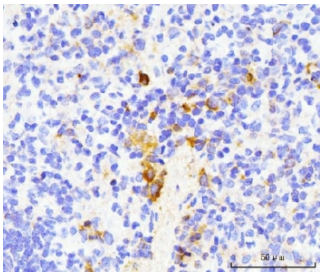
Mouse/Rat CD154 Antibody (RQ6604)

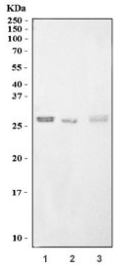
Catalog No.	Formulation	Size
RQ6604	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q9Z2V2
Localization	Cell surface, secreted
Applications	Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Direct ELISA: 0.1-0.5ug/ml
Limitations	This Mouse/Rat CD154 Antibody is available for research use only.



Mouse/Rat CD154 Antibody Rat Spleen Immune Cell IHC. Immunohistochemistry staining of FFPE rat spleen tissue with Mouse/Rat CD154 Antibody. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in EDTA buffer, pH 8, for 20 min followed by cooling before staining. CD154 staining is observed in a subset of cells within the splenic tissue, supporting detection of this T cell-associated immune costimulatory molecule in rat lymphoid tissue.



Mouse/Rat CD154 Antibody Rat and Mouse Immune Cell WB. Western blot analysis of Mouse/Rat CD154 Antibody using 1) rat C6 cell, 2) mouse thymus and 3) mouse RAW264.7 macrophage cell lysate. CD154 is detected at approximately 27-29 kDa across the samples tested. The expected molecular weight is 29-39 kDa depending on glycosylation level, while the soluble form is approximately 18 kDa. The observed bands are near the expected molecular weight range for CD154.

Description

Mouse/Rat CD154 Antibody recognizes CD154, an immune costimulatory protein encoded by the CD40LG gene and widely known as CD40 ligand or CD40L. CD154 is a member of the tumor necrosis factor ligand superfamily that is expressed prominently following T cell activation. Interaction of CD154 with its receptor CD40 provides an important communication pathway between activated T cells and CD40-expressing immune cells, making CD154 an important target for studies of adaptive immunity in mouse and rat models.

CD154-CD40 signaling plays a central role in T cell-dependent B-cell responses. CD40 is expressed by B cells and several antigen-presenting cell populations, including dendritic cells and macrophages. Engagement of CD40 by CD154 on activated T cells promotes B-cell activation, proliferation and differentiation and contributes to immunoglobulin class switching and memory B-cell development. This interaction therefore provides a mechanistic link between T-cell activation and the development of effective humoral immune responses.

CD154 also contributes to communication between T cells and antigen-presenting cells. CD40 signaling can influence dendritic cell activation and cytokine production, while CD154-CD40 interactions involving macrophages can contribute to inflammatory and immune regulatory responses. Because these processes can be investigated experimentally in rodent systems, mouse and rat CD154 are relevant targets in studies of immune activation, inflammation, lymphocyte biology and mechanisms controlling adaptive immune responses.

CD154 is also referred to as CD40L, CD40 ligand, CD40LG and TNFSF5. Although these names describe the same target, CD154 emphasizes its cluster of differentiation designation, while CD40LG is the official gene symbol. Species-reactive antibodies provide a means of examining this signaling pathway in mouse and rat cells and tissues and can complement studies of the corresponding human CD154/CD40LG pathway.

A Mouse/Rat CD154 Antibody can be used to investigate CD40 ligand expression, T cell costimulation and CD154-CD40 signaling in rodent models of immune and inflammatory biology.

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 Mouse/Rat CD154 Antibody should be determined by the researcher.

Immunogen

Recombinant rat protein (amino acids M112-L260) was used as the immunogen for the CD154 antibody.

Storage

After reconstitution, the CD154 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

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

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