

**IL-33 Antibody [12H6D12]**  
**Catalog # ASC12002****Specification****IL-33 Antibody [12H6D12] - Product Information**

Application	WB, IHC
Primary Accession	<a href="#">O95760</a>
Other Accession	<a href="#">NP_254274</a> , <a href="#">15559209</a>
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Application Notes	IL-33 antibody can be used for the detection of IL-33 by Western blot at 1 µg/mL. Antibody can also be used for immunohistochemistry starting at 5 µg/mL.

**IL-33 Antibody [12H6D12] - Additional Information**

Gene ID	90865
Target/Specificity	
IL33;	

**Reconstitution & Storage**

IL-33 monoclonal antibody can be stored at -20°C, stable for one year.

**Precautions**

IL-33 Antibody [12H6D12] is for research use only and not for use in diagnostic or therapeutic procedures.

**IL-33 Antibody [12H6D12] - 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

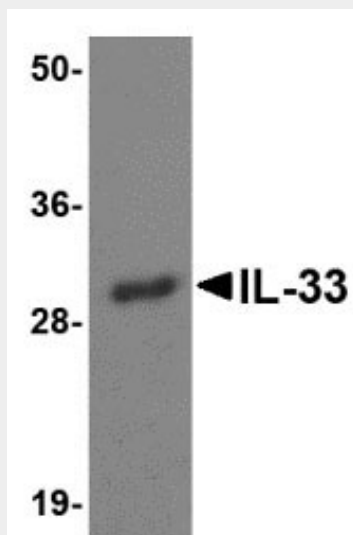
Expressed at high level in high endothelial venules found in tonsils, Peyer patches and mesenteric lymph nodes. Almost undetectable in placenta.

### IL-33 Antibody [12H6D12] - Protocols

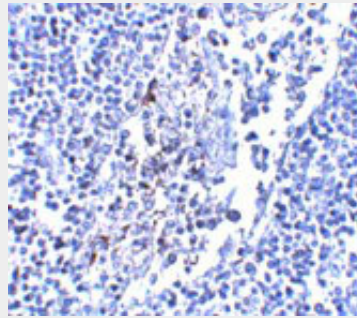
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### IL-33 Antibody [12H6D12] - Images



Western blot analysis of IL-33 using 125ng of recombinant IL-33 with IL-33 antibody at 1 µg/mL.



Immunohistochemistry of IL-33 in human lymph node tissue with IL-33 antibody at 5 µg/mL.

### **IL-33 Antibody [12H6D12] - Background**

IL-33 Monoclonal Antibody: Interleukin-33 (IL-33) is a recently identified member of the IL-1 family of cytokines whose other members include IL-1 $\alpha$ , IL-1 $\beta$ , 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- $\kappa$ B 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 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. Despite its predicted molecular weight, IL-33 will often run at higher molecular weight in SDS-PAGE.

### **IL-33 Antibody [12H6D12] - 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. *Immunity* 2005; 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.