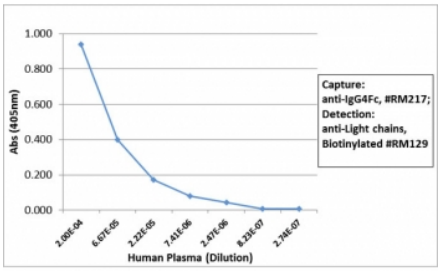
Recombinant Human IgG4 Fc Antibody [clone RM217] (R20191)

Catalog No.	Formulation	Size
R20191-100UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ug

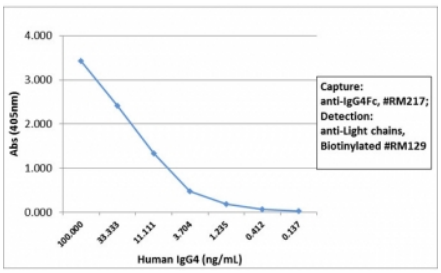
Recombinant RABBIT MONOCLONAL

Bulk quote request

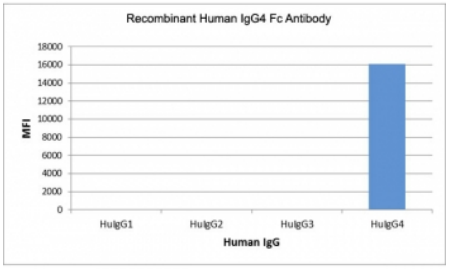
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM217
Purity	Protein A purified from animal origin-free supernatant
UniProt	P01861
Gene ID	3503
Applications	ELISA : 50ng/well-200ng/well (Capture); 0.05-0.2ug/ml (Detection)
Limitations	This recombinant Human IgG4 Fc antibody is available for research use only.



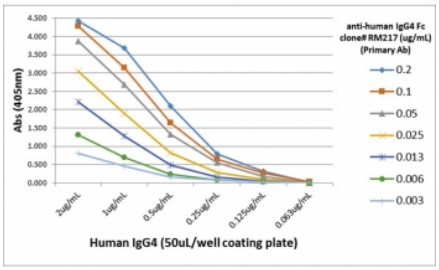
Sandwich ELISA with human plasma using recombinant Human IgG4 Fc antibody as the capture, and biotinylated anti-human light chains (Îº+Î») antibody RM129 as the detect, followed by an AP conjugated streptavidin.



Sandwich ELISA with human IgG4 using recombinant Human IgG4 Fc antibody as the capture, and biotinylated anti-human light chains (Îº+Î») antibody RM129 as the detect, followed by an AP conjugated streptavidin.



Recombinant Human IgG4 Fc antibody specifically reacts to hIgG4. No cross reactivity with IgG1, IgG2, IgG3.



ELISA Titration: the plate was coated with different amounts of hIgG4. A serial dilution of recombinant Human IgG4 Fc antibody was used as the primary and an alkaline phosphatase conjugated anti-rabbit IgG as the secondary.

Description

The Recombinant Human IgG4 antibody is a recombinant reagent developed to recognize the Fc region of human IgG4 immunoglobulins. IgG4 is the least abundant subclass of IgG in serum, yet it plays a unique role in regulating immune activity. Unlike IgG1, IgG2, and IgG3, IgG4 has reduced capacity to fix complement and shows weaker interactions with Fc gamma receptors, contributing to its generally anti-inflammatory properties. It also exhibits Fab arm exchange, a process in which half-molecules recombine, producing bispecific antibodies that further limit crosslinking and effector functions. The Recombinant Human IgG4 antibody targets the Fc portion, making it a useful tool for studies of Fc-mediated biology and for use as an isotype control.

The Fc region of IgG4 consists of the constant domains of the heavy chains and is responsible for engaging immune receptors and complement components. By specifically detecting the Fc region, the Recombinant Human IgG4 antibody provides insight into subclass expression, Fc receptor interactions, and the role of IgG4 in immune modulation. Recombinant production ensures lot-to-lot uniformity and removes the variability that can accompany serum-derived or hybridoma-derived reagents, enhancing reproducibility in experimental design.

Applications for the Recombinant Human IgG4 antibody include ELISA, where it functions as a control to confirm that signals are Fc-related rather than antigen-specific. In flow cytometry, it establishes baseline fluorescence and identifies nonspecific Fc receptor binding, particularly important in studies using immune cells with high FcÃŽÂ³ receptor expression. In immunohistochemistry, the antibody reveals background staining in tissues where IgG4-positive plasma cells are present. The Fc-region specificity also makes this reagent valuable for research into therapeutic antibody design, where Fc engineering is used to adjust effector functions.

IgG4 has become increasingly important in translational medicine. Elevated IgG4 levels are linked to allergen immunotherapy, where they may contribute to immune tolerance, and to IgG4-related disease, a condition characterized by fibroinflammatory lesions with abundant IgG4-positive plasma cells. By providing a reliable Fc-specific reagent, the Recombinant Human IgG4 antibody enables accurate assessment of subclass biology in both healthy and disease contexts. Synonym terms such as recombinant human immunoglobulin G4 Fc antibody and recombinant IgG4 Fc-specific antibody improve accessibility for users under different naming conventions.

By providing validated and reproducible detection, the Recombinant Human IgG4 antibody supports precise analysis of Fc-mediated functions and subclass expression. NSJ Bioreagents ensures strict quality control, giving researchers confidence in this reagent across ELISA, flow cytometry, and tissue staining. With its Fc-region specificity, the Recombinant Human IgG4 antibody is a critical tool for advancing studies of IgG subclass biology and immune regulation.

This recombinant Human IgG4 Fc antibody reacts to the Fc region of hIgG4. No cross reactivity with human IgG1, IgG2, IgG3, IgM, IgA, IgD, IgE, mouse/rat/goat IgG.

Application Notes

The stated application concentrations are suggested starting points. Titration of the recombinant Human IgG4 Fc antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

Peptide corresponding to the Fc region of hIgG4 was used as the immunogen for this recombinant Human IgG4 Fc antibody.

Storage

Store the recombinant Human IgG4 Fc antibody at -20oC (with glycerol) or aliquot and store at -20oC (without glycerol).