

## IL-33 (4E9): sc-130625

### 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

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- Hayakawa, H., et al. 2007. Soluble ST2 blocks interleukin-33 signaling in allergic airway inflammation. *J. Biol. Chem.* 282: 26369-26380.
- Sanada, S., et al. 2007. IL-33 and ST2 comprise a critical biomechanically induced and cardioprotective signaling system. *J. Clin. Invest.* 117: 1538-1549.
- Allakhverdi, Z., et al. 2007. Cutting edge: the ST2 ligand IL-33 potently activates and drives maturation of human mast cells. *J. Immunol.* 179: 2051-2054.
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- Palmer, G., et al. 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.
- Cherry, W.B., et al. 2008. A novel IL-1 family cytokine, IL-33, potently activates human eosinophils. *J. Allergy Clin. Immunol.* 121: 1484-1490.
- 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 (human) mapping to 9p24.1.

### SOURCE

IL-33 (4E9) is a mouse monoclonal antibody raised against amino acids 112-270 of recombinant IL-33 of human origin.

### RESEARCH USE

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

### PRODUCT

Each vial contains 50 µg IgG<sub>2b</sub> in 500 µl of PBS with < 0.1% sodium azide, 0.1% gelatin and 1% glycerol.

### APPLICATIONS

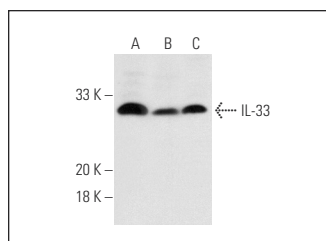
IL-33 (4E9) is recommended for detection of IL-33 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IL-33 siRNA (h): sc-75333, IL-33 shRNA Plasmid (h): sc-75333-SH and IL-33 shRNA (h) Lentiviral Particles: sc-75333-V.

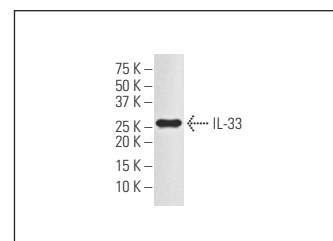
Molecular Weight of IL-33: 30 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or U-698-M whole cell lysate: sc-364799.

### DATA



IL-33 (4E9): sc-130625. Western blot analysis of IL-33 expression in HUV-EC-C (A), HeLa (B) and U-698-M (C) whole cell lysates.



IL-33 (4E9): sc-130625. Western blot analysis of IL-33 expression in Jurkat whole cell lysate.

### SELECT PRODUCT CITATIONS

- Shi, X., et al. 2016. Interleukin-33-induced immune tolerance is associated with the imbalance of memory and naive T-lymphocyte subsets. *Mol. Med. Rep.* 14: 4837-4843.
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- Wang, E., et al. 2019. Benzo(a)pyrene facilitates dermatophagoides group 1 (Der f 1)-induced epithelial cytokine release through aryl hydrocarbon receptor in asthma. *Allergy* 74: 1675-1690.
- Ishihara, Y., et al. 2019. Interleukin 33 expression induced by aryl hydrocarbon receptor in macrophages. *Toxicol. Sci.* 170: 404-414.

### STORAGE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.