

## **IL-33 Antibody**

Catalog # ASC10556

### **Specification**

# **IL-33 Antibody - Product Information**

Application
Primary Accession
Other Accession
Reactivity
Host
Clonality
Isotype
Application Notes

WB, IF 095760

NP 254274, 15559209

Human Rabbit Polyclonal

IgG

IL-33 antibody can be used for the detection of IL-33 by Western blot at 1 - 2 μg/mL. Despite its predicted molecular weight, IL-33 will often run at higher molecular weight in SDS-PAGE. Antibody can also be used for immunocytochemistry

starting at 20  $\mu$ g/mL. For

immunofluorescence start at 20 μg/mL.

## **IL-33 Antibody - Additional Information**

Gene ID
Target/Specificity
II.33:

90865

# **Reconstitution & Storage**

IL-33 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

### **Precautions**

IL-33 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## **IL-33 Antibody - Protein Information**

Name IL33 (HGNC:16028)

Synonyms C9orf26, IL1F11, NFHEV

## **Function**

Cytokine that binds to and signals through the IL1RL1/ST2 receptor which in turn activates NF-kappa-B and MAPK signaling pathways in target cells (PubMed:<a href="http://www.uniprot.org/citations/16286016" target="\_blank">16286016</a>, PubMed:<a href="http://www.uniprot.org/citations/19841166" target="\_blank">19841166</a>). Involved in the maturation of Th2 cells inducing the secretion of T-helper type 2- associated cytokines (PubMed:<a href="http://www.uniprot.org/citations/17853410" target=" blank">17853410</a>,



PubMed:<a href="http://www.uniprot.org/citations/18836528" target="\_blank">18836528</a>). Also involved in activation of mast cells, basophils, eosinophils and natural killer cells (PubMed:<a href="http://www.uniprot.org/citations/17853410" target="\_blank">17853410</a>, PubMed:<a href="http://www.uniprot.org/citations/18836528" target="\_blank">18836528</a>). Acts as an enhancer of polarization of alternatively activated macrophages (PubMed:<a href="http://www.uniprot.org/citations/19841166" target="\_blank">19841166</a>). Acts as a chemoattractant for Th2 cells, and may function as an 'alarmin', that amplifies immune responses during tissue injury (PubMed:<a href="http://www.uniprot.org/citations/17853410" target="\_blank">17853410</a>, PubMed:<a href="http://www.uniprot.org/citations/18836528" target="\_blank">18836528</a>). Induces rapid UCP2-dependent mitochondrial rewiring that attenuates the generation of reactive oxygen species and preserves the integrity of Krebs cycle required for persistent production of itaconate and subsequent GATA3-dependent differentiation of inflammation-resolving alternatively activated macrophages (By similarity).

#### **Cellular Location**

Nucleus. Chromosome. Cytoplasm Cytoplasmic vesicle, secretory vesicle Secreted Note=Secreted and released in the extracellular milieu by passing through the gasdermin-D (GSDMD) pore following cleavage by CELA1 (PubMed:35794369). Associates with heterochromatin and mitotic chromosomes (PubMed:17185418). The secretion is dependent on protein unfolding and facilitated by the cargo receptor TMED10; it results in protein translocation from the cytoplasm into the ERGIC (endoplasmic reticulum-Golgi intermediate compartment) followed by vesicle entry and secretion (PubMed:32272059).

#### **Tissue Location**

Expressed at high level in high endothelial venules found in tonsils, Peyer patches and mesenteric lymph nodes. Almost undetectable in placenta.

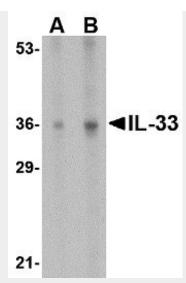
## **IL-33 Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

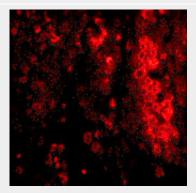
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- <u>Immunoprecipitation</u>
- Flow Cytomety
- Cell Culture

### IL-33 Antibody - Images

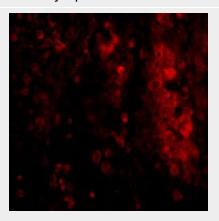




Western blot analysis of IL-33 in human lymph node tissue lysate with IL-33 antibody at (A) 1 and (B) 2  $\mu$ g/mL.



Immunofluorescence of IL-33 in human lymph node tissue with IL-33 antibody at 20 μg/mL.



Immunofluorescence of IL-33 in Human Lymph Node cells with IL-33 antibody at 20 μg/mL.

## IL-33 Antibody - Background

IL-33 Antibody: Interleukin-33 (IL-33) is a recently identified member of the IL-1 family of cytokines whose other members include IL-1α/beta, IL-1Ra and IL-18. Its receptor has been shown to be ST2, an IL-1 receptor family member that also acts as a negative regulator of TLR-IL-1R signaling and IL-1R accessory protein (IL-1RAcP). Receptor binding of IL-33 activates NF-κB and MAP kinases and induces the expression of TH2-associated cytokines such as IL-4, IL-5 and IL-6. Prolonged IL-33 treatment of mice led to the development of eosinophilia, splenomegaly, and severe pathological changes in mucosal organs such as lungs, esophagus and small intestine. Recent experiments have





Tel: 858.875.1900 Fax: 858.875.1999

shown that IL-33 can also co-localize with heterochromatin and possesses transcriptional repressor activities, indicating that IL-33 may function as both a proinflammatory cytokine and an intracellular nuclear factor with transcriptional regulatory properties.

# **IL-33 Antibody - References**

Schmitz J, Owyang A, Oldham E, et al. IL-33, and interleukin-1-like cytokine that signals via the IL-1 receptor-related protein ST2 and induces T helper type 2-associated cytokines. Immunity2005; 23:479-90.

Dinarello CA. Interleukin-18, a proinflammatory cytokine. Eur. Cytokine Netw.2000; 11:483-6. Brint EK, Xu D, Liu H, et al. ST2 is an inhibitor of interleukin 1 receptor and Toll-like receptor 4 signaling and maintains endotoxin tolerance. Nat. Immunol.2004; 5:373-9.

Chackerian AA, Oldham ER, Murphy EE, et al. IL-1 receptor accessory protein and ST2 comprise the IL-33 receptor complex. J. Immunol.2007; 179:2551-5.