BCA-1/CXCL13 Protein, Mouse (HEK293, Fc)

Cat. No.:	HY-P77912
Synonyms:	ANGIE; ANGIE2; BCA-1; BCA1; BLC; BLR1L; SCYB13
Species:	Mouse
Source:	HEK293
Accession:	O55038 (I22-A109)
Gene ID:	55985
Molecular Weight:	40-50 kDa

PROPERTIES

Appearance	Solution
Formulation	Supplied as a 0.22 μm filtered solution of 50 mM Tris, 500 mM NaCl, pH 7.5.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice

DESCRIPTION

Background

CXCL13, also known as B lymphocyte chemoattractant, is originally identified in stromal cells in B cell follicles as regulating homing of B cells and subsets of T cells. CXCL13 plays a key role in orchestrating cell migration within spatially distinct regions of the secondary lymphoid organs. It strongly attracts B lymphocytes while promoting migration of only small numbers of T cells and macrophages. CXCL13 and its receptor, CXCR5, play fundamental roles in inflammatory, infectious, cancer and immune responses[1][2][3].

The amino acid sequence of human CXCL13 protein has low homology with mouse CXCL13 protein.

CXCL13 exerts its functions through its receptor CXCR5. CXCR5 is highly expressed on mature recirculating B-lymphocytes, a subpopulation of follicular helper T cells (TFH) and skin-derived migratory dendritic cells (DCs), and controls their migration into secondary lymphoid organs towards the gradient of CXCL13. As the loss of the BLR1/CXCR5 receptor is sufficient to disrupt organization of follicles in spleen and Peyer's patches, BCA-1 may act as a B cell homing chemokine. Human BCA-1 competes with radiolabeled IFN-γ inducible protein 10 (IP-10) for binding to the human CXCR3 receptor expressed in Ba/F3 and 293EBNA cell lines. Furthermore, human BCA-1 is an efficacious attractant for human CXCR3 transfected cells. BCA-1 does oes not induce calcium release in B-lymphocytes. In addition, human BCA-1 is an agonist in stimulating GTP gamma S binding. Human BCA-1 is a specific and functional G-protein-linked chemotactic ligand for the human CXCR3 receptor.

CXCL13 has been widely implicated in the pathogenesis of a number of autoimmune diseases and inflammatory conditions, as well as in lymphoproliferative disorders. In addition, the CXCL13:CXCR5 axis orchestrates cell-cell interactions that

regulate lymphocyte infiltration within the tumor microenvironment[1][2][3].
Dysregulation of the CXCL13:CXCR5 axis affecting both B- and TFH cell function is major player in autoimmune disorders, and potentially serves as a biomarker for disease progression and therapeutic response. Moreover, expression of CXCR5 and CXCL13 is shown to be dysregulated in HIV infection, such that the number of CXCR5+ B cells decreases with progression of HIV infection, together with an increase in plasma levels of CXCL13. CXCL13/CXCR5 signaling modulates cancer cell ability to grow, proliferate, invade, and metastasize. CXCL13 drives spinal astrocyte activation and neuropathic pain via CXCR5[1][2][3][4].

REFERENCES

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