



IL-33 (L-17): sc-83413

BACKGROUND

The interleukins (ILs) are a broad family of well characterized cytokines, primarily of hematopoietic cell origin. They are secreted by immune cells (mainly macrophages, B-cells or T-cells) that regulate a wide range of immune system functions. The specific functions of different interleukins vary from the regulation of inflammatory and immune responses to the regulation of other interleukins. IL-33 (interleukin 33), also known as DVS27, IL1F11, C9orf26 or NF-HEV, is a 270 amino acid secreted protein that belongs to the IL family. Expressed in tonsils and lymph nodes, IL-33 functions as a cytokine that is stimulated via interaction with ST2, an association that recruits a variety of proteins, including MyD88, IRAK-1 and TRAF6, and can also induce T helper-associated cytokine activity. IL-33 plays a role in the survival and adhesion of mast cells and may be involved in the control of endothelial cell activation.

REFERENCES

1. Baekkevold, E.S., Roussigné, M., Yamanaka, T., Johansen, F.E., Jahnsen, F.L., Amalric, F., Brandtzaeg, P., Erard, M., Haraldsen, G. and Girard, J.P. 2003. Molecular characterization of NF-HEV, a nuclear factor preferentially expressed in human high endothelial venules. *Am. J. Pathol.* 163: 69-79.
2. Hayakawa, H., Hayakawa, M., Kume, A. and Tominaga, S. 2007. Soluble ST2 blocks interleukin-33 signaling in allergic airway inflammation. *J. Biol. Chem.* 282: 26369-26380.
3. Sanada, S., Hakuno, D., Higgins, L.J., Schreiter, E.R., McKenzie, A.N. and Lee, R.T. 2007. IL-33 and ST2 comprise a critical biomechanically induced and cardioprotective signaling system. *J. Clin. Invest.* 117: 1538-1549.
4. Allakhverdi, Z., Smith, D.E., Comeau, M.R. and Delespesse, G. 2007. Cutting edge: The ST2 ligand IL-33 potently activates and drives maturation of human mast cells. *J. Immunol.* 179: 2051-2054.
5. Iikura, M., Suto, H., Kajiwara, N., Oboki, K., Ohno, T., Okayama, Y., Saito, H., Galli, S.J. and Nakae, S. 2007. IL-33 can promote survival, adhesion and cytokine production in human mast cells. *Lab. Invest.* 87: 971-978.
6. Küchler, A.M., Pollheimer, J., Balogh, J., Sponheim, J., Manley, L., Sorensen, D.R., De Angelis, P.M., Scott, H. and Haraldsen, G. 2008. Nuclear interleukin-33 is generally expressed in resting endothelium but rapidly lost upon angiogenic or proinflammatory activation. *Am. J. Pathol.* 173: 1229-1242.
7. Palmer, G., Lipsky, B.P., Smithgall, M.D., Meininger, D., Siu, S., Talbot-Ayer, D., Gabay, C. and Smith, D.E. 2008. The IL-1 receptor accessory protein (AcP) is required for IL-33 signaling and soluble AcP enhances the ability of soluble ST2 to inhibit IL-33. *Cytokine* 42: 358-364.
8. Cherry, W.B., Yoon, J., Bartemes, K.R., Iijima, K. and Kita, H. 2008. A novel IL-1 family cytokine, IL-33, potently activates human eosinophils. *J. Allergy Clin. Immunol.* 121: 1484-1490.
9. Kakkar, R. and Lee, R.T. 2008. The IL-33/ST2 pathway: therapeutic target and novel biomarker. *Nat. Rev. Drug Discov.* 7: 827-840.

CHROMOSOMAL LOCATION

Genetic locus: Il33 (mouse) mapping to 19 C1.

SOURCE

IL-33 (L-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of IL-33 of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-83413 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

IL-33 (L-17) is recommended for detection of IL-33 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with other interleukins.

Suitable for use as control antibody for IL-33 siRNA (m): sc-75334, IL-33 shRNA Plasmid (m): sc-75334-SH and IL-33 shRNA (m) Lentiviral Particles: sc-75334-V.

Molecular Weight of IL-33: 30 kDa.

Positive Controls: C6 whole cell lysate.

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) 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.

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.