

Cytokines

Mouse Recombinant CD40 Ligand

Cluster of differentiation 40 ligand



Scientists Helping Scientists™ | WWW.STEMCELL.COM

TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713

INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM

FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

Catalog # 78205
78205.1

100 µg
500 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.).

Product Information

Alternative Names: Cluster of differentiation 40, gp39, T-BAM, T-cell antigen Gp39, TNF-related activation protein, TNFSF5, TRAP, Tumor necrosis factor ligand superfamily member 5

Accession Number: P27548

Amino Acid Sequence: MQRGDEDPQI AAHVSEANS NAASVLQWAK KGYITMKSNI VMLNGKQLT VKREGLYYVY TQVTFCSNRE PSSQRPFIVG LWLKPSSGSE RILLKAANTH SSSQLCEQQS VHLGGVFELQ AGASVFVNVT EASQVIHRVG FSSFGLLKL

Predicted Molecular Mass: 16.4 kDa

Species: Mouse

Cross Reactivity: Reported to be species-specific

Formulation: Lyophilized from a sterile-filtered solution containing sodium phosphate and arginine, pH 7.5.

Source: E. coli

Specifications

Activity: The specific activity is $\geq 2.0 \times 10^4$ units/mg ($EC_{50} \leq 50$ ng/mL) as determined by an alkaline phosphatase activity assay using HEK-Blue™ CD40L cells.

Purity: $\geq 95\%$

Endotoxin Level: Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 1 EU/µg protein.

Preparation and Storage

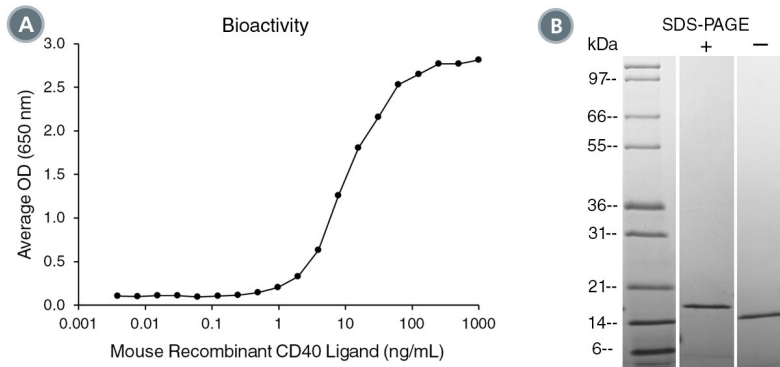
Storage: Store at -20°C to -80°C.

Stability: Stable as supplied for 12 months from date of receipt.

Preparation: 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



(A) The biological activity of Mouse Recombinant CD40 Ligand was tested by its ability to induce alkaline phosphatase activity in HEK-Blue™ CD40L responsive indicator cells. Alkaline phosphatase activity was measured using a fluorometric assay method. The EC50 is defined as the effective concentration of the ligand at which alkaline phosphatase activity is at 50% of maximum. The EC50 in the example above is 10.6 ng/mL.

(B) 1 µg of Mouse Recombinant CD40 Ligand was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Mouse Recombinant CD40 Ligand has a predicted molecular mass of 16.4 kDa.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at 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.

STEMCELL TECHNOLOGIES INC.'S QUALITY MANAGEMENT SYSTEM IS CERTIFIED TO ISO 13485. PRODUCTS ARE FOR RESEARCH USE ONLY AND NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES UNLESS OTHERWISE STATED.

Copyright © 2017 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. HEK-Blue is a trademark of InvivoGen. 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.