SANTA CRUZ BIOTECHNOLOGY, INC.

IL-16 (B-2): sc-374604

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cytokines are small, soluble proteins with pleiotropic effects on a variety of cell types. Cytokines have a regulatory function over the immune system and mediate aspects of inflammatory response. They exert their biological effects through the binding of membrane-bound receptors which, in turn, intiate signal transduction cascades that elicit physiological changes in their target cells. Interleukin-16, or IL-16, is a cytokine that has chemoattractant activity on $CD4^+$ T lymphocytes. It has long been known that eosinophils and $CD4^+$ T lymphocytes are recruited to sites of allergic inflammation, but the molecular mechanism was poorly understood. IL-16, also referred to as lymphocyte chemoattractant factor, is secreted by activated eosinophils as part of the allergic response along with RANTES, an additional cytokine. Once bound to its cognate receptor, CD4, IL-16 initiates a signal cascade that results in the activation of the PKC family.

REFERENCES

1. Arend, W.P., et al. 1994. Binding of IL-1 α, IL-1 β, 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.
2. Okamura, H., et al. 1995. Cloning of a new cytokine that induces IFN-γ production by T cells. Nature 378: 88-91.
3. Cohen, M.C., et al. 1996. Cytokine function: a study in biologic diversity. Am. J. Clin. Pathol. 105: 589-598.
4. Ihle, J.N. 1996. Janus kinases in cytokine signalling. Philos. Trans. R. Soc. Lond., B, Biol. Sci. 351: 159-166.
5. Laberge, S., et al. 1996. Secretion of IL-16 (lymphocyte chemoattractant factor) from serotonin-stimulated $CD8^+$ T cells *in vitro*. J. Immunol. 156: 310-315.
6. Lim, K.G., et al. 1996. Human eosinophils elaborate the lymphocyte chemoattractants IL-16 (lymphocyte chemoattractant factor) and RANTES. J. Immunol. 156: 2566-2570.
7. Parada, N.A., et al. 1996. IL-16- and other CD4 ligand-induced migration is dependent upon protein kinase C. Cell. Immunol. 168: 100-106.

CHROMOSOMAL LOCATION

Genetic locus: IL16 (human) mapping to 15q25.1.

SOURCE

IL-16 (B-2) is a mouse monoclonal antibody raised against amino acids 502-631 mapping at the C-terminus of IL-16 of human 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.

STORAGE

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

APPLICATIONS

IL-16 (B-2) is recommended for detection of IL-16 of human origin 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-16 siRNA (h): sc-39647, IL-16 shRNA Plasmid (h): sc-39647-SH and IL-16 shRNA (h) Lentiviral Particles: sc-39647-V.

Molecular Weight of mature IL-16: 20 kDa.

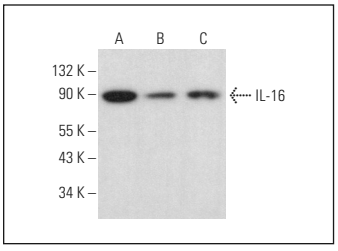
Molecular Weight of IL-16 precursor: 40-75 kDa.

Positive Controls: Raji whole cell lysate: sc-364236, HEL 92.1.7 cell lysate: sc-2270 or CCRF-CEM cell lysate: sc-2225.

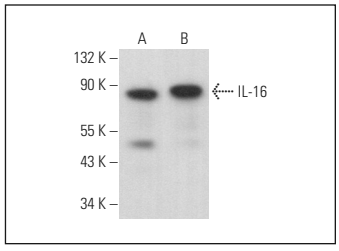
RECOMMENDED SUPPORT REAGENTS

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-16 (B-2): sc-374604. Western blot analysis of IL-16 expression in Raji (**A**), Daudi (**B**) and U-698-M (**C**) whole cell lysates.



IL-16 (B-2): sc-374604. Western blot analysis of IL-16 expression in HEL 92.1.7 (**A**) and CCRF-CEM (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Krantz, D., et al. 2020. IL-16 processing in sentinel node regulatory T cells is a factor in bladder cancer immunity. Scand. J. Immunol. 92: e12926.

RESEARCH USE

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

PROTOCOLS

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