

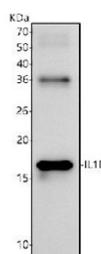
Interleukin 1 beta Antibody / IL1B [clone 28I10] (RQ8945)

Catalog No.	Formulation	Size
RQ8945	Antibody in PBS with 0.02% sodium azide, 50% glycerol and 0.4-0.5mg/ml BSA	100 ul

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-2 weeks
Species Reactivity	Mouse, Rat
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	28I10
Purity	Affinity purified
UniProt	P01584
Applications	Western Blot : 1:500
Limitations	This Interleukin 1 beta antibody is available for research use only.



Western blot testing of recombinant rat IL1 beta partial protein with Interleukin 1 beta antibody.



Western blot testing of lysate from mouse RAW264.7 cells treated with Lipopolysaccharide (LPS), with Interleukin 1 beta antibody. The mature form is detected at ~17 kDa.

Description

Interleukin 1 beta antibody is a central tool for investigating inflammation, innate immunity, and chronic disease. The encoded protein, IL1B, is a proinflammatory cytokine primarily produced by activated macrophages, monocytes, and dendritic cells. It is first synthesized as an inactive proprotein that requires cleavage by caspase 1 within the inflammasome complex to generate active interleukin 1 beta. Once secreted, it binds to the interleukin 1 receptor type I, initiating signaling pathways that drive fever, leukocyte recruitment, and proinflammatory gene expression.

IL1B is a master regulator of immune responses. It promotes the release of secondary mediators including tumor necrosis factor alpha and interleukin 6, amplifying inflammatory cascades. By activating NF kappa B and MAP kinase pathways, interleukin 1 beta induces transcription of genes involved in cell survival, proliferation, and differentiation. In adaptive immunity, IL1B shapes T helper cell polarization and antibody production, linking innate signals to downstream immune functions.

Aberrant interleukin 1 beta signaling is associated with many diseases. Excessive production contributes to rheumatoid arthritis, inflammatory bowel disease, psoriasis, and gout. Elevated IL1B levels are also observed in cardiovascular disease, metabolic disorders such as type 2 diabetes, and neurodegenerative diseases where chronic inflammation worsens tissue injury. Because of its pathogenic potential, IL1B is a major therapeutic target, and several inhibitors have been developed to block its activity in clinical settings.

At the molecular level, IL1B exerts its effects by binding to interleukin 1 receptor type I, which recruits the receptor accessory protein IL1RAcP to form a signaling complex. This complex engages adaptors such as MyD88 and kinases like IRAK, culminating in NF kappa B and AP 1 activation. These transcription factors coordinate expression of inflammatory genes, ensuring rapid and sustained immune responses.

The Interleukin 1 beta antibody is used in western blotting, immunohistochemistry, immunofluorescence, and flow cytometry to detect both pro and mature forms of IL1B. These applications are essential for studying inflammasome activation, cytokine regulation, and the pathology of inflammatory disease. For researchers examining innate immunity, therapeutic blockade of cytokines, or chronic inflammation, the Interleukin 1 beta antibody is a reliable and specific reagent. NSJ Bioreagents provides validated antibodies that ensure accuracy and reproducibility in advanced molecular studies.

Application Notes

Optimal dilution of the Interleukin 1 beta antibody should be determined by the researcher.

Immunogen

A synthetic peptide specific to Interleukin 1 beta protein was used as the immunogen for the Interleukin 1 beta antibody.

Storage

Store the Interleukin 1 beta antibody at -20oC.

