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IL-33 Antibody

Catalog # ASC10556

Product Information

Application	WB, IF, E
Primary Accession	O95760
Other Accession	NP_254274, 15559209
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	30759
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	IL-33 antibody can be used for the detection of IL-33 by Western blot at 1 - 2 g/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 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	90865
Other Names	Interleukin-33, IL-33, Interleukin-1 family member 11, IL-1F11, Nuclear factor from high endothelial venules, NF-HEV, Interleukin-33 (95-270), Interleukin-33 (99-270), Interleukin-33 (109-270), IL33, C9orf26, IL1F11, NFHEV
Target/Specificity	IL33;
Reconstitution & Storage	IL-33 antibody can be stored at 4℃ for three months and -20℃, 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.

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:16286016, PubMed:19841166). Involved in the maturation of Th2 cells inducing the secretion of T-helper type 2- associated cytokines

	(PubMed:17853410, PubMed:18836528). Also involved in activation of mast cells, basophils, eosinophils and natural killer cells (PubMed:17853410, PubMed:18836528). Acts as an enhancer of polarization of alternatively activated macrophages (PubMed:19841166). Acts as a chemoattractant for Th2 cells, and may function as an 'alarmin', that amplifies immune responses during tissue injury (PubMed:17853410, PubMed:18836528). 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.

Background

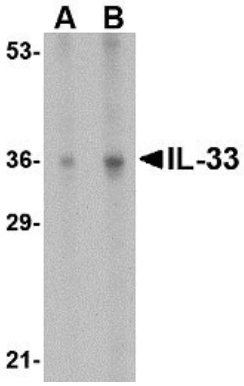
IL-33 Antibody: Interleukin-33 (IL-33) is a recently identified member of the IL-1 family of cytokines whose other members include IL-1α/beta, IL-1Ra and IL-18. Its receptor has been shown to be ST2, an IL-1 receptor family member that also acts as a negative regulator of TLR-IL-1R signaling and IL-1R 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 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.

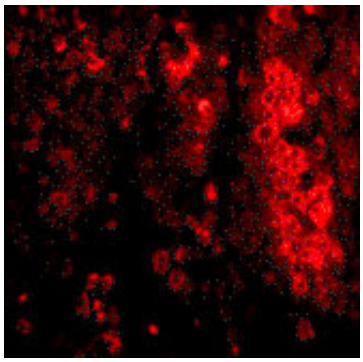
References

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.

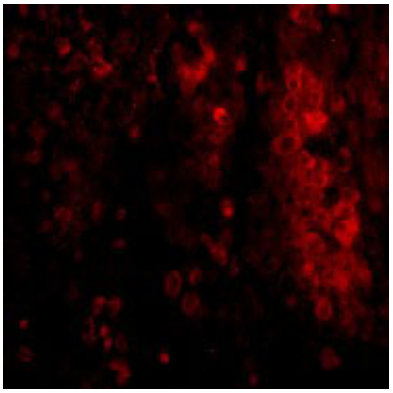
Images

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