



# B-Xpander™

Unleash the Power of B Cell Expansion for Clinical Research & Immunotherapies

Interest in B cells has recently increased in immunotherapies using Engineered B cells or Tumor-Infiltrating Lymphocytes (TILs). However, current methods for B cell expansion are inefficient, time consuming and can lead to insufficient B cell numbers and persistent T cell exhaustion. Our B-Xpander™ protein improves current protocols for B cell stimulation by mimicking the natural interaction between CD40L and CD40 molecules on B cells.

**B-Xpander™ is a potent enhanced Multimeric human CD40L cytokine, for B cell activation, B cell expansion (proliferation) and cell therapy applications. In-house production using a proprietary protocol and a characterized and certified CHO cell line allows the supply of the most active Multimeric human CD40L proteins in GMP-like format.**

## B-Xpander™ – B Cell Expansion (Proliferation)

B-Xpander™ increases proliferation of human primary CD19<sup>+</sup> B cells as efficiently as other grades of Multimeric human CD40L. Unlike most recombinant CD40L proteins on the market, our B-Xpander™ and Multimeric CD40L proteins do not need an enhancer (antibody) to multimerize and to be active.

**METHOD:** Activity of B-Xpander™ and 2 different research grades of Multimeric hCD40L is measured by proliferation of human primary CD19<sup>+</sup> B cells. Cells (5 x 10<sup>4</sup>/well) are grown in RPMI medium, glutamine, 10% FBS, IL-4 (human) (10ng/ml), IL-21 (human) (10ng/ml) and different concentrations of B-Xpander™ CD40L (human) (rec.) (Animal-Free) (#AG-40B-0010AF), CD40L (human) (multimeric) (rec.) (CSG; Certified Serum Grade) (#AG-40B-0010CSG), CD40L (human) (multimeric) (rec.) (#AG-40B-0010), or a control protein. Cell proliferation is quantified after 4 days using PMS/MTS (CellTiter 96® Aqueous One Solution Cell Proliferation Assay, Promega). Cells expanded by 10-fold after 4 days to reach 5 x 10<sup>5</sup>/well.

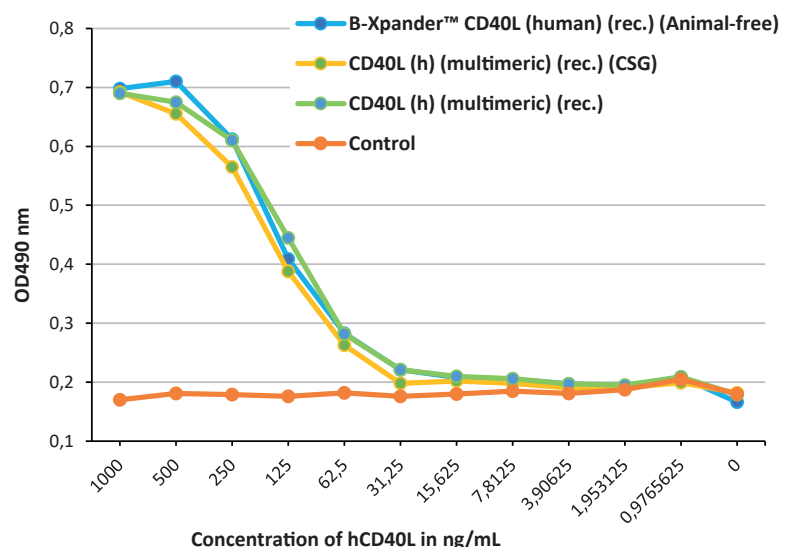


FIGURE: Measurement of B cell proliferation.

## B-Xpander™ – The Power of B Cell Expansion in Adoptive Cell Therapy

Embrace the future of immunotherapy research with Multimeric human CD40L-powered B cell expansion. Backed by rigorous scientific research and development, B-Xpander™, our cutting-edge Multimeric human CD40L-based B cell expansion tool, represents a major improvement in immunotherapy. During Adoptive Cell Transfer (ACT) immunotherapy, activation and expansion of B cells present with T cells in tumor-infiltrating lymphocytes (TILs) by B-Xpander™ leads to increased proliferation and greater abilities of T cells to fight cancer cells (Arnaud, et al. 2022).

LIT: Sensitive identification of neoantigens and cognate TCRs in human solid tumors: M. Arnaud, et al.; Nat. Biotechnol. 40, 656 (2022)

### B-Xpander™ and Multimeric human CD40L Grades for your experiments:

Product Name	PID	Specifications / Applications
<b>B-Xpander™</b>		
<b>B-Xpander™ CD40L (human) (rec.) (Animal Free)</b>	AG-40B-0010AF	<ul style="list-style-type: none"> <li>• Produced using animal component-free medium in characterized and certified CHO cells</li> <li>• GMP-like production</li> <li>• <i>Ex vivo</i> B Cell Expansion for Cell Therapy</li> </ul>
<b>B-Xpander™ CD40L (human) (rec.) (GMP-grade)</b>	Custom Please Inquire	<ul style="list-style-type: none"> <li>• GMP-Production outsourced to CRO</li> <li>• <i>Ex vivo</i> B Cell Expansion for Cell Therapy</li> </ul>
<b>Other Research Grades</b>		
<b>CD40L (human) (multimeric) (rec.)</b>	AG-40B-0010	<ul style="list-style-type: none"> <li>• Produced using standard serum/medium in CHO cells</li> <li>• <i>Ex vivo</i> B Cell Expansion for Research Use</li> </ul>
<b>CD40L (human) (multimeric) (rec.) (Certified Serum Grade)</b>	AG-40B-0010CSG	<ul style="list-style-type: none"> <li>• Produced using certified serum/medium in CHO cells for traceability</li> <li>• <i>Ex vivo</i> B Cell Expansion for Cell Therapy and Research Use</li> </ul>

### B-Xpander™ Quality Features:

- **Production in characterized and certified CHO cell line (for GMP-grade manufacturing)\***
- **High Bioactivity tested by ELISA/Cell-based Assays**
- **Verified Purity & Homogeneity by SEC**
- **Low Endotoxin Level**
- **Batch-to-Batch Consistency**
- **Animal-component free Production**
- **No cross-linking Reagents necessary**

\* Master Cell Bank Biosafety Testing and Characterization (GMP compliant): Cell growth, Sterility, Mycoplasma (Compendial Method), Cell Line Identity DNA Barcoding, Cell Profile Examination by TEM, Extended S+L Assay (Test for Infectious Murine Xenotropic Retrovirus), Transcriptomic Analysis by Next Generation Sequencing (NGS)