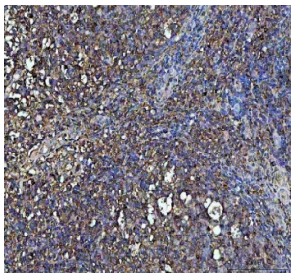
IFNG Antibody / Interferon gamma (RQ4575)

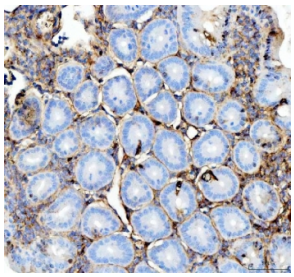
Catalog No.	Formulation	Size
RQ4575	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

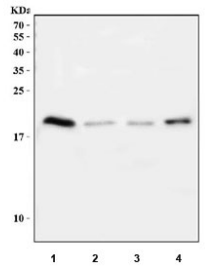
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P01579
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml ELISA (Capture) : 1-5ug/ml (human recombinant protein)
Limitations	This IFNG antibody is available for research use only.



IHC staining of FFPE human tonsil tissue with IFNG antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



IHC staining of FFPE mouse colon tissue with IFNG antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Western blot testing of 1) human placenta, 2) rat spleen, 3) mouse spleen, 4) mouse thymus tissue lysate with IFNG antibody at 0.5ug/ml. Expected molecular weight: 19-24 kDa depending on glycosylation level.

Description

IFNG antibody targets Interferon gamma, a soluble cytokine encoded by the IFNG gene that plays a central role in innate and adaptive immune responses. Interferon gamma is primarily produced by activated T lymphocytes, natural killer cells, and certain innate lymphoid cell populations. It is secreted into the extracellular space, where it binds to its cognate receptor on target cells to initiate downstream signaling events that shape immune activation, host defense, and immune regulation.

Functionally, Interferon gamma is a key immunomodulatory cytokine that promotes macrophage activation, enhances antigen presentation, and drives T helper 1 type immune responses. A short functional summary is that IFNG coordinates cellular immunity by linking lymphocyte activation to antimicrobial and inflammatory effector functions. Through induction of interferon stimulated genes, Interferon gamma enhances expression of major histocompatibility complex molecules and supports efficient recognition of infected or transformed cells.

At the molecular level, Interferon gamma is synthesized as a monomer that forms a biologically active homodimer upon secretion. Binding of IFNG to the interferon gamma receptor activates the JAK STAT signaling pathway, leading to transcriptional regulation of genes involved in immune defense, inflammation, and cell cycle control. IFNG antibody reagents are widely used to study cytokine production, secretion dynamics, and immune cell activation in both in vitro and in vivo research settings.

From a biological and disease relevance perspective, IFNG plays a critical role in host defense against intracellular pathogens, including viruses, bacteria, and parasites. Dysregulated Interferon gamma signaling has been implicated in autoimmune disease, chronic inflammation, immunodeficiency, and cancer. Elevated or sustained IFNG expression can contribute to tissue damage in inflammatory conditions, while insufficient IFNG activity is associated with impaired immune responses. IFNG antibody tools are therefore essential for research in immunology, infectious disease, and immune mediated pathology.

Developmentally, IFNG expression is tightly controlled and inducible, reflecting its potent biological activity. Its production is closely linked to immune cell differentiation and activation state. IFNG antibodies from NSJ Bioreagents are supplied for research use to support studies of cytokine signaling, immune regulation, and cellular immune responses.

Application Notes

Optimal dilution of the IFNG antibody should be determined by the researcher.

Immunogen

Amino acids Q24-G161 from the human protein were used as the immunogen for the IFNG antibody.

Storage

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