Recombinant Human IgG1 Antibody [clone RM117] (R20187)

| Catalog No.	Formulation	Size
R20187-100UG	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	RM117
Purity	Protein A purified from animal origin-free supernatant
UniProt	P01857
Gene ID	3500
Applications	ELISA : 50ng/well-200ng/well (Capture); 0.05-0.2ug/ml (Detection) Immunocytochemistry : 0.5-2ug/ml Immunohistochemistry : 0.5-2ug/ml (1)
Limitations	This recombinant Human IgG1 antibody is available for research use only.
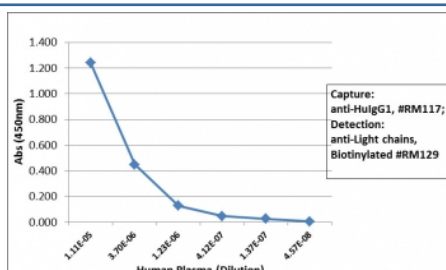
Sandwich ELISA with human plasma using recombinant Human IgG1 antibody as the capture, and biotinylated anti-human light chains (κ+λ) antibody RM129 as the detect, followed by an AP conjugated streptavidin.
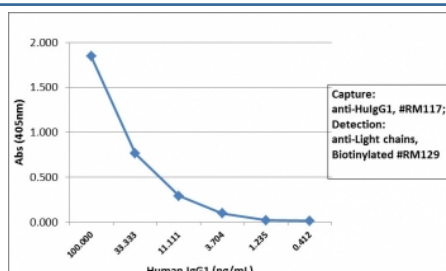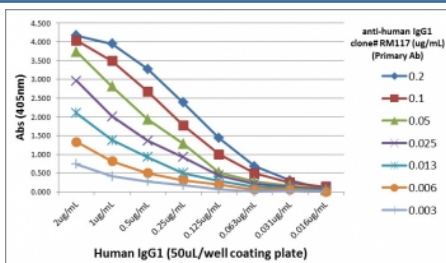

Sandwich ELISA with human IgG1 using recombinant Human IgG1 antibody as the capture, and biotinylated anti-human light chains (κ+λ) antibody RM129 as the detect, followed by an AP conjugated streptavidin.
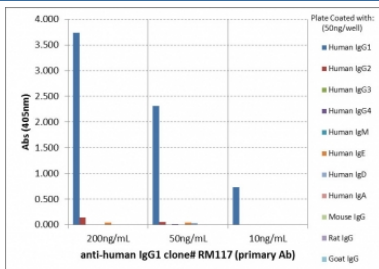
ELISA of hIgGs shows recombinant Human IgG1 antibody only reacted to hIgG1. No cross reactivity with IgG2, IgG3, IgG4, IgE, IgD, IgA, or mouse/rat/goat IgG.

ELISA Titration: the plate was coated with different amounts of human IgG1. A serial dilution of recombinant Human IgG1 antibody was used as the primary and an alkaline phosphatase conjugated anti-rabbit IgG as the secondary.

Description

The Recombinant Human IgG1 antibody is produced as a recombinant reagent that replicates the constant region features of human immunoglobulin G1. IgG1 is the most abundant IgG subclass in human serum and is central to adaptive immunity, accounting for the majority of antibody mediated neutralization and opsonization. Through its Fc region, IgG1 binds strongly to Fc gamma receptors on immune cells and activates complement, facilitating processes such as phagocytosis and antibody dependent cellular cytotoxicity. The Recombinant Human IgG1 antibody is engineered without antigen specificity, making it an essential isotype control and standard reference reagent in antibody based assays.

Structurally, IgG1 contains two heavy and two light chains arranged into Fab and Fc regions. The Fab fragments mediate antigen binding, while the Fc domain interacts with complement proteins and Fc gamma receptors. IgG1 is highly effective at triggering immune effector mechanisms, contributing to its prevalence as the subclass most often employed in therapeutic monoclonal antibodies. The Recombinant Human IgG1 antibody retains these subclass specific constant region characteristics while lacking variable region specificity, ensuring that observed signals in assays represent background rather than antigen binding.

Applications of the Recombinant Human IgG1 antibody span ELISA, flow cytometry, immunohistochemistry, and immunofluorescence. In ELISA, it provides a negative control to confirm specificity of antigen antibody interactions. In flow cytometry, the Recombinant Human IgG1 antibody establishes baseline fluorescence and helps identify nonspecific Fc receptor binding on immune cells. In immunohistochemistry, it highlights background staining in tissues containing Fc receptor positive cells. Recombinant production ensures lot to lot consistency, reducing variability that may be encountered with hybridoma derived isotype controls.

This reagent is particularly important for researchers developing therapeutic antibodies, since IgG1 is the dominant subclass used in clinical applications. By providing a standardized negative control, the Recombinant Human IgG1 antibody allows investigators to optimize detection systems, validate blocking protocols, and confirm the specificity of secondary antibodies. Synonym phrases such as recombinant human immunoglobulin G1 antibody and recombinant IgG1 isotype control antibody improve discoverability for scientists who reference alternate nomenclature.

By delivering validated and reproducible performance, the Recombinant Human IgG1 antibody enhances the reliability of data across multiple research and translational settings. NSJ Bioreagents provides this reagent with rigorous quality assurance, ensuring consistent performance in immunoassays. With the Recombinant Human IgG1 antibody, researchers can reliably distinguish true antigen driven responses from nonspecific background, strengthening both basic

studies and applied therapeutic research.

This recombinant Human IgG1 antibody reacts to the heavy chain of hIgG1. No cross reactivity with IgG2, IgG3, IgG4, IgM, IgA, IgD, IgE, mouse/rat/goat IgG.

Application Notes

The stated application concentrations are suggested starting points. Titration of the recombinant Human IgG1 antibody may be required due to differences in protocols and secondary/substrate sensitivity.

1. A pH6 Citrate buffer or pH9 Tris/EDTA buffer HIER step is recommended for testing of FFPE tissue sections.

Immunogen

Peptide corresponding to the hinge region of human IgG1 was used as the immunogen for this recombinant Human IgG1 antibody.

Storage

Store the recombinant Human IgG1 antibody at -20oC (with glycerol) or aliquot and store at -20oC (without glycerol).