

IL-18 (C-18): sc-6177

BACKGROUND

Four structurally related IL-1 receptor ligands have been described. These include three agonists, designated IL-1 α , IL-1 β and IL-1 γ /IL-18, and a specific receptor antagonist, IL-1R α . IL-1 α and IL-1 β 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 γ) has been shown to augment the secretion of IFN- γ from T lymphocytes and increase NK cell activity in spleen cells. IL-18 exhibits 19% and 12% identity with IL-1 α and IL-1 β , respectively, over the 12 β -strands of the β -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 β pro-domain, which must be cleaved by the serine protease ICE for optimal secretion and biological activity. Originally described as IGIF (IFN- γ -inducing factor), IL-18 is induced by mouse liver subsequent to challenge with lipopolysaccharide (LPS).

CHROMOSOMAL LOCATION

Genetic locus: IL18 (human) mapping to 11q23.1; IL18 (mouse) mapping to 9 A5.3.

SOURCE

IL-18 (C-18) is available as either goat (sc-6177) or chicken (sc-6177-Y) polyclonal affinity purified antibody raised against a peptide mapping at the C-terminus of IL-18 of human origin.

PRODUCT

Each vial contains 200 μ g IgG (sc-6177) or IgY (sc-6177-Y) in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-6177 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as agarose conjugate for immunoprecipitation, sc-6177 AC, 500 μ g/0.25 ml agarose in 1 ml.

APPLICATIONS

IL-18 (C-18) is recommended for detection of IL-18 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

Suitable for use as control antibody for IL-18 siRNA (h): sc-39657, IL-18 siRNA (m): sc-39658, IL-18 shRNA Plasmid (h): sc-39657-SH, IL-18 shRNA Plasmid (m): sc-39658-SH, IL-18 shRNA (h) Lentiviral Particles: sc-39657-V and IL-18 shRNA (m) Lentiviral Particles: sc-39658-V.

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

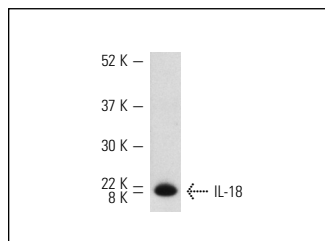
Molecular Weight of mature IL-18: 18 kDa.

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

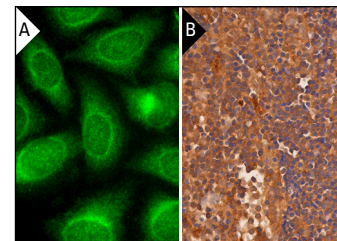
STORAGE

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

DATA



IL-18 (C-18): sc-6177. Western blot analysis of human recombinant IL-18.



IL-18 (C-18): sc-6177. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing cytoplasmic staining of cells in germinal and non-germinal centers (B).

SELECT PRODUCT CITATIONS

1. Saha, N., et al. 1999. Interleukin-1 β -converting enzyme/caspase-1 in human osteoarthritic tissues: localization and role in the maturation of interleukin-1 β and interleukin-18. *Arthritis Rheum.* 42: 1577-1587.
2. Moldovan, F., et al. 2000. Diacerhein and rhein reduce the ICE-induced IL-1 β and IL-18 activation in human osteoarthritic cartilage. *Osteoarthr. Cartil.* 8: 186-196.
3. Morelli, A.E., et al. 2001. Cytokine production by mouse myeloid dendritic cells in relation to differentiation and terminal maturation induced by lipopolysaccharide or CD40 ligation. *Blood* 98: 1512-1523.
4. Kawashima, M., et al. 2001. Levels of interleukin-18 and its binding inhibitors in the blood circulation of patients with adult-onset Still's disease. *Arthritis Rheum.* 44: 550-560.
5. Sivakumar, P.V., et al. 2002. Interleukin 18 is a primary mediator of the inflammation associated with dextran sulphate sodium induced colitis: blocking interleukin 18 attenuates intestinal damage. *Gut* 50: 812-820.
6. Faust, J., et al. 2002. Correlation of renal tubular epithelial cell-derived interleukin-18 up-regulation with disease activity in MRL-Fas^{lpr} mice with autoimmune lupus nephritis. *Arthritis Rheum.* 46: 3083-3095.
7. Hentze, H., et al. 2003. Critical role for cathepsin B in mediating caspase-1-dependent interleukin-18 maturation and caspase-1-independent necrosis triggered by the microbial toxin nigericin. *Cell Death Differ.* 10: 956-968.
8. Gu, H., et al. 2013. Necro-inflammatory response of pancreatic acinar cells in the pathogenesis of acute alcoholic pancreatitis. *Cell Death Dis.* 4: e816.

RESEARCH USE

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