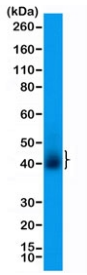
Recombinant CD28 Antibody RM404 / CD28 Rabbit Monoclonal antibody [clone RM404] (R20420)

Catalog No.	Formulation	Size
R20420-0.1ML	Antibody in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ul

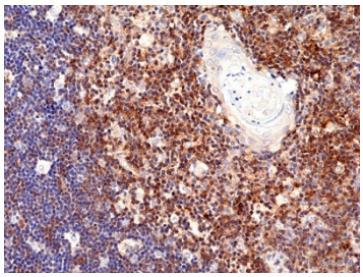
Recombinant RABBIT MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM404
Purity	Protein A purified from animal origin-free supernatant
UniProt	P10747
Localization	Cell surface
Applications	Immunohistochemistry (FFPE): 1:100-1:200 Western blot: 1:100-1:200
Limitations	This Recombinant CD28 Antibody RM404 / CD28 Rabbit Monoclonal antibody is available for research use only.



Recombinant CD28 Antibody RM404 WB Analysis of Human T-Cell Lysate. Western blot analysis of human T-cell lysate using CD28 Rabbit Monoclonal antibody clone RM404 at a 1:200 dilution. A prominent immunoreactive band is detected at approximately 44 kDa, consistent with the reported molecular weight range of glycosylated CD28 monomers (approximately 25-44 kDa). CD28 can also form disulfide-linked homodimers with higher apparent molecular weights.



Recombinant CD28 Antibody RM404 IHC Staining of Human Thymus Tissue. Immunohistochemical analysis of formalin-fixed, paraffin-embedded human thymus tissue using CD28 Rabbit Monoclonal antibody clone RM404 at a 1:200 dilution. Brown DAB staining is observed throughout the lymphoid tissue, with prominent immunoreactivity among thymocyte populations. The staining pattern is consistent with CD28 expression during T-cell development.

Description

Recombinant CD28 Antibody RM404 / CD28 Rabbit Monoclonal antibody recognizes CD28, a type I transmembrane glycoprotein belonging to the immunoglobulin superfamily that functions as a major costimulatory receptor in T-cell activation. Also known as TP44, CD28 is expressed on most naive CD4-positive T cells and a substantial proportion of CD8-positive T cells. Its natural ligands, CD80 (B7-1) and CD86 (B7-2), are expressed primarily on antigen-presenting cells, including dendritic cells, macrophages, and B lymphocytes. Engagement of CD28 provides essential secondary signals that complement T-cell receptor (TCR) activation, promoting lymphocyte proliferation, survival, and cytokine production.

CD28-mediated costimulation activates intracellular signaling pathways involving phosphoinositide 3-kinase (PI3K), AKT, NF-kappaB, and mitogen-activated protein kinases (MAPKs). These pathways enhance IL-2 production, regulate cellular metabolism, and promote the expression of anti-apoptotic proteins. CD28 signaling also helps prevent T-cell anergy, a state of functional unresponsiveness that can develop when antigen recognition occurs without adequate costimulation. Through these mechanisms, CD28 contributes to effective adaptive immune responses, T-cell differentiation, and the establishment of immunological memory.

CD28 expression varies among T-cell populations and changes during immune differentiation, chronic antigen exposure, and aging. Progressive loss of CD28 is frequently observed in highly differentiated CD8-positive T cells and is associated with immunosenescence, chronic viral infections, and altered immune function. CD28 also contributes to regulatory T-cell development and maintenance, supporting immune tolerance and homeostasis. Abnormalities in CD28 signaling have been implicated in autoimmune diseases, chronic inflammation, and cancer, making the receptor an important focus of immunological and therapeutic research.

CD28 is a glycosylated protein that can form disulfide-linked homodimers, contributing to its characteristic molecular weight variation under different experimental conditions. Its expression and biochemical properties provide valuable information about T-cell populations and receptor-associated immune responses. Recombinant CD28 Antibody RM404 supports investigations of CD28 protein expression and distribution, while studies of CD28 signaling continue to clarify the mechanisms governing T-cell activation and immune regulation.

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

Application Notes

The stated application concentrations are suggested starting points. Titration of the Recombinant CD28 Antibody RM404 / CD28 Rabbit Monoclonal antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A peptide corresponding to residues near the C-terminus of human CD28 was used as the immunogen for the recombinant CD28 antibody.

Storage

Store the recombinant CD28 antibody at -20oC.

Alternate Names

TP44 antibody, T cell costimulatory receptor antibody, T lymphocyte activation antigen antibody, CD28 antigen antibody, T cell-specific surface glycoprotein CD28 antibody

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