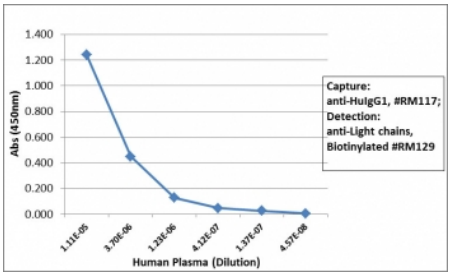
Human IgG1 Antibody for ELISA / Anti-Human IgG1 ELISA Detection Antibody [clone RM117] (R20187)

Catalog No.	Formulation	Size
R20187-100UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ug

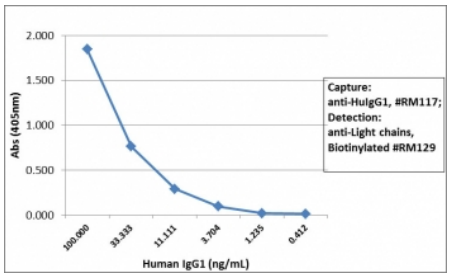
Recombinant RABBIT MONOCLONAL

Bulk quote request

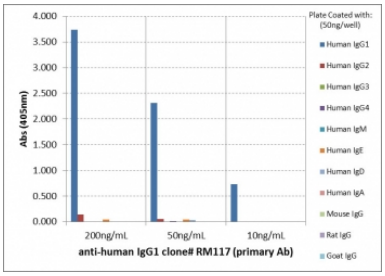
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM117
Purity	Protein A purified from animal origin-free supernatant
UniProt	P01857
Gene ID	3500
Applications	ELISA: 50ng/well-200ng/well (Capture); 0.05-0.2ug/ml (Detection) Immunocytochemistry: 0.5-2ug/ml Immunohistochemistry: 0.5-2ug/ml (1)
Limitations	This Human IgG1 Antibody for ELISA / Anti-Human IgG1 ELISA Detection Antibody is available for research use only.



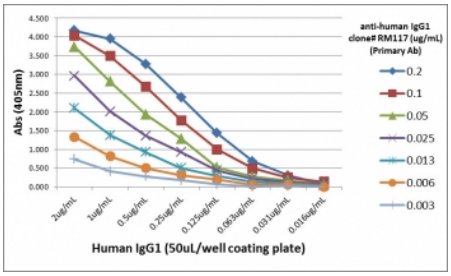
Human IgG1 Antibody for ELISA Sandwich ELISA Analysis. Sandwich ELISA using human plasma demonstrates that clone RM117 functions effectively as a capture antibody for Human IgG1 / IGHG1, with signal intensity decreasing proportionally with sample dilution, indicating robust and concentration-dependent detection. Captured IgG1 was detected using a biotinylated anti-human light chains (kappa + lambda) antibody (clone RM129), followed by alkaline phosphatase-conjugated streptavidin for signal development. The assay configuration supports reliable quantification of IgG1 in complex biological samples and highlights the utility of this Human IgG1 Antibody for ELISA / Anti-Human IgG1 ELISA Detection Antibody in sandwich ELISA-based immunoglobulin measurement.



Human IgG1 Antibody for ELISA Human IgG1 Standard Curve. Sandwich ELISA using purified human IgG1 demonstrates that clone RM117 functions as an effective capture antibody for Human IgG1 / IGHG1, with signal intensity decreasing in a concentration-dependent manner across the dilution series, consistent with quantitative detection. Captured IgG1 was detected using a biotinylated anti-human light chains (kappa + lambda) antibody (clone RM129), followed by alkaline phosphatase-conjugated streptavidin for signal development. The resulting standard curve supports accurate measurement of IgG1 levels and highlights the suitability of this Human IgG1 Antibody for ELISA / Anti-Human IgG1 ELISA Detection Antibody for quantitative sandwich ELISA applications.



Human IgG1 Antibody for ELISA Subclass Specificity Analysis. ELISA analysis of human immunoglobulin subclasses demonstrates that clone RM117 selectively recognizes Human IgG1 / IGHG1, with strong signal observed for IgG1 across tested concentrations, while no cross-reactivity is detected with IgG2, IgG3, IgG4, IgE, IgD, or IgA, or with non-human IgG from mouse, rat, or goat. The results confirm high subclass specificity driven by hinge region-directed recognition and support the use of this Human IgG1 Antibody for ELISA / Anti-Human IgG1 ELISA Detection Antibody for precise IgG1 measurement in immunoassay applications.



Human IgG1 Antibody for ELISA Titration Curve. ELISA titration analysis using plates coated with serial dilutions of human IgG1 demonstrates strong, concentration-dependent binding of clone RM117 across a broad dynamic range. Signal intensity decreases proportionally with antibody dilution, confirming high sensitivity and consistent binding performance. Detection was performed using an alkaline phosphatase-conjugated anti-rabbit IgG secondary antibody, supporting reliable quantification of Human IgG1 / IGHG1 in ELISA-based immunoassays.

Description

Human immunoglobulin gamma 1 (IGHG1) encodes the heavy chain constant region of IgG1, the most abundant IgG subclass in human serum and a dominant mediator of humoral immune responses. IgG1 is highly efficient in Fc receptor binding, complement activation, and opsonization, making it a central driver of antibody effector function. It is broadly distributed in circulation and is the primary subclass induced in many immune responses, including vaccination and infection, making it a critical analyte in immunological and translational research.

Human IgG1 Antibody for ELISA / Anti-Human IgG1 ELISA Detection Antibody is specifically optimized for high-sensitivity and subclass-specific detection of IgG1 in ELISA-based immunoassays. Human IgG1 antibody, also known as anti-IGHG1 antibody or anti-human IgG1 subclass antibody, is widely used to quantify IgG1 responses and to distinguish IgG1 from closely related subclasses such as IgG2, IgG3, and IgG4. This recombinant rabbit monoclonal antibody clone RM117 was generated against a peptide corresponding to the hinge region of human IgG1, a structurally distinct segment that contributes to subclass-specific recognition and supports selective detection of IgG1 over other IgG subclasses.

In ELISA workflows, IgG1 detection antibodies are essential for evaluating immune response quality, subclass switching, and antibody-mediated signaling. The Human IgG1 Antibody for ELISA / Anti-Human IgG1 ELISA Detection Antibody functions effectively as a detection reagent in sandwich ELISA formats, binding specifically to IgG1 captured on assay plates while minimizing background from other immunoglobulin subclasses. This specificity is particularly important in applications requiring precise subclass resolution, such as vaccine response profiling, therapeutic antibody characterization, and immune monitoring studies.

Clone RM117 antibody recognizes the constant region of human IgG1 heavy chains, with hinge region-directed epitope specificity contributing to its ability to distinguish IgG1 from other subclasses. The recombinant rabbit monoclonal format

ensures high affinity binding, excellent reproducibility, and minimal lot-to-lot variability. The Human IgG1 Antibody for ELISA / Anti-Human IgG1 ELISA Detection Antibody is uniquely positioned for quantitative immunoassays where accurate subclass discrimination and consistent assay performance are required.

Detection of IgG1 is widely applied in studies of adaptive immunity, antibody maturation, and effector function analysis. IgG1 dominance is often associated with specific immune pathways and therapeutic responses, making reliable detection essential for both basic research and applied immunology. This antibody supports these applications by enabling robust measurement of IGHG1-containing immunoglobulins in ELISA-based systems requiring high specificity and sensitivity.

This antibody is part of a broader immunoglobulin detection antibody collection, including reagents for Ig classes and light chains across multiple species and immunoassay formats.

Application Notes

The stated application concentrations are suggested starting points. Titration of the Human IgG1 Antibody for ELISA / Anti-Human IgG1 ELISA Detection 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

A peptide corresponding to the hinge region of human IgG1 was used as the immunogen for this recombinant rabbit monoclonal Human IgG1 antibody (clone RM117), supporting subclass-specific recognition.

Storage

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

Alternate Names

Anti-Human IgG1 ELISA antibody, Human IgG1 detection antibody, IgG1 ELISA detection antibody, Immunoglobulin G1 ELISA antibody, IgG subclass 1 antibody

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