abcam

## ab237722

# Anti-CD4 antibody [CAL4]

Anti-CD4 antibody [CAL4] (ab237722) is a rabbit monoclonal antibody detecting CD4 in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, IHC-Fr**. Suitable for **Mouse, Rat**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 10 publications

Lab Essentials | Recombinant | RabMAb | 20ul selling size

## Key facts

| | |
|---|---|
| **Isotype** | IgG |
| **Host species** | Rabbit |
| **Storage buffer** | pH: 7.2 - 7.4 Preservative: 0.05% Sodium azide Constituents: PBS |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | The exact immunogen used to generate this antibody is proprietary information. |
| **Clone number** | CAL4 |
| **Purification technique** | Affinity purification Protein A |
| **Concentration** | 0.4 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |
| **Purification notes** | Purity >99%. |

## Reactivity data

## IP

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/30 |
| **Notes** | - |

### Expected

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## WB

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/1000 |
| **Notes** | - |

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 1/1000 |
| **Notes** | - |

## ICC/IF

### Not recommended

| | |
|---|---|
| **Species** | Mouse, Rat |
| **Dilution info** | - |
| **Notes** | - |

## IHC-Fr

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/100 |

| | |
|---|---|
| **Notes** | Perform heat mediated antigen retrieval using sodium citrate buffer (10 mM citrate pH 6.0 and 0.05% Tween-20). |

### Expected

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## Flow Cyt (Intra)

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/40 |
| **Notes** | - |

### Expected

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## IHC-P

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/4000 |
| **Notes** | Not suitable for detecting mouse liver, mouse pancreas, and rat kidney tissue in IHC-P.<br>Non-specific staining is primarily observed in mouse liver, mouse pancreas, and rat kidney tissues.<br>Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. |

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 1/4000 |

| | |
|---|---|
| **Notes** | Not suitable for detecting mouse liver, mouse pancreas, and rat kidney tissue in IHC-P.<br>Non-specific staining is primarily observed in mouse liver, mouse pancreas, and rat kidney tissues.<br>Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. |

## Target data

See full target information 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. |

## Storage

| | |
|---|---|
| **Shipped at conditions** | Conditional Ambient |
| **Appropriate short-term storage duration** | 1-2 weeks |
| **Appropriate short-term storage conditions** | +4°C |
| **Appropriate long-term storage conditions** | -20°C |
| **Aliquoting information** | Upon delivery aliquot |
| **Storage information** | Avoid freeze / thaw cycle |

## Notes

**What is this antibody validated in?**
Anti-CD4 antibody [CAL4] (ab237722) is a rabbit recombinant monoclonal antibody and is validated for use in

Western Blot (WB), Flow Cytometry (Intra), Flow Cytometry (Flow Cyt), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunohistochemistry (IHC-Fr) in Mouse, Rat samples.

**What is the molecular weight of CD4?**
Anti-CD4 [CAL4] (ab237722) specifically detects a band for CD4 (UniProt: P06332) at a molecular weight of 51kDa.

**Trusted by the scientific community**
Anti-CD4 [CAL4] (ab237722) was first used in a scientific publication in 2018 and has been cited over 10 times in peer-reviewed journals.

**Other related products**
We have a range of other formats of antibody clone [CAL4] also available for your convenience: ab237722, Carrier free - ab251608

## Product promise

**Tested**

We have tested this species and application combination and it works. It is covered by our product promise.

**Expected**

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

**Predicted**

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

**Not recommended**

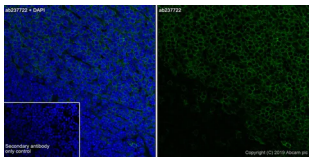
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

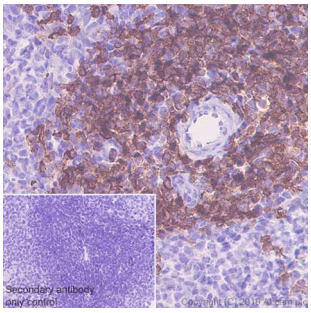
## 7 product images



### Immunohistochemistry (Frozen sections) - Anti-CD4 antibody [CAL4] (ab237722)

CD4 Immunohistochemistry (Frozen sections) staining using rabbit Anti-CD4 antibody

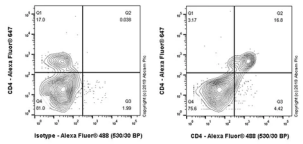
Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen mouse spleen tissue labeling CD4 with ab237722 at 1/100 dilution (green), followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary at a 1/1,000 dilution. Positive staining on T cell surface (PMID: 26994219) is observed. Counterstained with DAPI (blue). Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ab150077 AlexaFluor®488 Goat anti-Rabbit used at a 1/1,000 dilution. Heat mediated antigen retrieval using sodium citrate buffer (10 mM citrate pH 6.0 and 0.05% Tween-20).




## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD4 antibody [CAL4] (ab237722)

CD4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD4 antibody

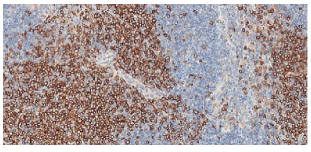
Immunohistochemical analysis of paraffin-embedded rat spleen tissue labeling CD4 with ab237722 at 1/4000 dilution, followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on rat spleen. The section was incubated with ab237722 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.



## Flow Cytometry (Intracellular) - Anti-CD4 antibody [CAL4] (ab237722)

CD4 Flow Cytometry (Intracellular) staining using rabbit Anti-CD4 antibody

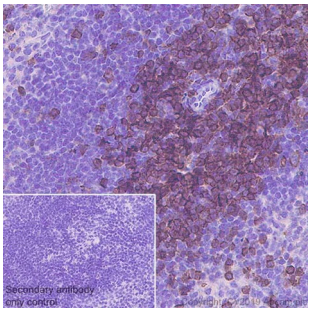
Intracellular flow cytometric analysis of 2% paraformaldehyde-fixed, 0.1% Tween-20 permeabilized mouse splenocytes labeling CD4 with ab237722 at 1/40 (right panel) compared with a Rabbit monoclonal IgG (ab172730) (left panel). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077), at 1/2000 dilution was used as the secondary antibody. Cells were surface stained with anti-CD4 conjugated to Alexa Fluor® 647. Then fixed with 2% PFA for 10min and intracellularly stained with rabbit IgG (Left) or ab237722 (Right). They recognize the same cell population.



## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD4 antibody [CAL4] (ab237722)

CD4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD4 antibody

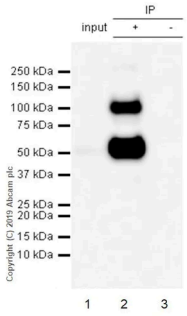
Formalin-fixed, paraffin-embedded mouse spleen tissue stained for CD4 using ab237722 at 0.5 µg/ml in immunohistochemical analysis.




## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD4 antibody [CAL4] (ab237722)

CD4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD4 antibody

Immunohistochemical analysis of paraffin-embedded mouse spleen tissue labeling CD4 with ab237722 at 1/4000 dilution, followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on mouse spleen. The section was incubated with ab237722 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

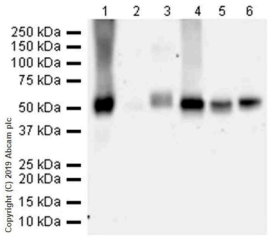



## Immunoprecipitation - Anti-CD4 antibody [CAL4] (ab237722)

CD4 was immunoprecipitated from 0.35 mg mouse thymus lysate with ab237722 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab237722 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used at 1/5000 dilution.
Lane 1: Mouse thymus lysate 10 µg (Input).
Lane 2: ab237722 IP in mouse thymus lysate .
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab237722 in mouse thymus lysate .
Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: 30 seconds.
102kDa band represents CD4 dimer based on literature. (PMID: 20739067).

All lanes:
Immunoprecipitation - Anti-CD4 antibody [CAL4] (ab237722)

Predicted band size: 51 kDa




## Western blot - Anti-CD4 antibody [CAL4] (ab237722)

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-CD4 antibody [CAL4] (ab237722) at 1/1000 dilution

Lane 1:
Mouse thymus lysate at 20 µg

Lane 2:
Mouse spleen lysate at 20 µg

Lane 3:
Mouse lymph node lysate at 20 µg

Lane 4:
Rat thymus lysate at 20 µg

Lane 5:
Rat spleen lysate at 20 µg

Lane 6:
Rat lymph node lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 51 kDa

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