abcam

ab176502

PE Anti-CD28 antibody [JJ319]

Anti-CD28 antibody [JJ319] conjugated to PE - suitable for flow cytometry, and reacts with rat samples. Clone [JJ319] is a mouse monoclonal antibody cited in 6 publications.

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Key facts

Isotype	IgG1
Host species	Mouse
Conjugation	PE
Excitation/Emission	Ex: 480;565nm, Em: 578nm
Storage buffer	pH: 7.4 Preservative: 0.098% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing Cd28 protein. The exact immunogen used to generate this antibody is proprietary information. Database link P31041
Clone number	JJ319
Purification technique	Size-exclusion chromatography

Reactivity data

Flow Cyt

Tested

Species	Rat
Dilution info	1-5 µg/mL

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:7688139). 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. 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. 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. In conjunction with TCR/CD3 ligation and CD40L costimulation, enhances the production of IL4 and IL10 in T-cells.

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

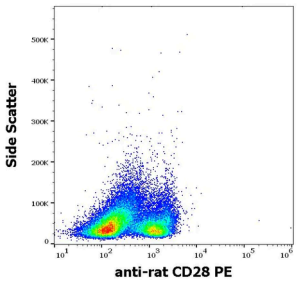
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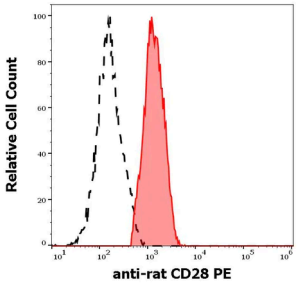
2 product images



Flow Cytometry - PE Anti-CD28 antibody [JJ319] (ab176502)

CD28 Flow Cytometry staining using mouse Anti-CD28 antibody

Flow cytometry surface staining pattern of rat splenocytes stained using ab176502



Flow Cytometry - PE Anti-CD28 antibody [JJ319] (ab176502)

CD28 Flow Cytometry staining using mouse Anti-CD28 antibody

Separation of rat CD28 positive splenocytes (red-filled) from CD28 negative splenocytes (black-dashed) in flow cytometry analysis (surface staining) of murine splenocyte suspension stained using ab176502

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