

## IL-11 (hBA-178): sc-4604

### BACKGROUND

Interleukin-11, or IL-11, is a pleiotropic cytokine that is biologically related to IL-6, leukemia inhibitory factor (LIF), oncostatin M (OSM) and ciliary neurotrophic factor (CNTF). IL-11 is a stromal cell-derived cytokine which stimulates the proliferation of primitive hematopoietic progenitor cells and, together with Flt 3-L, stimulates the expansion of CD34<sup>+</sup> cell populations. Human IL-11 cDNA encodes a 199 amino acid precursor with a 21 amino acid hydrophobic signal peptide which is cleaved to generate a 23 kDa glycosylated biologically active form. IL-11 exerts its biological effects through the interleukin-11 receptor, IL-11R, which is composed of an IL-11 receptor-specific chain designated IL-11R $\alpha$ , and gp130, the signal transducing component common to the IL-6, LIF, OSM and CNTF receptors. Stimulation of the IL-11R results in the activation of the Janus tyrosine kinase family members JAK1 and JAK2 which, once activated, induce the nuclear translocation of the transcription factors Stat1 and Stat3.

### REFERENCES

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### SOURCE

IL-11 (hBA-178) is produced in *E. coli* as 19.2 kDa biologically active protein corresponding to 178 amino acids of IL-11 of human origin.

### RESEARCH USE

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

### PRODUCT

IL-11 (hBA-178) is purified from bacterial lysates (>98%); supplied as 10  $\mu$ g purified protein.

### BIOLOGICAL ACTIVITY

IL-11 (hBA-178) is biologically active as determined by the dose-dependent stimulation of the proliferation of murine T1165 cells.

Expected ED<sub>50</sub>: <5 ng/ml.

Specific Activity: Greater than 1 x 10<sup>5</sup> 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 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.

### STORAGE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.