SANTA CRUZ BIOTECHNOLOGY, INC.

IL-8 (hBA-72): sc-4600

BACKGROUND

Interleukin-8, or IL-8, the prototypic member of the C-X-C, or a, family of chemokines, is a chemoattractant cytokine involved in the chemotaxis and activation of neutrophils. IL-8 expression has been correlated to a large number of chronic inflammatory diseases, including inflammatory bowel disease (IBD) and atherosclerosis. IL-8 is cleaved from a 99 amino acid precursor to a 72 amino acid, nonglycosylated, biologically active protein. IL-8 monomers and dimers exhibit a dynamic equilibrium both free in solution and in cell surface-bound forms and thus regulate chemotaxis and receptor signaling. Research has shown that IL-8 dimerization functions as a negative regulator for IL-8 receptor function. Two IL-8 receptors, designated IL-8RA and IL-8RB, have been described and share 77% sequence identity. Both are seven-transmembrane domain proteins (7TMD), similar to the G protein-coupled receptors and, in addition to IL-8, serve as receptors for other members of the α and β chemokine families.

REFERENCES

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2. Laterveer, L., Lindley, I.J., Heemskerk, D.P., Camps, J.A., et al. 1996. Rapid mobilization of hematopoietic progenitor cells in rhesus monkeys by a single intravenous injection of interleukin-8. Blood 87: 781-788.
3. Ahuja, S.K., Lee, J.C. and Murphy, P.M. 1996. C-X-C chemokines bind to unique sets of selectivity determinants that can function independently and are broadly distributed on multiple domains of human interleukin-8 receptor B. Determinants of high affinity binding and receptor activation are distinct. J. Biol. Chem. 271: 225-232.
4. Knall, C., Young, S., Nick, J.A., Buhl, A.M., Worthen, G.S. and Johnson, G.L. 1996. Interleukin-8 regulation of the Ras/Raf/mitogen-activated protein kinase pathway in human neutrophils. J. Biol. Chem. 271: 2832-2838.
5. Ray, E. and Samanta, A.K. 1996. Dansyl cadaverine regulates ligand induced endocytosis of interleukin-8 receptor in human polymorphonuclear neutrophils. FEBS Lett. 378: 235-239.
6. Grimm, M.C., Elsbury, S.K., Pavli, P. and Doe, W.F. 1996. Interleukin 8: cells of origin in inflammatory bowel disease. Gut 38: 90-98.
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SOURCE

IL-8 (hBA-72) is produced in *E. coli* as 8.4 kDa biologically active protein corresponding to 72 amino acids of IL-8 of human origin.

PRODUCT

IL-8 (hBA-72) is purified from bacterial lysates (>98%); supplied as 50 µg purified protein.

STORAGE

Store desiccated at -20° C; stable for one year from the date of shipment.

BIOLOGICAL ACTIVITY

IL-8 (hBA-72) is biologically active as determined by chemotaxis over a wide concentration range in an assay using human peripheral blood neutrophils. Significant chemotaxis was achieved using a concentration range of 10 to 100 ng/ml.

RECONSTITUTION

In order to avoid freeze/thaw damaging of the active protein, dilute protein when first used to desired working concentration. Either a sterile filtered standard buffer (such as 50mM TRIS or 1X PBS) or water can be used for the dilution. Store any thawed aliquot in refrigeration at 2° C to 8° C for up to four weeks, and any frozen aliquot at -20° C to -80° C for up to one year. It is recommended that frozen aliquots be given an amount of standard cryopreservative (such as Ethylene Glycol or Glycerol 5-20% v/v), and refrigerated samples be given an amount of carrier protein (such as heat inactivated FBS or BSA to 0.1% v/v) or non-ionic detergent (such as Triton X-100 or Tween 20 to 0.005% v/v), to aid stability during storage.

SELECT PRODUCT CITATIONS

1. Kastelic, D., Frkovic-Grazio, S., Baty, D., Truan, G., Komel, R. and Pompon, D. 2009. A single-step procedure of recombinant library construction for the selection of efficiently produced llama VH binders directed against cancer markers. J. Immunol. Methods 350: 54-62.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.