abcam

**ab193332**

# PE Anti-CD28 antibody [CB28]

Anti-CD28 antibody [CB28] conjugated to PE - suitable for flow cytometry, SDS-PAGE, and reacts with human samples. Clone [CB28] is a mouse monoclonal antibody.

## Key facts

| | |
|---|---|
| **Isotype** | IgG1 |
| **Host species** | Mouse |
| **Conjugation** | PE |
| **Excitation/Emission** | Ex: 480;565nm, Em: 578nm |
| **Storage buffer** | pH: 7.2 - 7.4 Preservative: 0.05% Sodium azide Constituents: PBS, 0.05% BSA |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | Recombinant Fragment Protein within Human CD28. Database link P10747 |
| **Clone number** | CB28 |
| **Purification technique** | Affinity purification Protein G |
| **Light chain type** | kappa |
| **Concentration** | 0.1 - 1 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## Flow Cyt

**Tested**

| | |
|---|---|
| **Species** | Human |

| | |
|---|---|
| **Dilution info** | - |
| **Notes** | - |

## SDS-PAGE

**Tested**

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

## Target data

See full target information CD28

**Function**

Receptor that plays a role in T-cell activation, proliferation, survival and the maintenance of immune homeostasis (PubMed:1650475, PubMed:7568038). Functions not only as an amplifier of TCR signals but delivers unique signals that control intracellular biochemical events that alter the gene expression program of T-cells (PubMed:24665965). Stimulation upon engagement of its cognate ligands CD80 or CD86 increases proliferation and expression of various cytokines in particular IL2 production in both CD4(+) and CD8(+) T-cell subsets (PubMed:12196291, PubMed:1650475, PubMed:35397202). Mechanistically, ligation induces recruitment of protein kinase C-theta/PRKCQ and GRB2 leading to NF-kappa-B activation via both PI3K/Akt-dependent and -independent pathways (PubMed:21964608, PubMed:24665965, PubMed:7568038). In conjunction with TCR/CD3 ligation and CD40L costimulation, enhances the production of IL4 and IL10 in T-cells (PubMed:8617933). Isoform 3. Enhances CD40L-mediated activation of NF-kappa-B and kinases MAPK8 and PAK2 in T-cells (PubMed:15067037).

## Storage

| | |
|---|---|
| **Shipped at conditions** | Blue Ice |
| **Appropriate short-term storage conditions** | +4°C |
| **Appropriate long-term storage conditions** | +4°C |
| **Storage information** | Store in the dark |

## Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

| | |
|---|---|
| **Activity summary** | CD28 also known as T-cell-specific surface glycoprotein CD28 or TP44 plays an important role as a co-stimulatory receptor on T cells. This glycoprotein has a molecular mass of about 44 kDa and is located mainly on the cell surface of T cells. CD28 expression also occurs on thymocytes and some B cells. It forms part of the immunoglobulin superfamily featuring in significant antibody interactions. Researchers often use anti-CD28 antibodies for various immunological assays including CD28 ELISA to study its function. |
| **Biological function summary** | CD28 co-stimulates T cells after antigen presentation. It enhances T cell proliferation survival and cytokine production. CD28 functions alongside the T cell receptor (TCR) complex mediating signals that promote full T cell activation. This interaction amplifies the immune response forming an important axis of immune system communication. CD28 interacts with its ligands B7-1 (CD80) and B7-2 (CD86) found on antigen-presenting cells (APCs) illustrating its role in immune system dynamics. |
| **Pathways** | CD28 is integral to the PI3K/Akt and MAPK/ERK signaling pathways. These pathways conduct signals critical for cellular growth and survival linking CD28 to downstream transcription factors. The interaction with another protein CTLA-4 acts as a regulatory balance for CD28 signaling preventing over-activation of T cells. This balance influences immune homeostasis and tolerance providing a framework for understanding costimulatory and inhibitory signaling. |
| **Associated diseases and disorders** | CD28's role becomes evident in autoimmune diseases and transplant rejection. Abnormal CD28 signaling links to rheumatoid arthritis where inappropriate T cell activation occurs. Similarly CD28 activity contributes to organ transplant rejection by stimulating T cell-mediated responses against transplanted tissues. CTLA-4 through regulatory feedback can modify these effects providing therapeutic target strategies for managing such disorders. Efforts to modulate CD28 activity involve developing therapeutic agents such as anti-CD28 monoclonal antibodies. |

## 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**

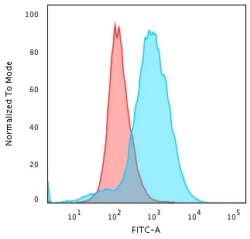
We do not recommend this combination. It is not covered by our product promise.

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.

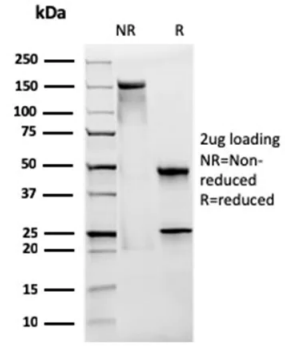
## 3 product images




### Flow Cytometry - PE Anti-CD28 antibody [CB28] (ab193332)

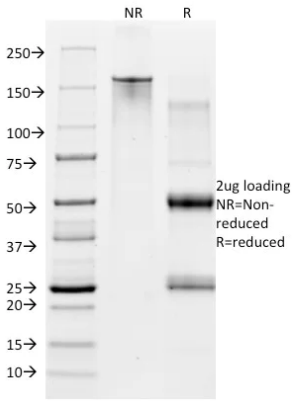
CD28 Flow Cytometry staining of Jurkat (human T-cell acute lymphoblastic leukemia cell line) cells using mouse Anti-CD28 antibody

Flow cytometry overlay histogram of PFA-fixed Jurkat cells labeling [CD28] with ab193332 at 1-2ug/million cells (Blue) compared with isotype control (Red). Secondary antibody was goat anti-mouse IgG-CF488.




### SDS-PAGE - PE Anti-CD28 antibody [CB28] (ab193332)

SDS-PAGE Analysis of Purified CD28 Mouse Monoclonal Antibody (CB28). Confirmation of Integrity and Purity of Antibody.




### SDS-PAGE - PE Anti-CD28 antibody [CB28] (ab193332)

SDS-PAGE Analysis of Purified CD28 Mouse Monoclonal Antibody (CB28) (unconjugated). Confirmation of Purity and Integrity of Antibody.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.