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Product Information

B-Lymphocyte Chemoattractant human,
recombinant, expressed in *Escherichia coli*
cell culture tested

Catalog Number **B2929**
Storage Temperature –20 °C

Synonyms: BCA-1; B-Cell Attracting Chemokine 1; BLC; CXCL13

Product Description
B-Lymphocyte Chemoattractant is from a DNA sequence encoding the mature human CXCL 13 (BLC/BCA-1) protein sequence, VLEVYYTSLRCRCVQ-ESSVFIPRRFIDRIQILPRGNGCPRKEIIVWKKNKSIVC-VDPQAEWIQRMMEVLRKRSSSTLPVPVFKRKIP, expressed in *E. coli*.[1] The recombinant CXCL13/BLC preparation contains primarily a C-terminal truncated protein. It lacks 15 C-terminal residues and migrates in SDS-PAGE under reducing conditions with an apparent molecular mass of 8.7 kDa.

The cDNA encodes for a protein of 109 amino acid residues with a leader sequence of 22 residues. The mature BCA-1 protein results from the removal of the 22 amino acid leader sequence, leaving a protein of 87 amino acids. Mature human BCA-1 shares 64% amino acid sequence similarity with the mouse protein and 23–34% amino acid sequence identity with other CXC chemokines.[2]

Human B-Lymphocyte Chemoattractant (BLC), also referred to as B-Cell Attracting Chemokine (BCA-1) and CXCL13, is a CXC chemokine that is constitutively expressed in secondary lymphoid organs. BCA-1 is a potent chemoattractant for B lymphocytes, but not T lymphocytes, monocytes, or neutrophils. It is strongly expressed in the follicles of Peyer's patches, the spleen and lymph nodes, and may guide B lymphocytes to follicles in secondary lymphoid organs.[1,3] Its specific receptor, BLR1, is a G protein-coupled receptor originally isolated from Burkitt's lymphoma cells. Among cells of the hematopoieitc lineages, the expression of BRL1 (now designated CXCR5) is restricted to B lymphocytes and a subpopulation of T helper memory cells.

High-level expression of BCA-1 and CXCR5 was observed in mucosal lymphoid aggregates and in the mantle zone of secondary lymphoid follicles in *Helicobacter pylori* induced gastric mucosa-associated lymphoid tissue (MALT), indicating that BCA-1 can act in normal homeostasis, as well as inflammation.[4]

This product is lyophilized from a 0.2 μm filtered solution containing 35% acetonitrile, 0.1% TFA, and 50 μg bovine serum albumin per 1 μg of cytokine.

The biological activity of human BLC/BCA-1 is measured by its ability to chemoattract mouse BaF/3 cells transfected with human CXCR5.

Purity: ≥95% (SDS-PAGE and visualized by silver stain)

Endotoxin: <1.0 EU per 1 μg of the cytokine (LAL)

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions
Reconstitute the contents of the vial using sterile phosphate buffered saline containing at least 0.1% human serum albumin or bovine serum albumin. Prepare a stock solution of no less than 25 μg/mL.

Storage/Stability
Store the product at –20 °C. Upon reconstitution, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots at –20 °C. Repeated freezing and thawing is not recommended. Do not store in a frost-free freezer.

References

1. Gunn, M.D., *et al*., A B-cell-homing chemokine made in lymphoid follicles activates Burkitt's lymphoma receptor-1, *Nature*, **391**, 799-803 (1998).
2. Legler, D.F., *et al*., B cell-attracting chemokine 1, a human CXC chemokine expressed in lymphoid tissues, selectively attracts B lymphocytes via BLR1/CXCR5, *J. Exp. Med. Med*., **187**, 655-660 (1998).
3. Forster, R., *et al*., A putative chemokine receptor, BLR1, directs B cell migration to defined lymphoid organs and specific anatomic compartments of the spleen, *Cell*, **87**, 1037-1047 (1996).
4. Mazzucchelli, L., *et al*., BCA-1 is highly expressed in Helicobacter pylori-induced mucosa-associated lymphoid tissue and gastric lymphoma, *J. Clin. Invest.*, **104**, R49-R54 (1999).

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