains. Extracellular ligands: MHC class II molecules (binds to CDR2-like region in CD4 domain 1), HIV envelope protein gp120 (binds to CDR2-like region in CD4 domain 1), IL-16 (binds to CD4 domain 3), human seminal plasma glycoprotein gp17 (binds to CD4 domain 1), L-selectin. Intracellular ligands: p56LckCD4 is a co-receptor involved in immune response (co-receptor activity in binding to MHC class II molecules) and HIV infection (human immunodeficiency virus, CD4 is primary receptor for HIV-1 surface glycoprotein gp120). CD4 regulates T-cell activation, T/B-cell adhesion, T-cell diferentiation, T-cell selection and signal transduction. Defects in antigen presentation (MHC class II) cause dysfunction of CD4+ T-cells and their almost complete absence in patients blood, tissue and organs (SCID immunodeficiency).,T4/Leu-3, L3T4
Gene ID:	12504
UniProt:	P06332
Pathways:	TCR Signaling, Maintenance of Protein Location, CXCR4-mediated Signaling Events

Application Details

Application Notes:	Functional application: Isolation and depletion of $CD4^+$ T cells, blocking of ligand binding to CD4. Immunocytochemistry: Recommended dilution: 1-4 µg/mL. Immunoprecipitation: Recommended dilution: 1-2 µg / 100-500 µg of protein in 1 mL lysate. Flow cytometry: Recommended dilution: 1 µg/million cells. Immunohistochemistry: Recommended dilution: 5-10 µg/mL.
Restrictions:	For Research Use only

Handling

Concentration:	1 mg/mL

Handling

Buffer:	Phosphate buffered saline (PBS), pH 7.4
Preservative:	Azide free
Handling Advice:	**Do not freeze.**
Storage:	4 °C
Storage Comment:	Store at 2-8°C. Do not freeze.

Publications

Product cited in:

Hu, Watson, Zhang, Graf, Wang, Sartor, Howden, Fletcher, Alexander: "Long-term cardiac allograft survival across an MHC mismatch after "pruning" of alloreactive CD4 T cells." in: **Journal of immunology (Baltimore, Md. : 1950)**, Vol. 180, Issue 10, pp. 6593-603, (2008) (PubMed).

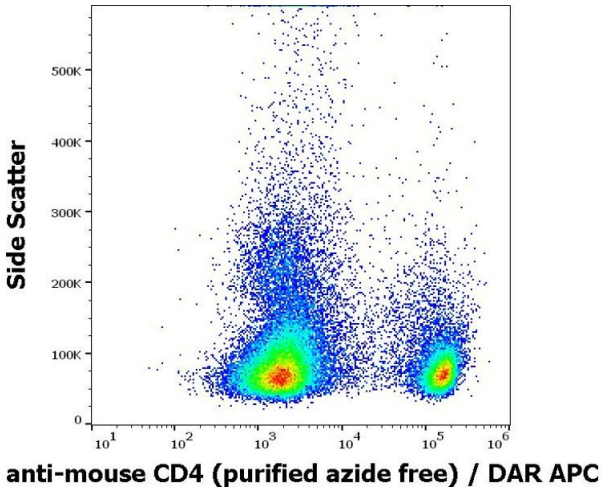
Yi, Zhen, Zeng, Zhang, Zhao: "Depleting anti-CD4 monoclonal antibody (GK1.5) treatment: influence on regulatory CD4+CD25+Foxp3+ T cells in mice." in: **Transplantation**, Vol. 85, Issue 8 , pp. 1167-74, (2008) (PubMed).

Felix, Donermeyer, Horvath, Walters, Gross, Suri, Allen: "Alloreactive T cells respond specifically to multiple distinct peptide-MHC complexes." in: **Nature immunology**, Vol. 8, Issue 4, pp. 388-97 , (2007) (PubMed).

Zheng, Han, Kelsoe: "T helper cells in murine germinal centers are antigen-specific emigrants that downregulate Thy-1." in: **The Journal of experimental medicine**, Vol. 184, Issue 3, pp. 1083-91, (1997) (PubMed).

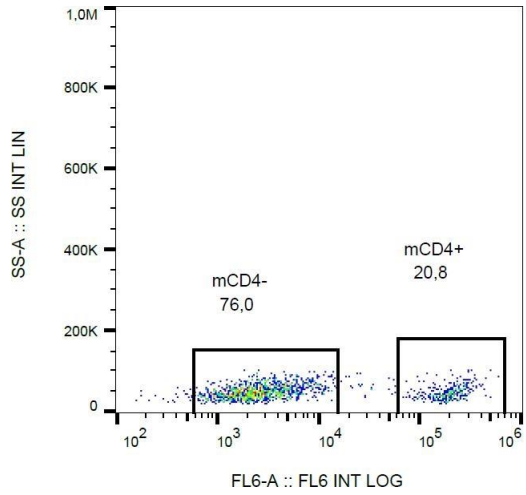
Gavett, Chen, Finkelman, Wills-Karp: "Depletion of murine CD4+ T lymphocytes prevents antigen-induced airway hyperreactivity and pulmonary eosinophilia." in: **American journal of respiratory cell and molecular biology**, Vol. 10, Issue 6, pp. 587-93, (1994) (PubMed).

There are more publications referencing this product on: Product page



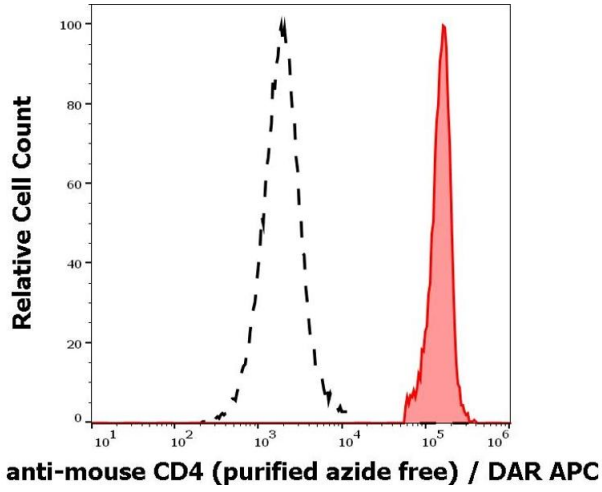
Flow Cytometry

Image 1. Flow cytometry surface staining pattern of murine splenocyte suspension stained using anti-mouse CD4 (GK1.5) purified antibody (azide free, concentration in sample 4 µg/mL) DAR APC.



Flow Cytometry

Image 2. Flow cytometry analysis (surface staining) of CD4 in murine splenocytes with anti-CD4 (GK1.5) azide free, DAR/APC.



Flow Cytometry

Image 3. Separation of murine CD4 positive cells (red-filled) from murine CD4 negative cells (black-dashed) in flow cytometry analysis (surface staining) of murine splenocyte suspension stained using anti-mouse CD4 (GK1.5) purified antibody (azide free, concentration in sample 4 µg/mL) DAR APC.