

## IL-13 (hBA-114): sc-4606

### BACKGROUND

Interleukin-13, or IL-13, is a pleiotropic cytokine that exhibits 30% sequence identity with IL-4 and shares many of the same biological activities. Like IL-4, IL-13 affects monocytes, macrophages and B cells by upregulating the expression of CD23 and MHC proteins, and downregulating the expression of CD14. Both IL-4 and IL-13 are secreted by activated T lymphocytes and are powerful regulators of inflammation. Both inhibit the secretion of proinflammatory cytokines and chemokines from activated monocytes and stimulate the expression of IgE on activated B cells. IL-13 contains five cysteine residues and multiple N-linked glycosylation sites and has been reported to inhibit the production of IL-2 in natural killer cells. IL-13 cDNA encodes a 131 amino acid precursor with a 20 amino acid signal peptide which is cleaved to generate a mature 13 kDa protein.

### REFERENCES

1. Minty, A., Chalon, P., Derocq, J.-M., Dumont, X., Guillemot, J.-C., Kaghad, M., Labit, C., Leplatois, P., Liauzun, P., Miloux, B., Minty, C., Casellas, P., Loison, G., Lupker, J., Shire, D., Ferrara, P. and Caput, D. 1993. Interleukin-13 is a new human lymphokine regulating inflammatory and immune responses. *Nature* 362: 248-250.
2. Zurawski, G. and de Vries, J.E. 1994. Interleukin 13 elicits a subset of the activities of its close relative interleukin 4. *Stem Cells* 12: 169-174.
3. Deleuran, B., Iversen, L., Deleuran, M., Yssel, H., Kragballe, K., Stengaard-Pedersen, K. and Thestrup-Pedersen, K. 1995. Interleukin 13 suppresses cytokine production and stimulates the production of 15-HETE in PBMC. A comparison between IL-4 and IL-13. *Cytokine* 7: 319-324.
4. Katz, Y., Stav, D., Barr, J. and Passwell, J.H. 1995. IL-13 results in differential regulation of the complement proteins C3 and factor B in tumour necrosis factor (TNF)-stimulated fibroblasts. *Clin. Exp. Immunol.* 101: 150-156.
5. Cosentino, G., Soprana, E., Thienes, C.P., Siccardi, A.G., Viale, G. and Vercelli, D. 1995. IL-13 down-regulates CD14 expression and TNF- $\alpha$  secretion in normal human monocytes. *J. Immunol.* 155: 3145-3151.
6. de Vries, J.E. and Zurawski, G. 1995. Immunoregulatory properties of IL-13: its potential role in atopic disease. *Int. Arch. Allergy Immunol.* 106: 175-179.
7. Marietta, E.V., Chen, Y. and Weis, J.H. 1996. Modulation of expression of the anti-inflammatory cytokines interleukin-13 and interleukin-10 by interleukin-3. *Eur. J. Immunol.* 26: 49-56.

### SOURCE

IL-13 (hBA-114) is produced in *E. coli* as 39 kDa biologically active, GST-tagged fusion protein corresponding to 114 amino acids of IL-13 of human origin.

### PRODUCT

IL-13 (hBA-114) is purified from bacterial lysates (>98%); supplied as 50  $\mu$ g purified protein.

### BIOLOGICAL ACTIVITY

IL-13 (hBA-114) is biologically active as determined by the dose-dependent proliferation of TF-1 cells.

Expected ED<sub>50</sub>: <1.0 ng/ml.

Specific Activity: Greater than 5 x 10<sup>6</sup> units/mg.

### SELECT PRODUCT CITATIONS

1. Frión-Herrera, Y., Gabbia, D., Scaffidi, M., Zagni, L., Cuesta-Rubio, O., De Martin, S. and Carrara, M. 2020. Cuban brown propolis interferes in the crosstalk between colorectal cancer cells and M2 macrophages. *Nutrients* 12: E2040.

### STORAGE

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

### RESEARCH USE

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

### PROTOCOLS

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