

# Human Recombinant CD40 Ligand, ACF

Cluster of differentiation 40 ligand, animal component-free

<b>Catalog #78167</b>	10 µg
<b>Catalog #78167.1</b>	100 µg
<b>Catalog #78167.2</b>	1000 µg

## Product Description

CD40 ligand is a type II transmembrane glycoprotein that belongs to the tumor necrosis factor (TNF) superfamily (Quezada et al.). CD40 ligand forms a bioactive homotrimer that exist as both soluble and membrane-bound forms (Khandekar et al.). CD40 ligand is expressed on T cells, monocytes, basophils, eosinophils, platelets, dendritic cells, and endothelial cells. Its receptor, CD40, is expressed on B cells, dendritic cells, macrophages, monocytes, platelets, endothelial cells, and epithelial cells (van Kooten & Banchereau). Binding of CD40 ligand to CD40 stimulates B cell proliferation, immunoglobulin class switching, antibody secretion, and T cell-dependent humoral responses. Dysregulation of CD40 ligand contributes to immune deficiency in HIV and AIDS (Rickert et al.). CD40 ligand has also been linked to the pathology of atherosclerosis, atherothrombosis, and restenosis (Hassan et al.). This product is animal component-free.

## Product Information

<b>Alternative Names:</b>	CD154, CD40L, CD40 antigen ligand, hCD40L, HIGM1, hyper IgM syndrome, IMD3, T-B cell-activating molecule, T-cell antigen Gp39, TNF-related activation protein, TNFSF5, TRAP, Tumor necrosis factor ligand superfamily member 5
<b>Accession Number:</b>	P29965
<b>Amino Acid Sequence:</b>	MQKGDQNPQI AAHVISEASS KTTSVLQWAE KGYTMSNNL VTLENGKQLT VKRQGLYYIY AQVTFCSNRE ASSQAPFIAS LWLKSPGRFE RILLRAANTH SSAKPCGQQS IHLGGVFELQ PGASVFNVT DPSQVSHGTG FTSFGLLKL
<b>Predicted Molecular Mass:</b>	16.3 kDa
<b>Species:</b>	Human
<b>Product Formulation:</b>	Lyophilized from a sterile-filtered solution containing sodium phosphate, pH 7.5.
<b>Source:</b>	E. coli
<b>Purity:</b>	≥ 95%

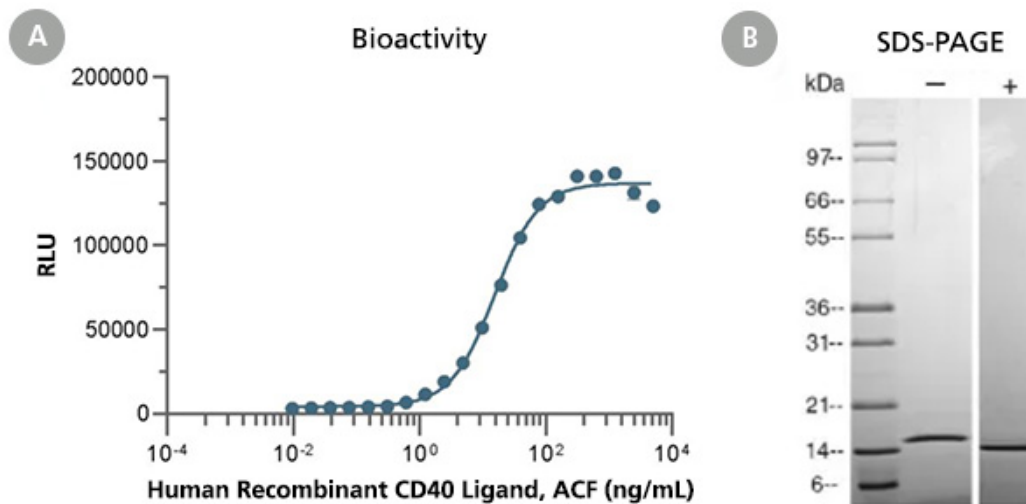
## Specifications

<b>Activity:</b>	The specific activity is $\geq 1 \times 10^4$ units/mg ( $EC_{50} \leq 100$ ng/mL), as determined by the ability to induce bioluminescence in engineered CD40L bioassay cells.
<b>Endotoxin Level:</b>	Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is $\leq 0.1$ EU/ $\mu$ g protein.

## Preparation and Storage

<b>Stability and Storage:</b>	Store at -20 to -80°C. Stable as supplied for 12 months from date of receipt.
<b>Preparation:</b>	Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

## Data



**Figure 1. Biological Activity and Molecular Mass of Human Recombinant CD40 Ligand, ACF**

(A) The biological activity of Human Recombinant CD40 Ligand, ACF was tested by its ability to induce bioluminescence in engineered CD40L bioassay cells. The EC<sub>50</sub> is defined as the effective concentration of the ligand at which bioluminescence is at 50% of maximum. The EC<sub>50</sub> in the example above is  $\leq 100$  ng/mL. (B) 1  $\mu$ g of Human Recombinant CD40 Ligand, ACF was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant CD40 Ligand has a predicted molecular mass of 16.3 kDa.

## Related Products

For a complete list of cytokines or peptide pools, as well as related products available from STEMCELL Technologies, visit [www.stemcell.com/cytokines](http://www.stemcell.com/cytokines), or contact us at [techsupport@stemcell.com](mailto:techsupport@stemcell.com).

## References

- Hassan GS et al. (2012) CD40 ligand: a neo-inflammatory molecule in vascular diseases. *Immunobiology* 217(5): 521–32.
- Khandekar SS et al. (2001) Determination of carbohydrate structures N-linked to soluble CD154 and characterization of the interactions of CD40 with CD154 expressed in *Pichia pastoris* and Chinese hamster ovary cells. *Protein Expr Purif* 23(2): 301–10.
- van Kooten C & Banchereau J. (1997) Functions of CD40 on B cells, dendritic cells and other cells. *Curr Opin Immunol* 9(3): 330–7.
- Quezada SA et al. (2004) CD40/CD154 interactions at the interface of tolerance and immunity. *Annu Rev Immunol* 22: 307–28.
- Rickert RC et al. (2011) Signaling by the tumor necrosis factor receptor superfamily in B-cell biology and disease. *Immunol Rev* 244(1): 115–33.

PRODUCTS ARE FOR RESEARCH USE ONLY AND NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES UNLESS OTHERWISE STATED.

Copyright © 2026 by STEMCELL Technologies Inc. All rights reserved including graphics and images. STEMCELL Technologies & Design, STEMCELL Shield Design, and Scientists Helping Scientists are trademarks of STEMCELL Technologies Canada Inc. All other trademarks are the property of their respective holders. While STEMCELL has made all reasonable efforts to ensure that the information provided by STEMCELL and its suppliers is correct, it makes no warranties or representations as to the accuracy or completeness of such information.