

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human CD40 Ligand/TNFSF5 in direct ELISAs and Western blots. In direct ELISAs, approximately 20% cross-reactivity with recombinant mouse CD40 Ligand is observed and less than 1% cross-reactivity with recombinant human (rh) CD27 Ligand and rhCD30 Ligand is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human CD40 Ligand/TNFSF5 Glu108-Leu261 Accession # P29965
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

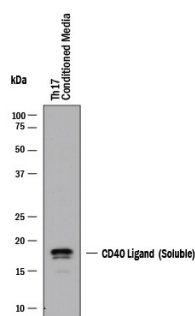
## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	1 µg/mL	See Below
<b>Flow Cytometry</b>	2.5 µg/10 <sup>6</sup> cells	Human peripheral blood mononuclear cells treated with PMA and Ca <sup>2+</sup> ionomycin
<b>CytoF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

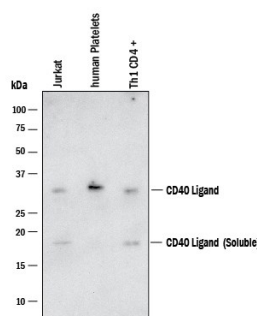
## DATA

### Western Blot



**Detection of Human CD40 Ligand/TNFSF5 by Western Blot.** Western blot shows conditioned media (CM) from Th17 cells. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human CD40 Ligand/TNFSF5 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF617) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for CD40 Ligand/TNFSF5 at approximately 17 kDa (as indicated). This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.

### Western Blot



**Detection of Human CD40 Ligand/TNFSF5 by Western Blot.** Western blot shows lysates of Jurkat human acute T cell leukemia cells, Human Platelets and Th1 CD4+. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human CD40 Ligand/TNFSF5 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF617) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). Specific bands were detected for CD40 Ligand/TNFSF5 at approximately 17 and 32 kDa (as indicated). This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> <li>12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

CD40 ligand, CD40L (also known as CD154, TRAP or gp39), is a 261 amino acid type II transmembrane glycoprotein belonging to the TNF family. CD40L is expressed predominantly on activated CD4<sup>+</sup> T lymphocytes, and also found in other types of cells, like NK cells, mast cells, basophils and eosinophils. Human CD40L shares 78% amino acid identity with its murine counterpart. The receptor of CD40L is CD40, a type I transmembrane glycoprotein belonging to the TNF receptor family. CD40 is expressed on B lymphocytes, monocytes, dendritic cells and thymic epithelium. Although all monomeric, dimeric and trimeric forms of soluble CD40L can bind to CD40, the trimeric form of soluble CD40L has the most potent biological activity through oligomerization of cell surface CD40, a common feature of TNF receptor family members. CD40L mediates a range of activities on B cells including induction of activation-associated surface antigen, entry into cell cycle, isotype switching and Ig secretion and memory generation. CD40-CD40L interaction also plays important roles in monocyte activation and dendritic cell maturation.

## References:

1. Armitage, R.J. *et al.* (1992) *Nature* **357**:80.
2. Hollenbaugh, D. *et al.* (1992) *EMBO J.* **11**:4313.
3. Spriggs, M.K. *et al.* (1992) *J. Exp. Med.* **176**:1543.
4. Fanslow, W.C. *et al.* (1994) *Seminars in Immunology* **6**:267.
5. Kooten, C.V. and J. Banchereau (2000) *J. Leukoc. Biol.* **67**:2.