

IL-5 (H-19): sc-34812

BACKGROUND

Interleukin 5, or IL-5, was originally discovered as a soluble T cell-derived factor, called T cell-replacing factor (TRF), that induced T cell-depleted activated B cells to secrete immunoglobulin. Native IL-5 is a disulfide-linked homodimer. IL-5 is initially synthesized as a precursor with a 19 amino acid signal peptide which is cleaved to form a 112 amino acid mature protein. Murine and human IL-5 exhibit 70% sequence identity at the amino acid level. IL-5 exerts its biological activity through the IL-5 receptor (IL-5R), which is composed of at least two chains: an α chain that binds IL-5 with low affinity and a β chain that does not bind IL-5, but together with the IL-5 α chain, constitutes the high affinity IL-5 receptor. The β chain is common to the IL-3, IL-5 and GM-CSF receptors and has been shown to signal through the JAK/Stat pathway.

REFERENCES

1. Takatsu, K., et al. 1980. Antigen-induced T cell-replacing factor (TRF). I. Functional characterization of a TRF-producing helper T cell subset and genetic studies on TRF production. *J. Immunol.* 124: 2414-2422.
2. Azuma, C., et al. 1986. Cloning of cDNA for human T cell replacing factor (interleukin-5) and comparison with the murine homologue. *Nucleic Acids Res.* 14: 9149-9158.
3. Bates, M.E., et al. 1996. IL-5 activates a 45-kilodalton mitogen-activated protein (MAP) kinase and JAK-2 tyrosine kinase in human eosinophils. *J. Immunol.* 156: 711-718.
4. Dickason, R.R., et al. 1996. Delineation of IL-5 domains predicted to engage the IL-5 receptor complex. *J. Immunol.* 156: 1030-1037.
5. Li, J., et al. 1996. Single chain human interleukin 5 and its asymmetric mutagenesis for mapping receptor binding sites. *J. Biol. Chem.* 271: 1817-1820.
6. Freeburn, R.W., et al. 1996. The β subunit common to the GM-CSF, IL-3 and IL-5 receptors is highly polymorphic but pathogenic point mutations in patients with acute myeloid leukaemia (AML) are rare. *Leukemia* 10: 123-129.
7. Sun, Z., et al. 1996. Interleukin-5 receptor α subunit gene regulation in human eosinophil development: identification of a unique CIS-element that acts like an enhancer in regulating activity of the IL-5R α promoter. *Curr. Top. Microbiol. Immunol.* 211: 173-187.

CHROMOSOMAL LOCATION

Genetic locus: IL5 (human) mapping to 5q31.1; IL5 (mouse) mapping to 11 B1.3.

SOURCE

IL-5 (H-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of IL-5 of mouse origin.

STORAGE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-34812 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

IL-5 (H-19) is recommended for detection of IL-5 of mouse, rat and, to a lesser extent, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

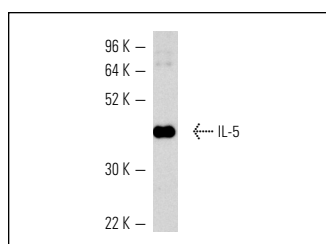
Suitable for use as control antibody for IL-5 siRNA (h): sc-39625, IL-5 siRNA (m): sc-39626, IL-5 shRNA Plasmid (h): sc-39625-SH, IL-5 shRNA Plasmid (m): sc-39626-SH, IL-5 shRNA (h) Lentiviral Particles: sc-39625-V and IL-5 shRNA (m) Lentiviral Particles: sc-39626-V.

Molecular Weight of IL-5: 15 kDa.

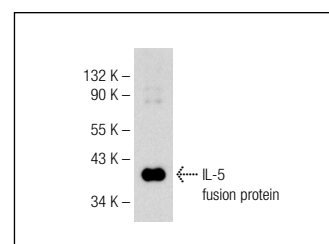
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



IL-5 (H-19): sc-34812. Western blot analysis of biologically active human recombinant IL-5.



IL-5 (H-19): sc-34812. Western blot analysis of biologically active human recombinant IL-5 (sc-4596) fusion protein.

SELECT PRODUCT CITATIONS

1. Vieira, R.P., et al. 2009. Exercise reduces effects of creatine on lung. *Int. J. Sports Med.* 30: 684-690.

RESEARCH USE

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