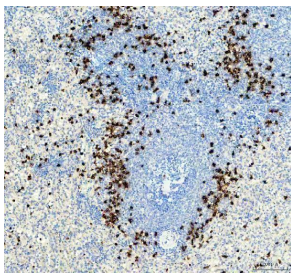
TNF Alpha Antibody / Pro-Inflammatory Cytokine Antibody (RQ4613)

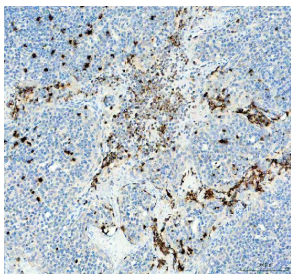
Catalog No.	Formulation	Size
RQ4613	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

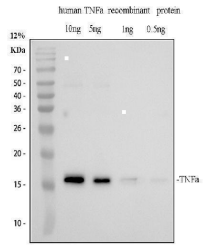
Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P01375
Applications	Western blot: 0.5-1ug/ml ELISA (Capture): 1-5ug/ml (human recombinant protein) Immunohistochemistry (FFPE): 2-5ug/ml



TNF Alpha Antibody Human Spleen IHC. Immunohistochemical staining of FFPE human spleen tissue with TNF alpha antibody at 2 ug/ml. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 8 EDTA buffer prior to staining. TNF alpha immunoreactivity is observed predominantly within scattered immune cells of the splenic white pulp and periarteriolar lymphoid regions, consistent with the expected localization of this pro-inflammatory cytokine involved in immune regulation, inflammatory signaling, and activation of innate and adaptive immune responses. Cell nuclei are counterstained with hematoxylin (blue).



TNF Alpha Antibody Human Tonsil IHC. Immunohistochemical staining of FFPE human tonsil tissue with TNF alpha antibody at 2 ug/ml. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 8 EDTA buffer prior to staining. TNF alpha immunoreactivity is observed predominantly within scattered immune cells of the lymphoid tissue and interfollicular regions, consistent with the expected localization of this pro-inflammatory cytokine involved in immune regulation, inflammatory signaling, and activation of innate and adaptive immune responses. Cell nuclei are counterstained with hematoxylin (blue).



TNF Alpha Antibody Recombinant Protein WB. Western blot testing of recombinant human TNF alpha protein with TNF alpha antibody at 0.5 ug/ml. Lane 1: 10 ng. Lane 2: 5 ng. Lane 3: 1 ng. Lane 4: 0.5 ng. A specific immunoreactive band is detected at approximately 17 kDa across the recombinant protein dilution series, demonstrating sensitive detection of TNF alpha at decreasing protein concentrations. The results confirm specific recognition of this pro-inflammatory cytokine, a central regulator of immune responses, inflammatory signaling, and cytokine-mediated host defense.

Description

TNF Alpha Antibody recognizes Tumor Necrosis Factor alpha (TNF alpha, TNFA), a pleiotropic pro-inflammatory cytokine that serves as a master regulator of innate and adaptive immune responses. Produced primarily by activated macrophages, monocytes, T lymphocytes, natural killer cells, and other immune cell populations, TNF alpha initiates signaling through TNFR1 and TNFR2 to regulate inflammation, apoptosis, cell survival, cytokine production, and host defense. As one of the earliest cytokines released during infection or tissue injury, TNF alpha orchestrates the recruitment and activation of immune cells while coordinating inflammatory signaling throughout the body. Consequently, TNF Alpha Antibody is widely used to investigate inflammatory pathways, immune regulation, infection, autoimmune disease, and cancer biology.

TNF alpha functions through activation of multiple downstream signaling pathways, including Nuclear Factor kappa B (NF-kappa-B), Mitogen-Activated Protein Kinase (MAPK), and caspase-dependent apoptotic signaling. These pathways regulate the expression of adhesion molecules, chemokines, additional cytokines, and acute-phase proteins that collectively shape immune responses. Although transient TNF alpha production is essential for eliminating pathogens and promoting tissue repair, sustained or excessive expression contributes to chronic inflammation and tissue damage. TNF Alpha Antibody is therefore an important research tool for evaluating cytokine signaling, inflammatory responses, and immune cell activation.

Dysregulated TNF alpha signaling has been implicated in numerous diseases, including rheumatoid arthritis, inflammatory bowel disease, psoriasis, ankylosing spondylitis, sepsis, asthma, chronic obstructive pulmonary disease, atherosclerosis, obesity, diabetes, neurodegenerative disorders, and many forms of cancer. Because TNF alpha is a central mediator of inflammation, therapeutic TNF inhibitors have become widely used for treating autoimmune and inflammatory diseases. Ongoing research continues to investigate TNF alpha in tumor immunity, infectious disease, cytokine storm syndromes, and mechanisms of chronic inflammatory pathology. TNF Alpha Antibody is therefore extensively employed in studies of cytokine biology, immunology, and translational medicine.

NSJ Bioreagents offers highly validated TNF Alpha Antibody products for reliable detection of endogenous TNF alpha in human and animal tissues, cultured cells, and experimental models. These antibodies support investigations into pro-inflammatory cytokine signaling, immune regulation, autoimmune disease, infection, oncology, and inflammatory disorders while enabling accurate characterization of TNF alpha expression and localization. Researchers studying inflammation, cytokine networks, and immune-mediated disease can rely on TNF Alpha Antibody for dependable and reproducible results.

Learn more about cytokines and other proteins involved in immune regulation, inflammatory signaling and host defense on our Immunology Antibodies page.

Application Notes

Optimal dilution of the TNF Alpha Antibody / Pro-Inflammatory Cytokine Antibody should be determined by the researcher.

Immunogen

Amino acids V77-L233 from the human protein were used as the immunogen for the TNF alpha antibody.

Storage

After reconstitution, the TNF alpha antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

TNFA antibody, Tumor Necrosis Factor Alpha antibody, TNF antibody, Cachectin antibody, TNF-alpha antibody, Tumor Necrosis Factor antibody

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