abcam

ab25234

Anti-CD28 antibody [PV-1]

Key facts

Isotype	IgG
Host species	Armenian hamster
Storage buffer	pH: 8.2 Constituents: 100% Borate buffered saline
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing EL4 cell line protein. The exact immunogen used to generate this antibody is proprietary information.
Clone number	PV-1
Purification technique	Affinity purification
Concentration	0.5 - 1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt

Expected

Species	Mouse
Dilution info	-
Notes	In vitro costimulation of T cells and NK cells. ab18479 - Armenian Hamster monoclonal IgG, is suitable for use as an isotype control with this antibody.

FuncS (Act)

Expected

Species	Mouse
Dilution info	-
Notes	In vitro costimulation of T cells and NK cells.

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	-20°C
Aliquoting information	Upon delivery aliquot

Storage information	Avoid freeze / thaw cycle

Notes

REACH authorisation
Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.
It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

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.

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