SANTA CRUZ BIOTECHNOLOGY, INC.

IL-5 (B-2): sc-398334

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. Dickason, R.R., et al. 1996. Delineation of IL-5 domains predicted to engage the IL-5 receptor complex. J. Immunol. 156: 1030-1037.

CHROMOSOMAL LOCATION

Genetic locus: Il5 (mouse) mapping to 11 B1.3.

SOURCE

IL-5 (B-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 36-63 near the N-terminus of IL-5 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IL-5 (B-2) is available conjugated to agarose (sc-398334 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398334 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398334 PE), fluorescein (sc-398334 FITC), Alexa Fluor® 488 (sc-398334 AF488), Alexa Fluor® 546 (sc-398334 AF546), Alexa Fluor® 594 (sc-398334 AF594) or Alexa Fluor® 647 (sc-398334 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398334 AF680) or Alexa Fluor® 790 (sc-398334 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398334 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

IL-5 (B-2) is recommended for detection of IL-5 of mouse and rat by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

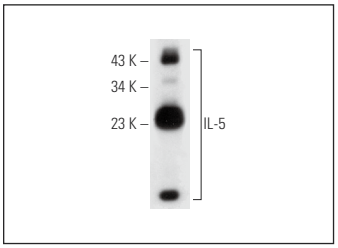
Suitable for use as control antibody for IL-5 siRNA (m): sc-39626, IL-5 shRNA Plasmid (m): sc-39626-SH and IL-5 shRNA (m) Lentiviral Particles: sc-39626-V.

Molecular Weight of IL-5: 15 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



IL-5 (B-2): sc-398334. Western blot analysis of mouse recombinant IL-5.

SELECT PRODUCT CITATIONS

1. Xu, J.Y., et al. 2022. Interleukin-5-induced eosinophil population improves cardiac function after myocardial infarction. Cardiovasc. Res. 118: 2165-2178.
2. Kim, E., et al. 2022. Ginger-derived compounds exert *in vivo* and *in vitro* anti-asthmatic effects by inhibiting the T-helper 2 cell-mediated allergic response. Exp. Ther. Med. 23: 49.
3. Silva, L.L.S.D., et al. 2023. Effects of a peptide derived from the primary sequence of a kallikrein inhibitor isolated from *Bauhinia bauhinioides* (pep-BbKI) in an asthma-COPD overlap (ACO) model. Int. J. Mol. Sci. 24: 11261.

STORAGE

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