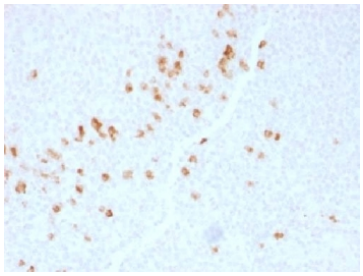
Immunoglobulin G4 Antibody / IGHG4 [clone IGHG4/1345] (V3454)

Catalog No.	Formulation	Size
V3454-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3454-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3454SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	IGHG4/1345
Purity	Protein G affinity chromatography
Buffer	1X PBS, pH 7.4
UniProt	P01861
Gene ID	3503
Localization	Cytoplasmic
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This Immunoglobulin G4/IGHG4 antibody is available for research use only.



IHC testing of human tonsil with Immunoglobulin G4/IGHG4 antibody (clone IGHG4/1345). HIER: boil sections in 10mM Tris with 1mM EDTA, pH9 for 10-20 min followed by cooling at RT for 20 min.

Description

Immunoglobulin G4 antibody targets Immunoglobulin G4, a distinct subclass of human IgG encoded by the IGHG4 gene. Immunoglobulin G4 is a non-classical IgG subclass with unique structural and functional properties that differentiate it from IgG1, IgG2, and IgG3. Unlike other IgG subclasses, IgG4 exhibits minimal complement activation and reduced binding to activating Fc gamma receptors, supporting a regulatory rather than pro-inflammatory immune role.

Immunoglobulin G4 is typically produced during prolonged or repeated antigen exposure and is strongly associated with immune tolerance. A hallmark feature of IgG4 biology is Fab arm exchange, a process in which half-molecules are swapped between antibodies, generating functionally monovalent IgG4 molecules. This property limits immune complex formation and inflammatory signaling, making Immunoglobulin G4 antibody reagents especially valuable for studying antibody subclass behavior and immune modulation.

Human IgG4 plays a central role in IgG4-related disease, a fibroinflammatory condition characterized by dense infiltrates of IgG4-positive plasma cells in tissues such as pancreas, salivary glands, lymph nodes, and retroperitoneum. Detection of IgG4-expressing cells using an Immunoglobulin G4 antibody is widely used in research focused on disease mechanisms, immune dysregulation, and plasma cell differentiation.

In the context of allergy and allergen immunotherapy, Immunoglobulin G4 is associated with immune desensitization and blocking of IgE-mediated responses. Increased IgG4 levels often correlate with clinical tolerance following repeated allergen exposure. An Immunoglobulin G4 antibody supports investigations into subclass switching, chronic immune activation, and mechanisms underlying long-term immune adaptation.

Immunoglobulin G4 belongs to the immunoglobulin heavy chain constant region family and retains conserved Fc domain architecture while exhibiting subclass-specific functional behavior. This Immunoglobulin G4 antibody enables detection of IgG4 in immune tissues and experimental systems, supporting research into adaptive immunity, antibody diversity, and regulatory immune responses. NSJ Bioreagents offers this antibody for research applications requiring specific recognition of IgG4.

Application Notes

The concentration stated for each application is a general starting point. Variations in protocols, secondaries and substrates may require the Immunoglobulin G4/IGHG4 antibody to be tittered up or down for optimal performance.

Immunogen

A human recombinant protein corresponding to the Fc region was used as the immunogen for this Immunoglobulin G4/IGHG4 antibody.

Storage

Store the Immunoglobulin G4/IGHG4 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

References (1)