SANTA CRUZ BIOTECHNOLOGY, INC.

IL-5 (QS-5.2): sc-59999

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. Nucl. Acids Res. 14: 9149-9158.
3. Bates, M.E., et al. 1996. IL-5 activates a 45 kDa mitogen-activated protein (MAP) kinase and JAK2 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-5Rα promoter. Curr. Top. Micro. Immunol. 211: 173-187.

CHROMOSOMAL LOCATION

Genetic locus: IL5 (human) mapping to 5q31.1; Il5 (mouse) mapping to 11 A5/B1.

SOURCE

IL-5 (QS-5.2) is a mouse monoclonal antibody raised against IL-5 of monkey origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

IL-5 (QS-5.2) is recommended for detection of IL-5 of monkey origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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 goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.