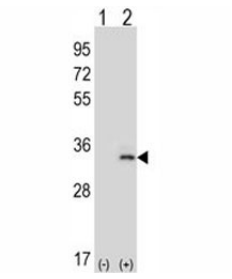
IL-33 Antibody / Interleukin 33 (F43771)

Catalog No.	Formulation	Size
F43771-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F43771-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity
UniProt	O95760
Applications	Western Blot : 1:1000
Limitations	This IL-33 antibody is available for research use only.



Western blot analysis of IL-33 antibody and 293 cell lysate (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (2) with the IL33 gene. Predicted molecular weight: ~31/26kDa (isoforms a/b).

Description

IL-33 antibody targets interleukin 33, a cytokine encoded by the IL33 gene that functions as an important regulator of immune responses at barrier tissues. Interleukin 33 belongs to the interleukin 1 cytokine family and is constitutively expressed by structural cells such as epithelial cells, endothelial cells, and fibroblasts. Unlike many secreted cytokines, IL-33 is primarily localized to the nucleus under resting conditions, where it associates with chromatin and acts as an intracellular regulator of gene expression. Upon cellular stress or damage, IL-33 is released into the extracellular environment and functions as an alarm signal to activate immune responses.

At the cellular level, extracellular interleukin 33 signals through the ST2 receptor, a member of the interleukin 1 receptor family, in combination with the IL-1 receptor accessory protein. Engagement of this receptor complex activates downstream signaling pathways that influence the activity of multiple immune cell types, including innate lymphoid cells, mast cells, eosinophils, basophils, and T lymphocytes. Through these interactions, IL-33 promotes cytokine production, immune cell recruitment, and amplification of inflammatory signaling. IL-33 antibody reagents enable investigation of these signaling events by supporting detection and analysis of IL-33 expression in relevant biological systems.

IL-33 expression is particularly prominent at epithelial barrier sites such as the lung, skin, and gastrointestinal tract, where it serves as a molecular link between tissue integrity and immune activation. Under conditions of tissue injury, infection, or mechanical stress, IL-33 is released from damaged cells and rapidly alerts the immune system to local disruption. This unique role as an alarmin distinguishes IL-33 from many other cytokines and underscores its importance in coordinating early immune responses to environmental challenges.

Structurally, interleukin 33 is synthesized as a full length precursor protein that contains a nuclear localization domain and a cytokine domain responsible for receptor binding. Unlike some members of the interleukin 1 family, IL-33 does not require enzymatic cleavage for biological activity, although proteolytic processing can modulate its potency and stability. Regulation of IL-33 function occurs at multiple levels, including cellular localization, release mechanisms, and receptor availability. Use of an IL-33 antibody supports research into these regulatory processes and their impact on immune signaling dynamics.

From a disease relevance perspective, IL-33 has been extensively studied in the context of inflammatory and immune mediated disorders. Altered IL-33 expression has been associated with dysregulated immune activation and tissue inflammation, particularly in conditions involving barrier dysfunction. In research settings, analysis of IL-33 expression provides insight into epithelial immune communication, innate immune activation, and cytokine driven amplification of immune responses. IL-33 antibody reagents are therefore valuable tools for investigating immune regulation, tissue inflammation, and signaling pathways that link structural cells to immune effector functions.

An IL-33 antibody is suitable for detecting interleukin 33 expression in research applications focused on immune signaling, epithelial biology, and inflammatory processes. By enabling specific recognition of this cytokine, IL-33 antibody tools support studies of alarmin mediated immune activation and the molecular mechanisms that govern immune responses at tissue barrier sites, with NSJ Bioreagents providing antibodies intended for research use.

Application Notes

Titration of the IL-33 antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 50-79 from the human protein was used as the immunogen for this IL-33 antibody.

Storage

Aliquot the IL-33 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

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