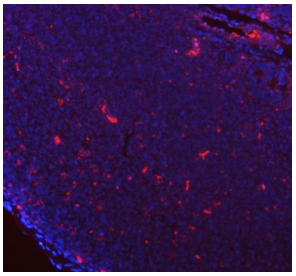
Gilt Antibody / Ifi30 / Gamma Interferon Inducible Lysosomal Thiol Reductase (RQ5820)

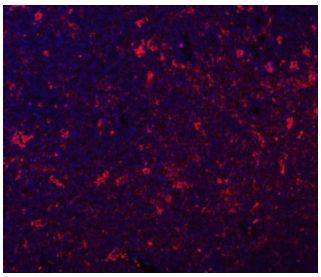
Catalog No.	Formulation	Size
RQ5820	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

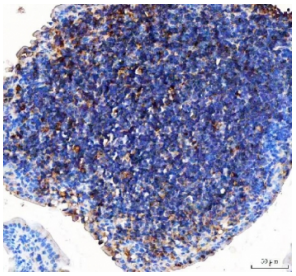
Availability	1-3 business days
Species Reactivity	Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose and 0.025% sodium azide
UniProt	Q9ESY9
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry: 1-2ug/ml Flow cytometry: 1-3ug/million cells Immunofluorescence: 5ug/ml
Limitations	This Gilt antibody is available for research use only.



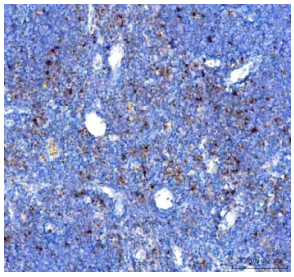
Immunofluorescent staining of FFPE mouse lymph tissue with Gilt antibody (red) and DAPI nuclear stain (blue). HIER: steam section in pH6 citrate buffer for 20 min.



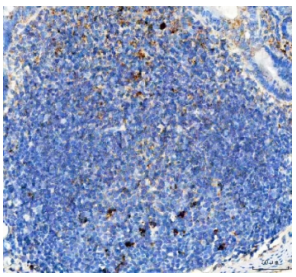
Immunofluorescent staining of FFPE rat thymus tissue with Gilt antibody (red) and DAPI nuclear stain (blue). HIER: steam section in pH6 citrate buffer for 20 min.



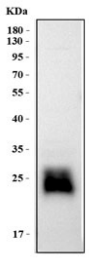
IHC staining of FFPE mouse lymph tissue with Gilt antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



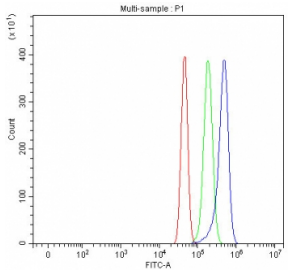
IHC staining of FFPE mouse thymus tissue with Gilt antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



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



Western blot testing of mouse RAW264.7 lysate with Gilt antibody. Expected molecular weight: 33-35 kDa (pro form), 25-30 kDa (mature form), 50-60 kDa (homodimer).



Flow cytometry testing of mouse RAW264.7 cells with Gilt antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= Gilt antibody.

Description

Gilt antibody targets Gamma Interferon Inducible Lysosomal Thiol Reductase, a lysosomal enzyme encoded by the Ifi30 gene that plays a central role in antigen processing within the major histocompatibility complex class II pathway. Gilt is primarily localized to endolysosomal compartments of antigen-presenting cells, including dendritic cells, macrophages, and B cells, where it functions in a reducing environment. Expression of Gilt is strongly upregulated by interferon gamma, linking its activity to immune activation and inflammatory signaling.

Functionally, Gamma Interferon Inducible Lysosomal Thiol Reductase catalyzes the reduction of disulfide bonds in internalized protein antigens, facilitating their unfolding and subsequent proteolytic processing. A short functional summary is that Gilt enables efficient generation of peptide epitopes for loading onto MHC class II molecules, thereby supporting CD4 positive T cell activation. Through this activity, Gilt is a critical regulator of adaptive immune responses and antigen presentation efficiency.

At the molecular level, Gilt is synthesized as a precursor protein that undergoes proteolytic maturation within lysosomes to generate the active enzyme. The protein contains a conserved Cys-X-X-Cys active site motif that mediates thiol reductase activity under acidic conditions. Gilt antibody reagents are widely used to study lysosomal function, antigen processing mechanisms, and the regulation of immune responses in both resting and activated antigen-presenting cells.

From a biological and disease relevance perspective, altered Gilt expression has been linked to immune dysregulation, autoimmunity, infection, and cancer. Reduced or aberrant expression of Gamma Interferon Inducible Lysosomal Thiol Reductase can impair antigen presentation and modify T cell responses, while increased expression is often observed in inflammatory environments. Gilt has also been investigated in tumor immunology, where changes in antigen processing pathways can influence immune recognition of malignant cells.

Developmentally, Gilt expression increases as antigen-presenting cells mature and acquire full immunostimulatory capacity. Its interferon responsiveness positions Gilt at the intersection of innate and adaptive immunity. Gilt antibody tools support research applications aimed at characterizing antigen processing pathways, lysosomal redox biology, and immune cell function. Gilt antibodies from NSJ Bioreagents are supplied for research use to support studies in immunology, inflammation, and antigen presentation.

Application Notes

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

Immunogen

Amino acids QLMHENAQLTDALHPPHEY from the mouse protein were used as the immunogen for the Gilt antibody.

Storage

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

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