

# MEGACD40L<sup>®</sup> Protein (soluble) (human), (recombinant)

## High activity, high purity CD40L protein for co-stimulatory activation of an immune response

MEGACD40L<sup>®</sup> is a high activity protein in which two trimeric CD40 ligand molecules are artificially linked via the collagen domain of Adiponectin/ACRP30/AdipoQ. This protein very effectively simulates the natural membrane-assisted aggregation of CD40L *in vivo*. It provides a simple and equally potent alternative to [CD40L+enhancer] combinations (Prod. No. ALX-850-064).

Citations: 88

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## Ordering Information

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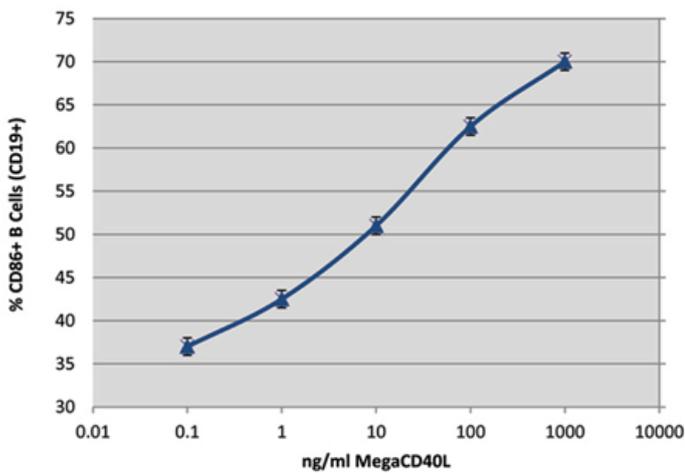
ALX-522-110-C010	10µg
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## Manuals, SDS & CofA

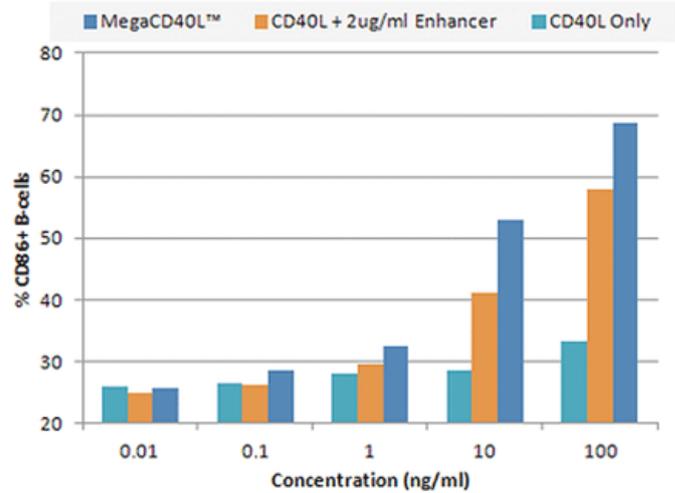
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- Highly active MEGACD40L<sup>®</sup> oligomer mimics *in vivo* membrane-assisted CD40L aggregation and stimulation without the need for enhancers
- High purity with low endotoxin levels
- Experienced manufacturing results in consistent and dependable lot-to-lot performance
- Optimized formulation for improved stability and enhanced activity

### Mimic Natural CD40L-mediated Immune Response

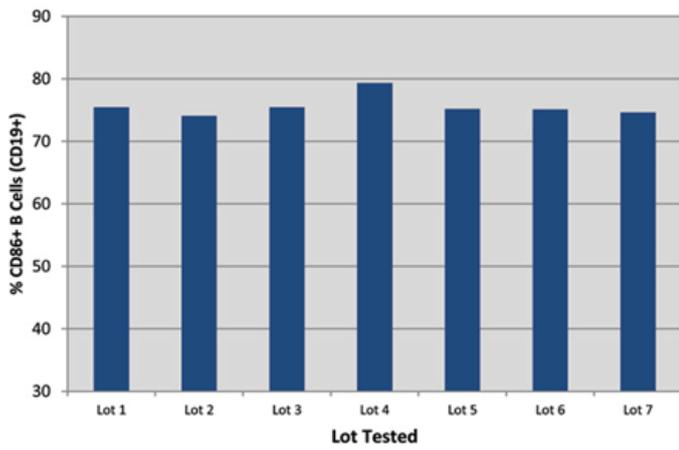


B cell lymphocyte activation by MEGACD40L<sup>®</sup> (Prod. No. ALX-522-110). Method: Peripheral Blood Mononuclear Cells (PBMCs) were incubated at 37°C, 5% CO<sub>2</sub> for 48 hours in 48 well plates (1 x 10<sup>6</sup> cells/well). Each well contained 200µl serum free test media with serially diluted MEGACD40L<sup>®</sup>. After treatment, cells were washed and dual-stained with mouse anti-human CD19-PE and mouse anti-human CD86-APC and analyzed by flow cytometry. The data are presented as the percent of CD19 positive B cells that co-stain as CD86 positive, at each concentration of MEGACD40L<sup>®</sup>.



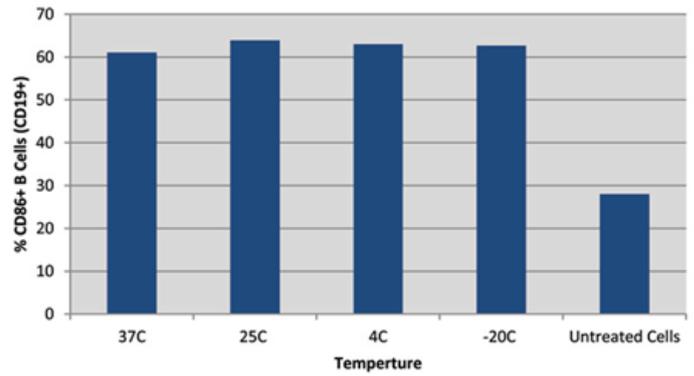
PBMCs (peripheral blood mononuclear cells) were incubated at 37°C, 5% CO<sub>2</sub> for 48 hours in 48 well plates (1 x 10<sup>6</sup> cells per well) containing 200µl serum free test media with serially diluted MEGACD40L<sup>®</sup> (Prod. No. ALX-522-110), CD40L (Prod. No. ALX-522-015), or CD40L + 2µg/ml Enhancer (Prod. No. ALX-804-034). After treatment the cells were washed 3X with PBS + 1% BSA. The cells were dual stained for 2 hours at 4°C with mouse anti-human CD19 (PE conjugate) and mouse anti-human CD86 (APC conjugate). The cells were washed 2X with PBS + 1% BSA, then re-suspended in PBS. Samples were analyzed on a BD FACS Calibur flow cytometer. The data is presented as the percent of CD86 positive cells per CD19 positive B cells at each concentration.

### Reliable Manufacturing Yields Consistent Results

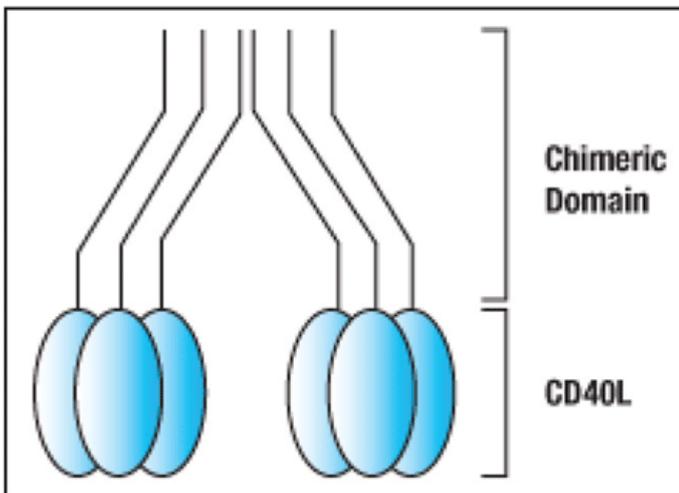


MEGACD40L<sup>®</sup> from 7 consecutive manufacturing lots was tested using a B-cell activation assay at 1000ng/mL.

### High-Stability Protein Construct



MEGACD40L<sup>®</sup> was subjected to stability testing by storing the protein at the indicated temperature for 2 months. The protein was then tested for activity using a B cell activation assay. Results indicate MEGACD40L<sup>®</sup> retains activity under even harsh storage conditions.



Graphical representation of MEGACD40L<sup>®</sup>, Soluble (human) (recombinant) (Prod. No. ALX-522-110).

## Handling & Storage

<b>Use/Stability</b>	Stable for at least 6 months after receipt when stored at -20°C.
<b>Handling</b>	Avoid freeze/thaw cycles. After reconstitution, prepare aliquots and store at -20°C.
<b>Long Term Storage</b>	-20°C
<b>Shipping</b>	Blue Ice

**Regulatory Status** RUO - Research Use Only

## Product Details

<b>Alternative Name</b>	CD40L:ACRP30headless, CD154:ACRP30headless, TNFSF 5:ACRP30headless, gp39:ACRP30headless
<b>Application Notes</b>	Can be used to mediate immune and inflammatory responses, as a protein tool for pre-clinical studies in immunotherapy, to monitor patients undergoing chemotherapy and to mimic autoimmune phenotypes <i>in vivo</i> .
<b>Biological Activity</b>	Binds to human CD40. Induces B cells activation (as demonstrated by dose-dependent upregulation of CD86).
<b>Concentration</b>	0.1mg/ml after reconstitution.
<b>Endotoxin Content</b>	≤0.01EU/μg purified protein (LAL test; Cape Cod Associates).
<b>Formulation</b>	Lyophilized. Contains PBS.
<b>MW</b>	~38kDa
<b>Purity</b>	≥90% (SDS-PAGE)
<b>Purity Detail</b>	Purified by multi-step chromatography.
<b>Reconstitution</b>	Reconstitute with 100μl sterile water. Further dilutions should be made with medium containing 5% fetal calf serum.

**Source**

Produced in CHO cells. The extracellular domain of human CD40L (CD154) (aa 116-261) is fused at the N-terminus to mouse ACRP30*headless* (aa 18-111) and a FLAG<sup>®</sup>-tag.

**Technical Info / Product Notes**

FLAG is a registered trademark of Sigma-Aldrich Co.

**UniProt ID**

P29965 (human CD40L), Q60994 (mouse Adiponectin)

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