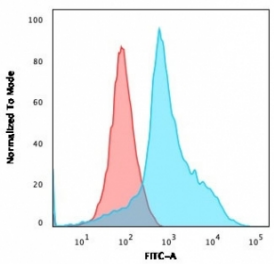
CD40L Antibody / TNFSF5 Antibody [clone CD40LG/2763] (V8248)

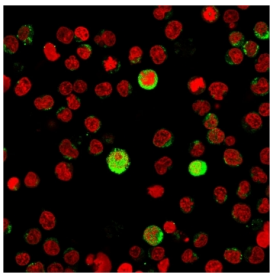
Catalog No.	Formulation	Size
V8248-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V8248-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V8248SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

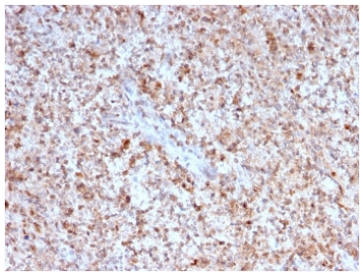
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	CD40LG/2763
Purity	Protein G affinity chromatography
UniProt	P29965
Localization	Cell surface, secreted
Applications	ELISA (order BSA-free format for coating) Flow cytometry: 1-2ug/10^6 cells in 0.1ml Immunofluorescence: 1-2ug/ml Immunohistochemistry (FFPE): 1-2ug/ml
Limitations	This CD40L Antibody / TNFSF5 Antibody is available for research use only.



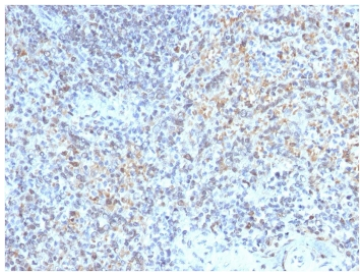
CD40L Antibody Human Jurkat T Cell FACS. Flow cytometry analysis of human Jurkat T cells using CD40L Antibody / TNFSF5 Antibody (clone CD40LG/2763). The blue histogram represents cells stained with CD40L antibody, while the red histogram represents the isotype control. The positive fluorescence shift demonstrates detection of CD40L in the Jurkat T cell population, supporting analysis of TNFSF5 expression and T cell costimulatory signaling by flow cytometry.



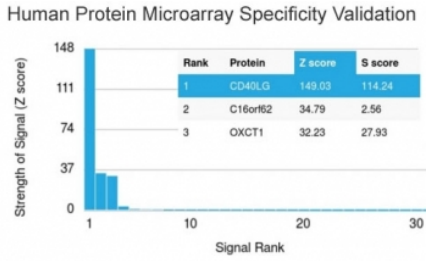
CD40L Antibody Human Jurkat T Cell IF. Immunofluorescence staining of human Jurkat T cells with CD40L Antibody / TNFSF5 Antibody (clone CD40LG/2763), visualized in green. Nuclei were counterstained with RedDot nuclear stain (red). CD40L staining is detected in a subset of Jurkat cells, supporting analysis of TNFSF5 expression in this human T lymphocyte cell model.



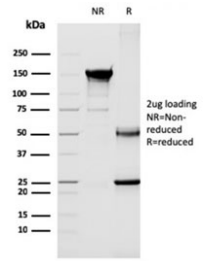
CD40L Antibody Human Spleen TNFSF5 IHC. Immunohistochemistry staining of FFPE human spleen tissue with CD40L Antibody / TNFSF5 Antibody (clone CD40LG/2763). Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in 10 mM citrate buffer, pH 6, for 10-20 min followed by cooling at RT for 20 min. CD40L staining is observed in immune cell populations within the spleen, supporting analysis of TNFSF5 expression in lymphoid tissue.



CD40L Antibody Human Spleen Lymphoid Tissue IHC. Immunohistochemistry staining of FFPE human spleen tissue with CD40L Antibody / TNFSF5 Antibody (clone CD40LG/2763). Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in 10 mM citrate buffer, pH 6, for 10-20 min followed by cooling at RT for 20 min. CD40L staining is detected in a subset of cells within the splenic lymphoid tissue, supporting analysis of TNFSF5 expression in immune cell populations.



CD40L Antibody HuProt Protein Microarray Validation. Protein microarray analysis of CD40L Antibody / TNFSF5 Antibody (clone CD40LG/2763) using a HuProt microarray containing more than 19,000 full-length human proteins. CD40LG produced the highest-ranked signal, with a Z-score of 149.03 and an S-score of 114.24, demonstrating strong relative specificity for the intended target. The Z-score represents signal strength in standard deviations above the mean signal across the array, while the S-score measures the separation between the intended target and the next highest-ranked protein and therefore reflects relative target specificity.



CD40L Antibody Purity and Integrity by SDS-PAGE. SDS-PAGE analysis of purified, BSA-free CD40L Antibody / TNFSF5 Antibody (clone CD40LG/2763) under non-reducing (NR) and reducing (R) conditions with 2 ug of antibody loaded per lane. The observed electrophoretic pattern under reducing and non-reducing conditions confirms the integrity and purity of the purified monoclonal antibody preparation.

Description

CD40L Antibody / TNFSF5 Antibody recognizes CD40 ligand, a member of the tumor necrosis factor ligand superfamily encoded by the CD40LG gene. Also known as CD154, TNFSF5 and TRAP, CD40L is a cell-surface and soluble immune signaling protein with an important role in communication between activated T cells and CD40-expressing cells. CD40L expression is particularly associated with activated CD4-positive T cells and is induced rapidly following T-cell activation, making the protein an important marker and mediator of adaptive immune responses.

CD40L binds CD40, a receptor expressed on several immune cell populations, including B cells, macrophages and dendritic cells. CD40-CD40L interactions provide costimulatory signals that help coordinate cellular and humoral

immunity. In B cells, engagement of CD40 by CD40L-expressing T cells contributes to proliferation, differentiation, immunoglobulin isotype switching and memory B-cell formation. CD40L can also promote activation of antigen-presenting cells and thereby influence antigen-specific T-cell responses.

CD40L signaling extends beyond direct T-cell and B-cell interactions. Activation of dendritic cells through CD40 can promote interleukin-12 production, while CD40-CD40L interactions involving other antigen-presenting cells can stimulate inflammatory mediators. The pathway therefore represents an important research target in T-cell activation, B-cell biology, immune costimulation, inflammation and mechanisms regulating adaptive immunity.

Clone CD40LG/2763 is a mouse monoclonal antibody generated using amino acids 108-261 of human CD40L as the immunogen. Its specificity has been evaluated on a HuProt protein microarray containing more than 19,000 full-length human proteins. In this assay, the Z-score represents antibody signal strength in standard deviations above the mean signal across the array, while the S-score measures separation between the intended target and the next highest-ranked protein and therefore indicates relative target specificity. Additional validation includes FFPE human spleen IHC and analysis of human Jurkat cells by immunofluorescence and flow cytometry.

A CD40L Antibody can be used to investigate TNFSF5 expression, CD40-CD40L interactions, T-cell activation and signaling mechanisms that regulate B-cell and antigen-presenting cell responses.

CD40L, also known as CD154 and TNFSF5, mediates immune costimulatory signaling through CD40; additional information on this pathway and target biology is available on the CD40 Ligand Antibody page.

Application Notes

Optimal dilution of the CD40L Antibody / TNFSF5 Antibody should be determined by the researcher.

Immunogen

A portion of amino acids 108-261 from the human protein was used as the immunogen for the CD40L antibody.

Storage

Store the CD40L antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

CD40L antibody, TNFSF5 antibody, CD40LG antibody, CD40 Ligand antibody, CD154 antibody, Tumor Necrosis Factor Ligand Superfamily Member 5 antibody

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