

IL-6 (hBA-184): sc-4597

BACKGROUND

Interleukin 6, or IL-6, is a 21 kDa multifunctional protein, 212 amino acids in length, that plays critical roles in host defense, immune response, and hematopoiesis. IL-6 is constitutively expressed by epidermal Langerhans cells and its expression is induced in stimulated keratinocytes. IL-6, IL-1 β and TNF α act as endogenous pyrogens, regulating the fever response to bacterial invasion. The IL-6 receptor is a trimeric complex composed of an IL-6-specific α chain and a homodimer of the gp130 glycoprotein common to the IL-6, IL-11, CNTF, OSM and LIF receptors. Stimulation with IL-6 leads to gp130 homodimerization and the activation of associated kinases JAK1 and JAK2. Once activated, JAK1 and JAK2 phosphorylate Stat3 causing its nuclear translocation and transcription of Stat3-responsive genes. IL-6 has also been shown to activate the Ras/MAP kinase pathway, which regulates NF-IL-6 transcription.

REFERENCES

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SOURCE

IL-6 (hBA-184) is produced in *E. coli* as 47 kDa biologically active, GST-tagged fusion protein corresponding to 184 amino acids of IL-6 of human origin.

PRODUCT

IL-6 (hBA-184) is purified from bacterial lysates (> 98%); supplied as 50 μ g purified protein.

BIOLOGICAL ACTIVITY

IL-6 (hBA-184) is biologically active as determined by the dose-dependent stimulation of the proliferation of IL-6 dependant murine 7TD1 cells.

Expected ED₅₀: < 0.1 ng/ml.

Specific Activity: Greater than 1 x 10⁷ units/mg.

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 cryoprotective (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

- Samaddar, S. and Koneri, R. 2019. Polyphenols of marine red macroalgae *Symphocladia latiuscula* ameliorate diabetic peripheral neuropathy in experimental animals. *Heliyon* 5: e01781.
- Al-Khalaf, H.H., Ghebeh, H., Wakil, S.M., Al-Mohanna, F. and Aboussekhra, A. 2020. IL-8 dedifferentiates primary human luminal cells to multipotent stem cells. *Mol. Cell. Biol.* 40: e00508-e00519.
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STORAGE

Store desiccated at -20° C. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

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