

## IL-12 (mBA-FL): sc-4891

### BACKGROUND

Interleukin-12, or IL-12, also known as natural killer cell stimulatory factor (NKSF) and cytotoxic lymphocyte maturation factor (CLMF), is a pleiotropic cytokine that has multiple effects on both natural killer (NK) cells and T lymphocytes. IL-12 is a 75 kDa heterodimer composed of a 35 kDa subunit (IL-12A p35) and a 40 kDa subunit (IL-12B p40) that is secreted by a wide variety of antigen presenting cells (APCs), including phagocytes, B cells and Langerhans cells. IL-12 is integrally involved in mediating many aspects of antiviral immunity. In addition to stimulating T helper cell development, IL-12 is a potent inducer of interferon- $\gamma$  (IFN- $\gamma$ ) production by T cells and NK cells. An increase of IL-12 production has been shown to be a consequence of infection with EBV, CMV, LCMV and HSV. It is not clear what separate effects can be attributed to each IL-12 subunit; however, there is evidence that IL-12A p35 is the biologically active component and may be responsible for signal transduction via the IL-12 receptor.

### REFERENCES

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### SOURCE

IL-12 (mBA-FL) is produced in *E. coli* as 75 kDa biologically active protein corresponding to heterodimeric of IL-12 of mouse origin.

### RESEARCH USE

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

### CHROMOSOMAL LOCATION

Genetic locus: IL12A (human) mapping to 3p12-q13.2, IL12B (human) mapping to 5q31.1-q33.1; Il2b (mouse) mapping to 3 E1, Il2b (mouse) mapping to 11 A5-B2.

### PRODUCT

IL-12 (mBA-FL) is purified from bacterial lysates (>98%); supplied as 10  $\mu$ g purified protein.

### BIOLOGICAL ACTIVITY

IL-12 (mBA-FL) is biologically active as determined by the stimulation of IFN- $\gamma$  production by murine splenocytes co-stimulated with IL-12.

Expected ED<sub>50</sub>: < 0.1 ng/ml.

Specific Activity: > 1 x 10<sup>7</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.