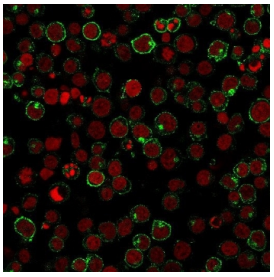
CD28 Antibody 204.12 / CD28 Monoclonal Antibody [clone 204.12] (V2987)

Catalog No.	Formulation	Size
V2987-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2987-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2987SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

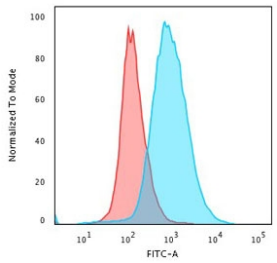
Citations (2)

Bulk quote request

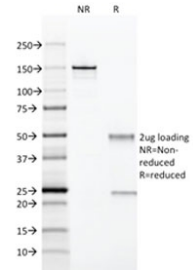
Availability	1-3 business days
Species Reactivity	Human, Mouse
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2a, kappa
Clone Name	204.12
Purity	Protein G affinity chromatography
UniProt	P10747
Localization	Cell surface
Applications	Flow cytometry: 1-2ug/10^6 cells Immunofluorescence: 1-2ug/ml Functional studies in human monocytes (order BSA/sodium azide-free format)
Limitations	This CD28 Antibody 204.12 / CD28 Monoclonal Antibody is available for research use only.



CD28 Antibody 204.12 IF Staining of Human Jurkat Cells. Immunofluorescence analysis of human Jurkat cells using CD28 Monoclonal Antibody clone 204.12 (green). RedDot nuclear counterstaining is shown in red. CD28 immunoreactivity is predominantly associated with the cell periphery, consistent with its localization as a cell surface receptor.



CD28 Antibody 204.12 FACS Staining of Human Jurkat Cells. Flow cytometry analysis of paraformaldehyde-fixed human Jurkat cells using CD28 Monoclonal Antibody clone 204.12. The blue histogram represents CD28-positive staining, while the red histogram represents the isotype control. A clear rightward fluorescence shift demonstrates detection of CD28 in the tested cell population.



CD28 Antibody 204.12 SDS-PAGE Analysis of Purified Antibody. SDS-PAGE analysis of purified, BSA-free CD28 Monoclonal Antibody clone 204.12 under non-reducing (NR) and reducing (R) conditions. The non-reduced antibody migrates at approximately 150 kDa, consistent with intact IgG. The analysis provides an assessment of antibody integrity and purity.

Description

CD28 Antibody 204.12 / CD28 Monoclonal Antibody recognizes CD28, a cell surface glycoprotein belonging to the immunoglobulin superfamily that serves as a major costimulatory receptor in T-cell activation. CD28 is constitutively expressed on most naive T cells and interacts with CD80 (B7-1) and CD86 (B7-2) on antigen-presenting cells. These interactions provide secondary signals that complement T-cell receptor (TCR) engagement, promoting lymphocyte proliferation, survival, cytokine production, and differentiation. CD28 signaling is particularly important for establishing effective adaptive immune responses and preventing T-cell anergy.

Engagement of CD28 activates intracellular signaling pathways involving phosphoinositide 3-kinase (PI3K), AKT, NF-kappaB, and mitogen-activated protein kinases (MAPKs). These pathways regulate IL-2 production, cellular metabolism, and the expression of proteins that support T-cell survival. CD28-mediated costimulation also contributes to the development of immunological memory and influences the magnitude and duration of immune responses. Altered CD28 expression and signaling have been associated with immune senescence, chronic inflammation, autoimmune disorders, and cancer.

Functional properties of CD28 antibodies have been investigated through receptor cross-linking experiments. In a study by Sandilands et al. (2010), clone 204.12 was evaluated alongside other anti-CD28 monoclonal antibodies in human leukocyte cultures. Antibody-mediated CD28 cross-linking induced inflammatory cytokine responses, with monocytes identified as an important source of TNF-alpha production. Clone 204.12 was classified as a non-superagonistic antibody, distinguishing its activity from CD28 superagonists capable of inducing unusually strong T-cell responses. Although these experiments demonstrated biological activity under specific conditions, agonistic or costimulatory activity in primary mouse T cells was not established.

CD28 remains an important target for investigating T-cell costimulation, immune regulation, and antibody-mediated receptor signaling. CD28 Antibody 204.12 provides a clone-specific reagent for examining CD28 expression and studying receptor-associated immune responses, with functional applications requiring consideration of cell type, antibody presentation, and experimental conditions.

For additional CD28 detection studies, see our CD28 Antibody CB28, which has been cited in multiple scientific publications.

Application Notes

Optimal dilution of the CD28 Antibody 204.12 / CD28 Monoclonal Antibody should be determined by the researcher.

Immunogen

Stimulated human leukocytes were used as the immunogen for the CD28 antibody.

Storage

Store the CD28 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

CD28 receptor antibody, T cell costimulatory receptor antibody, T lymphocyte activation antigen antibody, CD28 antigen antibody, TP44 antibody

References (1)

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