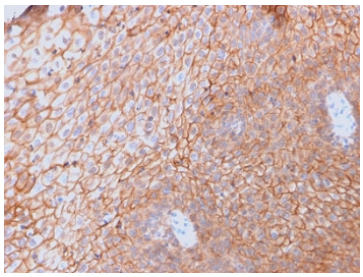
CD40 Ligand Antibody / T Cell Costimulatory Marker [clone CD40LG/2761] (V7385)

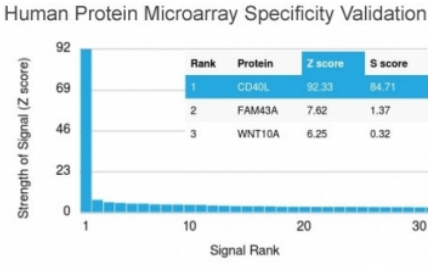
Catalog No.	Formulation	Size
V7385-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V7385-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V7385SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V7385IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

Bulk quote request

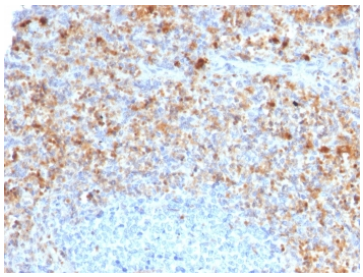
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	CD40LG/2761
Purity	Protein G affinity chromatography
UniProt	P29965
Localization	Cell surface, secreted
Applications	ELISA: order BSA/sodium azide-free format for coating Flow cytometry: 1-2ug/million cells Immunofluorescence: 1-2ug/ml Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This CD40 Ligand Antibody / T Cell Costimulatory Marker is available for research use only.



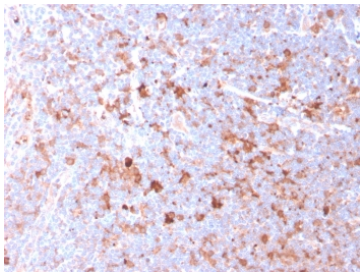
CD40 Ligand Antibody Human Spleen IHC. Immunohistochemistry staining of FFPE human spleen tissue with CD40 Ligand Antibody / T Cell Costimulatory Marker (clone CD40LG/2761). Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in 10 mM citrate buffer, pH 6, for 10-20 min followed by cooling at RT for 20 min. CD40 ligand, also known as CD154, is an immune costimulatory molecule associated with activated T cells and CD40-mediated immune signaling.



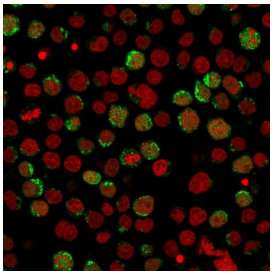
CD40 Ligand Antibody HuProt Protein Microarray Validation. Protein microarray analysis of CD40 Ligand Antibody / T Cell Costimulatory Marker (clone CD40LG/2761) using a HuProt microarray containing more than 19,000 full-length human proteins. CD40L produced the highest-ranked signal, with a Z-score of 92.33 and an S-score of 84.71, 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.



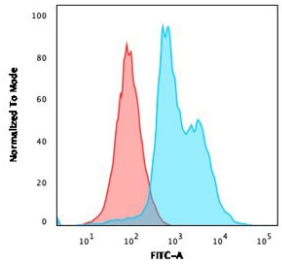
CD40 Ligand Antibody Human Spleen Immune Cell IHC. Immunohistochemistry staining of FFPE human spleen tissue with CD40 Ligand Antibody / T Cell Costimulatory Marker (clone CD40LG/2761). Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in 10 mM citrate buffer, pH 6, for 10-20 min followed by cooling at RT for 20 min. CD40 ligand staining is observed in a subset of cells within the splenic tissue, consistent with its role as an immune costimulatory molecule and T cell activation marker.



CD40 Ligand Antibody Human Tonsil Immune Cell IHC. Immunohistochemistry staining of FFPE human tonsil tissue with CD40 Ligand Antibody / T Cell Costimulatory Marker (clone CD40LG/2761). 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. CD40 ligand staining is observed in a subset of cells within the tonsil, consistent with its expression in activated immune cell populations and role in immune costimulation.



CD40 Ligand Antibody Human Jurkat T Cell IF. Immunofluorescence staining of paraformaldehyde-fixed human Jurkat T cells with CD40 Ligand Antibody / T Cell Costimulatory Marker (clone CD40LG/2761), visualized in green. Nuclei were counterstained with RedDot nuclear stain (red). CD40 ligand staining is detected in a subset of Jurkat cells, consistent with the heterogeneous expression of this T cell costimulatory molecule within the cell population.



CD40 Ligand Antibody Human Jurkat T Cell FACS. Flow cytometry analysis of human Jurkat T cells using CD40 Ligand Antibody / T Cell Costimulatory Marker (clone CD40LG/2761). The blue histogram represents cells stained with CD40 Ligand antibody, while the red histogram represents the isotype control. The positive fluorescence shift demonstrates detection of CD40 ligand in the Jurkat T cell population, supporting analysis of this T cell costimulatory molecule by flow cytometry.

Description

CD40 Ligand Antibody / T Cell Costimulatory Marker recognizes CD40 ligand (CD40L), a member of the tumor necrosis factor ligand superfamily encoded by the CD40LG gene. Also known as CD154 and TNFSF5, CD40 ligand is a type II membrane protein expressed prominently on activated T cells. Interaction of CD40L with its receptor CD40 provides an important costimulatory signal that coordinates communication between T cells and antigen-presenting cells. CD40LG expression is induced following T-cell activation, making CD40 ligand useful in studies of lymphocyte activation and immune costimulatory signaling.

CD40-CD40L signaling has important effects on both cellular and humoral immune responses. CD40 is expressed by B cells and multiple antigen-presenting cell populations, including macrophages and dendritic cells. Engagement of CD40 on B cells by CD40L-expressing T cells promotes B-cell proliferation and differentiation and contributes to immunoglobulin class switching and memory B-cell formation. CD40L-mediated activation of antigen-presenting cells can also enhance inflammatory cytokine production and support antigen-specific T-cell responses.

The CD40-CD40L axis therefore provides an important link between T-cell activation and the activation of other immune cell populations. CD40 ligand has been studied in adaptive immunity, inflammatory signaling, immune regulation and immuno-oncology. Disruption of normal CD40LG function can impair immunoglobulin class switching and is associated with X-linked hyper-IgM syndrome, further demonstrating the importance of this signaling pathway in effective humoral immunity.

Clone CD40LG/2761 is a mouse monoclonal antibody generated against a recombinant region corresponding to amino acids 108-261 of human CD40 ligand. Specificity has been evaluated using a HuProt protein microarray containing more than 19,000 full-length human proteins. In protein microarray analysis, the Z-score represents signal strength relative to the distribution of signals across the array, while the S-score represents the separation between the intended target and the next highest signal and therefore provides a measure of relative target specificity. Additional validation includes human tissue IHC and analysis of Jurkat T cells by immunofluorescence and flow cytometry.

A CD40 Ligand Antibody can be used to investigate CD40-CD40L interactions, T-cell activation, lymphocyte costimulation and mechanisms regulating B-cell and antigen-presenting cell responses.

CD40 ligand, also known as CD154, is an important T cell costimulatory molecule and a member of the broader group of immune targets featured on the CD Antibodies page.

Application Notes

Optimal dilution of the CD40 Ligand Antibody / T Cell Costimulatory Marker should be determined by the researcher.

1. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

A portion of amino acids 108-261 from the human protein was used as the immunogen for the CD40 Ligand antibody.

Storage

Store the CD40 Ligand antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

CD40 Ligand antibody, CD40L antibody, CD154 antibody, CD40LG antibody, TNFSF5 antibody, T Cell Costimulatory Marker antibody

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