

# IL-1 $\alpha$ (hBA-159): sc-4591



The Power to Question

## BACKGROUND

Two forms of interleukin 1, designated IL-1 $\alpha$  and IL-1 $\beta$ , have been described. Although encoded by distinct genes and exhibiting roughly only 25% sequence identity, IL-1 $\alpha$  and IL-1 $\beta$  bind to the same receptor and seem to elicit similar biological responses. IL-1 production is generally thought to be associated with inflammation, but it has also been shown to be expressed during kidney development, thymocyte differentiation and cartilage degradation. IL-1 plays a critical role in the regulation of immune response and inflammation, acting as an activator of T and B lymphocytes and natural killer (NK) cells. In T cells, IL-1 stimulates the production of IL-2 and selectively inhibits IL-4 expression. IL-1 induces B cell proliferation and maturation, and immunoglobulin synthesis. NK cells require IL-1 $\beta$  for production of the anti-pathogen IFN- $\gamma$ . IL-1 has also been implicated in several pathological conditions including rheumatoid arthritis, inflammatory bowel disease and atherosclerosis.

## REFERENCES

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## SOURCE

IL-1 $\alpha$  (hBA-159) is produced in *E. coli* as 45 kDa biologically active, GST-tagged fusion protein corresponding to 159 amino acids of IL-1 $\alpha$  of human origin.

## STORAGE

Store at -20 $^{\circ}$  C; stable for one year from the date of shipment.

## PRODUCT

IL-1 $\alpha$  (hBA-159) is purified from bacterial lysates (>98%); supplied as 50  $\mu$ g purified protein.

## BIOLOGICAL ACTIVITY

IL-1 $\alpha$  (hBA-159) is biologically active as determined by the dose-dependent stimulation of murine D10S cells.

Expected ED<sub>50</sub>: < 0.001 ng/ml.

Specific Activity: Greater than 1 x 10<sup>9</sup> units/mg.

## SELECT PRODUCT CITATIONS

1. Jeschke, A., et al. 2015. Phosphatidylinositol 4-phosphate and phosphatidylinositol 3-phosphate regulate phagolysosome biogenesis. Proc. Natl. Acad. Sci. USA 112: 4636-4641.

## 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.