SANTA CRUZ BIOTECHNOLOGY, INC.

IL-15 (H-114): sc-7889

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Interleukin-15 (IL-15), also designated IL-T, is a cloned cytokine which shares several biological activities but no sequence homology with IL-2. Human, mouse and simian IL-15 cDNA clones have been isolated and characterized. All three species encode a 162 amino acid residue precursor protein containing a 48 amino acid leader that is cleaved to generate the mature form of IL-15. IL-15 stimulates the proliferation of T cells and NK cells, while enhancing B cell expansion and antibody production. Unlike IL-2, IL-15 is not produced by lymphocytes, but appears to be produced by macrophages, epithelial lines, muscle and placenta. IL-15 has also been shown to be a chemoattractant for human blood T lymphocytes and to be able to induce lymphokine-activated killer (LAK) activity in NK cells as well as to be able to induce the generation of cytolytic effector cells. Studies have shown that IL-15 is the only other cytokine that shares the β signaling subunit of the IL-2R. Evidence also suggests that like IL-2, IL-4 and IL-7, IL-15 utilizes the common IL-2Rγ subunit.

REFERENCES

1. Burton, J.D., et al. 1994. A lymphokine, provisionally designated interleukin T and produced by a human adult T cell leukemia line, stimulates T cell proliferation and the induction of lymphokine-activated killer cells. Proc. Natl. Acad. Sci. USA 91: 4935-4939.
2. Grabstein, K.H., et al. 1994. Cloning of a T cell growth factor that interacts with the β chain of the interleukin-2 receptor. Science 264: 965-968.

CHROMOSOMAL LOCATION

Genetic locus: IL15 (human) mapping to 4q31.21; Il15 (mouse) mapping to 8 C2.

SOURCE

IL-15 (H-114) is a rabbit polyclonal antibody raised against amino acids 49-162 of IL-15 of human origin.

PRODUCT

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

APPLICATIONS

IL-15 (H-114) is recommended for detection of IL-15 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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-15 siRNA (h): sc-39645, IL-15 siRNA (m): sc-39646, IL-15 shRNA Plasmid (h): sc-39645-SH, IL-15 shRNA Plasmid (m): sc-39646-SH, IL-15 shRNA (h) Lentiviral Particles: sc-39645-V and IL-15 shRNA (m) Lentiviral Particles: sc-39646-V.

Molecular Weight of IL-15: 14-15 kDa.

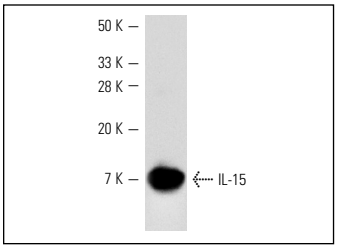
RESEARCH USE

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

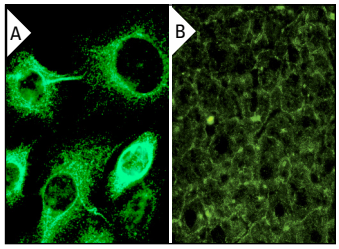
STORAGE

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

DATA



IL-15 (H-114): sc-7889. Western blot analysis of human recombinant IL-15.



IL-15 (H-114): sc-7889. Immunofluorescence staining of methanol-fixed A549 cells showing cytoplasmic and membrane localization (**A**). Immunofluorescence staining of normal mouse liver frozen section showing cytoplasmic and extracellular staining (**B**).

SELECT PRODUCT CITATIONS

1. 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.
2. Nielsen, A.R., et al. 2008. Association between interleukin-15 and obesity: interleukin-15 as a potential regulator of fat mass. J. Clin. Endocrinol. Metab. 93: 4486-4493.
3. Gómez-Nicola, D., et al. 2008. Interleukin 15 expression in the CNS: blockade of its activity prevents glial activation after an inflammatory injury. Glia 56: 494-505.
4. Gómez-Nicola, D., et al. 2009. Blockade of IL-15 activity inhibits microglial activation through the NFκB, p38, and ERK1/2 pathways, reducing cytokine and chemokine release. Glia 58: 264-276.
5. Shandley, S., et al. 2009. IL-4 receptor as a bridge between the immune system and muscle in experimental myasthenia gravis I: up-regulation of muscle IL-15 by IL-4. Clin. Immunol. 132: 246-256.
6. Nakamaru, Y., et al. 2009. A protein deacetylase SIRT1 is a negative regulator of metalloproteinase-9. FASEB J. 23: 2810-2819.
7. Qian, L., et al. 2011. Construction of a plasmid for co-expression of mouse membrane-bound form of IL-15 and RAE-1ε and its biological activity. Plasmid 65: 239-245.
8. da Rocha, A.L., et al. 2015. Downhill running-based overtraining protocol improves hepatic Insulin signaling pathway without concomitant decrease of inflammatory proteins. PLoS ONE 10: e0140020.