abcam

**ab134418**

# PE Anti-CD28 antibody [CD28.2]

Anti-CD28 antibody [CD28.2] conjugated to PE - suitable for flow cytometry, and reacts with human samples. Clone [CD28.2] is a mouse monoclonal antibody and one of the most commonly used clones for flow cytometry.

Design your panel with our interactive flow cytometry panel builder. Click here.

## Key facts

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| **Isotype** | IgG1 |
| **Host species** | Mouse |
| **Conjugation** | PE |
| **Excitation/Emission** | Ex: 480;565nm, Em: 578nm |
| **Storage buffer** | pH: 7.4 Preservative: 0.1% Sodium azide Constituents: PBS, 0.2% BSA |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | Cell preparation containing CD28 protein. The exact immunogen used to generate this antibody is proprietary information. Database link P10747 |
| **Clone number** | CD28.2 |
| **Purification technique** | Size-exclusion chromatography |

## Reactivity data

## Flow Cyt

### Tested

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

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| **Notes** | 20 µl reagent / 100 µl of whole blood or $10^6$ cells in a suspension. |

## Target data

See full target information CD28

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| **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

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| **Shipped at conditions** | Blue Ice |
| **Appropriate short-term storage conditions** | +4°C |
| **Appropriate long-term storage conditions** | +4°C |

## Notes

Short-term exposure to room temperature should not affect the quality of the antibody.

## Supplementary info

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

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| **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. |

| | |
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| **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.

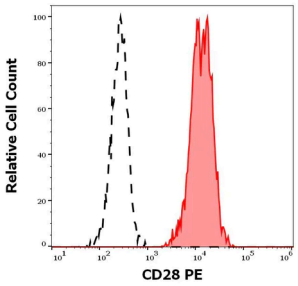
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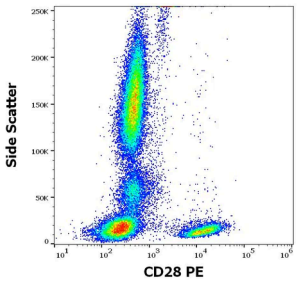
## 2 product images




### Flow Cytometry - PE Anti-CD28 antibody [CD28.2] (ab134418)

CD28 Flow Cytometry staining using mouse Anti-CD28 antibody

Separation of human CD28 positive lymphocytes (red-filled) from CD28 negative lymphocytes (black-dashed) in flow cytometry analysis (surface staining) of human peripheral whole blood stained using ab134418 (20 µl reagent / 100 µl of peripheral whole blood).




### Flow Cytometry - PE Anti-CD28 antibody [CD28.2] (ab134418)

CD28 Flow Cytometry staining using mouse Anti-CD28 antibody

Flow cytometry surface staining pattern of human peripheral whole blood stained using ab134418 (20 µl reagent / 100 µl of peripheral whole blood).

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