Anti-CD4 Antibody [PSH13-24] - BSA and Azide free

HA751460

Product Type:	Recombinant Rabbit multiclonal IgG, primary antibodies
Species reactivity:	Human, Mouse
Applications:	WB, IF-Cell, IHC-P
Molecular Wt:	Predicted band size: 51 kDa
Clone number:	PSH13-24

Description: In molecular biology, CD4 (cluster of differentiation 4) is a glycoprotein that serves as a co-receptor for the T-cell receptor (TCR). CD4 is found on the surface of immune cells such as helper T cells, monocytes, macrophages, and dendritic cells. It was discovered in the late 1970s and was originally known as leu-3 and T4 (after the OKT4 monoclonal antibody that reacted with it) before being named CD4 in 1984. In humans, the CD4 protein is encoded by the CD4 gene. CD4+ T helper cells are white blood cells that are an essential part of the human immune system. They are often referred to as CD4 cells, T helper cells or T4 cells. They are called helper cells because one of their main roles is to send signals to other types of immune cells, including CD8 killer cells, which then destroy the infectious particle. If CD4 cells become depleted, for example in untreated HIV infection, or following immune suppression prior to a transplant, the body is left vulnerable to a wide range of infections that it would otherwise have been able to fight.

Immunogen: Recombinant protein within mouse CD4 aa 27-394.

Positive control: HUT 102 cell lysate, THP-1 cell lysate, Mouse thymus tissue lysate, Mouse spleen tissue lysate, HUT 102, human spleen tissue, mouse spleen tissue.

Subcellular location: Cell membrane.

Database links: SwissProt: P01730 Human | P06332 Mouse

Recommended Dilutions:

WB	1:2,000
IF-Cell	1:500
IHC-P	1:5,000

Storage Buffer: PBS (pH7.4).

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

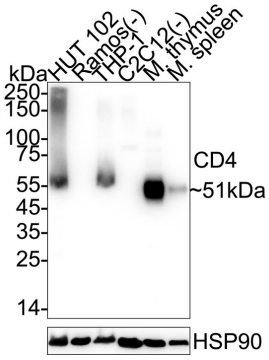

Fig1: Western blot analysis of CD4 on different lysates with Rabbit anti-CD4 antibody (HA751460) at 1/2,000 dilution.

Lane 1: HUT 102 cell lysate
Lane 2: Ramos cell lysate (negative)
Lane 3: THP-1 cell lysate
Lane 4: C2C12 cell lysate (negative)
Lane 5: Mouse thymus tissue lysate
Lane 6: Mouse spleen tissue lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 51 kDa
Observed band size: 51 kDa

Exposure time: 10 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA751460) at 1/2,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

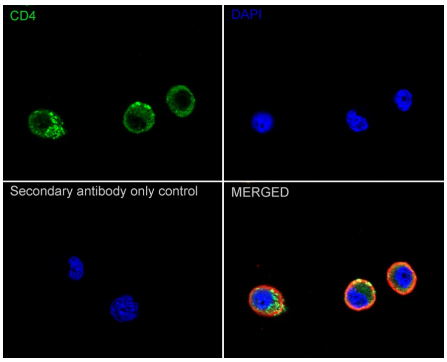

Fig2: Immunocytochemistry analysis of HUT 102 cells labeling CD4 with Rabbit anti-CD4 antibody (HA751460) at 1/500 dilution.

Cells were fixed in 4% paraformaldehyde for 15 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-CD4 antibody (HA751460) at 1/500 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (HA601187, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

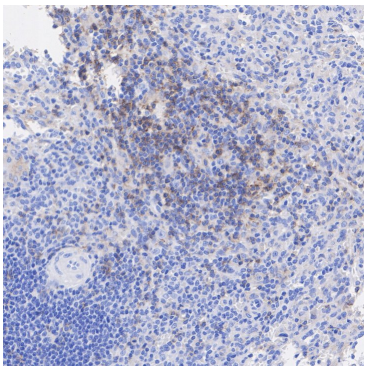

Fig3: Immunohistochemical analysis of paraffin-embedded human spleen tissue with Rabbit anti-CD4 antibody (HA751460) at 1/5,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA751460) at 1/5,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

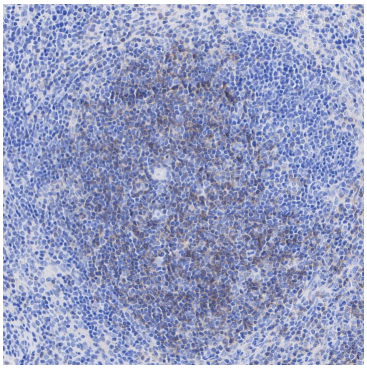

Fig4: Immunohistochemical analysis of paraffin-embedded mouse spleen tissue with Rabbit anti-CD4 antibody (HA751460) at 1/5,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA751460) at 1/5,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

Background References

1. Ruterbusch M et al. In Vivo CD4(+) T Cell Differentiation and Function: Revisiting the Th1/Th2 Paradigm. Annu Rev Immunol. 2020 Apr
2. Oh DY et al. Cytotoxic CD4(+) T cells in cancer: Expanding the immune effector toolbox. Immunity. 2021 Dec