

# PRODUCT INFORMATION

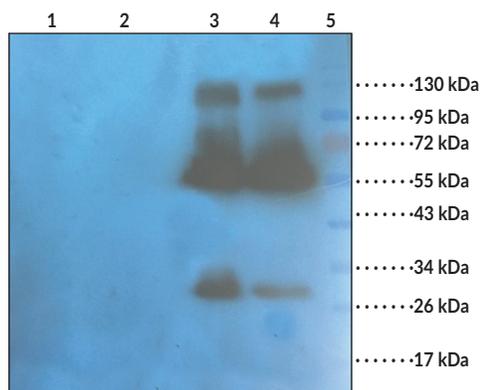
## CD40 Ligand Chimeric Monoclonal Antibody (Clone hu5c8)

Item No. 37162

### Overview and Properties

<b>Contents:</b>	This vial contains 200 µg of protein A-affinity purified monoclonal antibody.
<b>Synonyms:</b>	CD40L, CD154, T-BAM, T Cell Antigen Gp39, T Cell-B Cell-activating Molecule, TNF Ligand Superfamily Member 5, TNF-related Activation Protein, TRAP
<b>Immunogen:</b>	Human CD40L
<b>Cross Reactivity:</b>	(+) CD40L
<b>Species Reactivity:</b>	(+) Human; other species not tested
<b>Uniprot No.:</b>	P29965
<b>Form:</b>	Liquid
<b>Storage:</b>	-20°C (as supplied)
<b>Stability:</b>	≥1 year
<b>Storage Buffer:</b>	PBS with 0.02% ProClin™ 300
<b>Concentration:</b>	1 mg/ml
<b>Clone:</b>	hu5c8 (Ruplizumab)
<b>Host:</b>	Chimeric Monoclonal Antibody
<b>Isotype:</b>	IgG1κ
<b>Applications:</b>	Flow Cytometry (FC) and Western blot (WB); block, working concentration/dilution should be determined empirically.

### Images



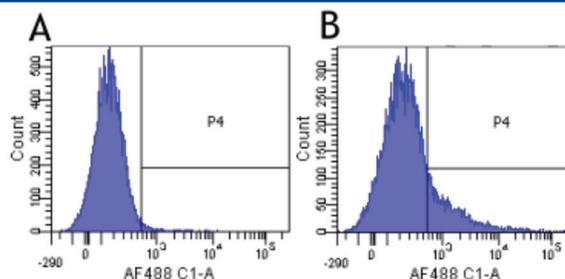
**Lane 1:** Rat spleen and probe CD40 Ligand Chimeric Monoclonal Antibody (Clone hu5c8) (Item No. 37162) (1 µg/ml)

**Lane 2:** Rat muscle and probe CD40 Ligand Chimeric Monoclonal Antibody (Clone hu5c8) (Item No. 37162) (1 µg/ml)

**Lane 3:** Rat bladder and probe CD40 Ligand Chimeric Monoclonal Antibody (Clone hu5c8) (Item No. 37162) (1 µg/ml)

**Lane 4:** Human breast tumour and probe CD40 Ligand Chimeric Monoclonal Antibody (Clone hu5c8) (Item No. 37162) (1 µg/ml)

**Lane 5:** Human thyroid tumour and probe CD40 Ligand Chimeric Monoclonal Antibody (Clone hu5c8) (Item No. 37162) (1 µg/ml)



Flow cytometry using the CD40 Ligand Chimeric Monoclonal Antibody (Item No. 37162). Human lymphocytes were stained with an isotype control (panel A) or the rabbit-chimeric version of Ruplizumab (panel B) at a concentration of 1 µg/ml for 30 minutes at room temperature. After washing, bound antibody was detected using a AF488 conjugated donkey anti-rabbit antibody and cells analysed on a FACSCanto™ flow-cytometer.

**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

**WARRANTY AND LIMITATION OF REMEDY**  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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## Description

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CD40 ligand (CD40L) is a type II transmembrane protein and member of the TNF superfamily encoded by *CD40LG* in humans.<sup>1</sup> It is expressed primarily by activated T cells, as well as activated B cells and platelets and, under inflammatory conditions, can be induced in natural killer (NK) cells, mast cells, basophils, and monocytes. CD40L trimerizes to engage its receptor, CD40, on various cells, including B cells, dendritic cells, monocytes, platelets, macrophages, endothelial cells, and myoblasts, to induce cell type-specific signaling and activities. Soluble CD40L (sCD40L) is produced by proteolytic cleavage of CD40L at the cell surface and is found in the circulation.<sup>2,3</sup> sCD40L retains its ability to trimerize and bind to CD40, indicating CD40L can act as a cytokine.<sup>2</sup> CD40L stimulates the proliferation of, and increases IgE secretion in, isolated human tonsil B cells.<sup>4</sup> Immune complexes targeting CD40L induce thrombocytopenia and thrombosis in transgenic mice expressing the gene encoding the human IgG receptor (*FCGR2A*).<sup>5</sup> Mutations in *CD40LG* are associated with X-linked immunodeficiency with hyper-IgM (*HIGMX-1*), a disorder characterized by an immunoglobulin isotype switch defect, increased serum IgM levels, ineffective T cell-B cell cooperation, and recurrent bacterial infections.<sup>6</sup> Cayman's CD40 Ligand Chimeric Monoclonal Antibody (Clone hu5c8) was produced recombinantly from the original hu5c8 antibody sequence and can be used for flow cytometry (FC) and Western blot (WB) applications. The hu5c8 antibody was generated by fusing human IgG1k constant domains to the antigen-binding domain of a mouse anti-CD40L monoclonal antibody.<sup>7</sup>

## References

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1. Elgueta, R., Benson, M.J., de Vries, V.C., *et al.* Molecular mechanism and function of CD40/CD40L engagement in the immune system. *Immunol. Rev.* **229(1)**, 152-172 (2009).
2. van Kooten, C. and Banchereau, J. CD40-CD40 Ligand. *J. Leukoc. Biol.* **67(1)**, 2-17 (2000).
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6. Macchi, P., Villa, A., Strina, D., *et al.* Characterization of nine novel mutations in the CD40 ligand gene in patients with X-linked hyper IgM syndrome of various ancestry. *Am. J. Hum. Genet.* **56(4)**, 898-906 (1995).
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