

## IL-18 (N-19): sc-6178

### BACKGROUND

Four structurally related IL-1 receptor ligands have been described. These include three agonists, designated IL-1 $\alpha$ , IL-1 $\beta$  and IL-1 $\gamma$ /IL-18, and a specific receptor antagonist, IL-1R $\alpha$ . IL-1 $\alpha$  and IL-1 $\beta$  play critical roles in the regulation of the immune response and inflammation, serving as activators of T and B lymphocytes and NK (natural killer) cells. IL-18 (also referred to as IL-1 $\gamma$ ) has been shown to augment the secretion of IFN- $\gamma$  from T lymphocytes and increase NK cell activity in spleen cells. IL-18 exhibits 19% and 12% identity with IL-1 $\alpha$  and IL-1 $\beta$ , respectively, over the twelve  $\beta$ -strands of the  $\beta$ -trefoil fold domain, which is a signature feature of the IL-1 family. The unusual leader sequence of IL-18 may be analogous to the IL-1 $\beta$  pro-domain, which must be cleaved by the serine protease ICE for optimal secretion and biological activity. Originally described as IGIF (IFN- $\gamma$ -inducing factor), IL-18 is induced by mouse liver subsequent to challenge with lipopolysaccharide (LPS).

### REFERENCES

1. March, C.J., et al. 1985. Cloning, sequence and expression of two distinct human interleukin-1 complementary DNAs. *Nature* 315: 641-647.
2. Nakamura, K., et al. 1993. Purification of a factor which provides a costimulatory signal for  $\gamma$  interferon production. *Infect. Immun.* 61: 64-70.
3. Arend, W.P., et al. 1994. Binding of IL-1 $\alpha$ , IL-1 $\beta$ , and IL-1 receptor antagonist by soluble IL-1 receptors and levels of soluble IL-1 receptors in synovial fluids. *J. Immunol.* 153: 4766-4774.
4. Dinarello, C.A. 1994. The interleukin-1 family: 10 years of discovery. *FASEB J.* 8: 1314-1325.
5. Okamura, H., et al. 1995. Cloning of a new cytokine that induces IFN- $\gamma$  production by T cells. *Nature* 378: 88-91.
6. Bazan, J.F., et al. 1996. A newly defined interleukin-1? *Nature* 379: 591.
7. Fantuzzi, G., et al. 1996. Effect of endotoxin in IL-1  $\beta$ -deficient mice. *J. Immunol.* 157: 291-296.

### CHROMOSOMAL LOCATION

Genetic locus: IL18 (human) mapping to 11q23.1.

### SOURCE

IL-18 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of IL-18 of human origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-6178 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

### APPLICATIONS

IL-18 (N-19) is recommended for detection of IL-18 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

IL-18 (N-19) is also recommended for detection of IL-18 in additional species, including canine and porcine.

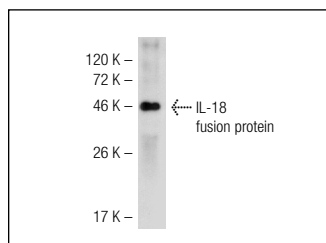
Suitable for use as control antibody for IL-18 siRNA (h): sc-39657, IL-18 shRNA Plasmid (h): sc-39657-SH and IL-18 shRNA (h) Lentiviral Particles: sc-39657-V.

Molecular Weight of IL-18 inactive precursor: 24 kDa.

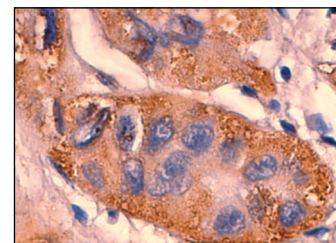
Molecular Weight of mature IL-18: 18 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, Caco-2 cell lysate: sc-2262 or Jurkat whole cell lysate: sc-2204.

### DATA



IL-18 (N-19)-Y: sc-6178-Y. Western blot analysis of human recombinant IL-18 fusion protein.



IL-18 (N-19): sc-6178. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic localization.

### SELECT PRODUCT CITATIONS

1. Huang, W.X., et al. 2004. Increased expression of caspase-1 and interleukin-18 in peripheral blood mononuclear cells in patients with multiple sclerosis. *Mult. Scler.* 10: 482-487.
2. Srabovic, N., et al. 2011. Interleukin 18 expression in the primary breast cancer tumour tissue. *Med. Glas.* 8: 109-115.

### 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) or our catalog for detailed protocols and support products.