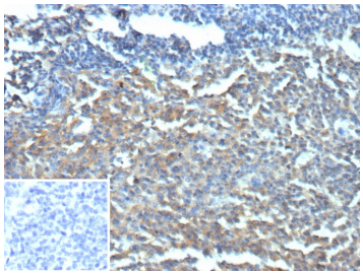
CD40 Molecule Antibody [clone r11E9] (V6045)

Catalog No.	Formulation	Size
V6045-100UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V6045-20UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug
V6045SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

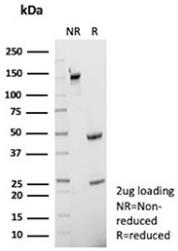
Recombinant MOUSE MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG2b, kappa
Clone Name	r11E9
UniProt	P25942
Localization	Cell membrane, Secreted
Applications	Immunohistochemistry (FFPE): 1-2ug/ml Western Blot: 2-4ug/ml
Limitations	This CD40/CD40 molecule antibody is available for research use only.



Immunohistochemistry of CD40 Molecule Antibody in human tonsil tissue. FFPE human tonsil demonstrates membranous and cytoplasmic HRP-DAB brown staining in lymphoid cells within germinal centers and interfollicular regions, consistent with CD40 expression in B lymphocytes and antigen-presenting cells. Clone r11E9 was used for detection. Heat-induced epitope retrieval was performed by heating tissue sections in 10 mM Tris with 1 mM EDTA, pH 9.0, at 95oC for 45 minutes followed by cooling at room temperature for 20 minutes. Inset shows PBS used in place of primary antibody as a secondary-only negative control.



SDS-PAGE Analysis of Purified CD40 Molecule Antibody (clone r11E9). Confirmation of Purity and Integrity of Antibody.

Description

CD40 molecule antibody recognizes CD40 molecule, also known as Tumor necrosis factor receptor superfamily member 5 antibody and TNFRSF5 antibody, a type I transmembrane receptor belonging to the tumor necrosis factor receptor superfamily. CD40 is expressed on the surface of B lymphocytes, dendritic cells, macrophages, and other antigen-presenting cells, where it plays a central role in regulating adaptive immune responses. CD40 Molecule Antibody | Clone r11E9 targets this immunoregulatory receptor for research applications investigating immune activation and lymphoid tissue biology.

CD40 signaling is essential for T cell-dependent humoral immunity. Engagement of CD40 by its ligand CD154, also referred to as CD40 ligand or CD40L, expressed on activated CD4-positive T cells, leads to receptor trimerization and recruitment of TNF receptor-associated factors. This activates downstream pathways including NF-kappaB, MAPK, and PI3K, resulting in B cell proliferation, immunoglobulin class-switch recombination, germinal center formation, and memory B cell differentiation. In dendritic cells and macrophages, CD40 stimulation enhances antigen presentation and cytokine secretion, strengthening T cell priming and immune coordination.

CD40 antibody research has been instrumental in understanding immune regulation, chronic inflammation, and tumor immunology. CD40 expression is prominent in reactive lymphoid tissues and in multiple B cell malignancies such as diffuse large B cell lymphoma, follicular lymphoma, and chronic lymphocytic leukemia. In addition to hematopoietic cells, CD40 expression can be induced in endothelial and epithelial cells during inflammatory conditions, linking CD40 signaling to autoimmune disorders and vascular inflammation.

The CD40 protein contains extracellular cysteine-rich domains responsible for ligand binding and a cytoplasmic tail that mediates signaling through adaptor protein recruitment rather than intrinsic kinase activity. The CD40 gene is located on chromosome 20q13.12, and its expression is tightly regulated throughout B cell maturation and immune activation. Dysregulated CD40 signaling contributes to pathological immune activation and has been explored as a therapeutic target in both autoimmune disease and cancer immunotherapy.

Clone r11E9 is a recombinant mouse monoclonal antibody that recognizes CD40 and supports detection of CD40 expression in research models. By targeting CD40 with high specificity, this antibody facilitates studies of B cell activation, antigen-presenting cell function, and CD40-mediated signaling pathways.

Application Notes

1. Optimal dilution of the CD40/CD40 molecule antibody should be determined by the researcher.

2. This CD40/CD40 molecule antibody is recombinantly produced by expression in CHO cells.

Immunogen

Prokaryotic recombinant fusion protein corresponding to the entire external domain of the CD40 molecule was used as the immunogen for the CD40/CD40 molecule antibody.

Storage

CD40/CD40 molecule antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.

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