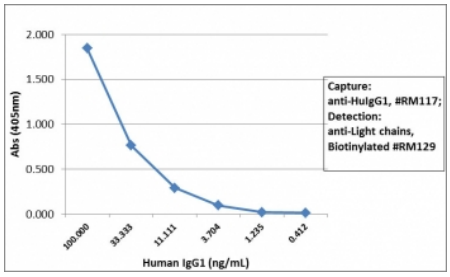
Human IgG1 Antibody for ELISA / Biotinylated Anti-Human IgG1 ELISA Detection Antibody [clone RM117] (R20187BTN)

Catalog No.	Formulation	Size
R20187BTN-50UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	50 ug

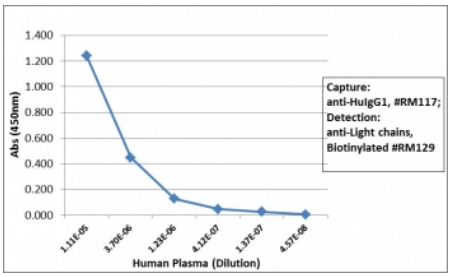
Recombinant RABBIT MONOCLONAL

Bulk quote request

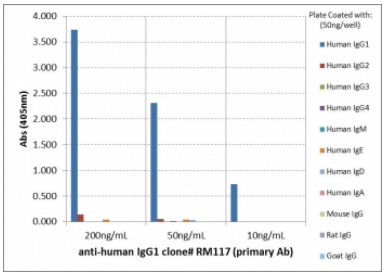
Availability	1-3 business days
Species Reactivity	Human
Format	Biotin Conjugate
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM117
Purity	Protein A purified from animal origin-free supernatant
UniProt	P01857
Gene ID	3500
Applications	ELISA : 50ng/well-200ng/well (Capture);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



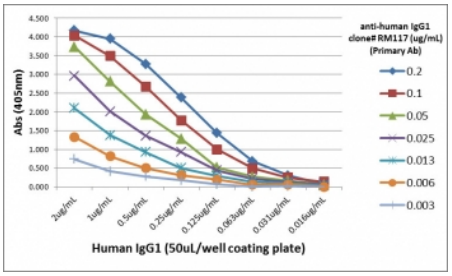
Human IgG1 Antibody Biotin ELISA Human IgG1 Standard Curve. Sandwich ELISA using purified human IgG1 demonstrates that clone RM117 provides strong and concentration-dependent capture of Human IgG1 / IGHG1 across a defined range, supporting accurate quantification. Detection was achieved using a biotinylated anti-human light chains (kappa + lambda) antibody (clone RM129) followed by alkaline phosphatase-conjugated streptavidin. This standard curve reflects the core binding performance of the parent clone RM117 antibody, which is maintained in the biotinylated format of the Human IgG1 Antibody for ELISA / Biotinylated Anti-Human IgG1 ELISA Detection Antibody.



Human IgG1 Antibody Biotin Sandwich ELISA Human Plasma. 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. These results reflect the intrinsic performance of the parent clone RM117 antibody and are representative of the binding characteristics retained in the biotinylated format of the Human IgG1 Antibody for ELISA / Biotinylated Anti-Human IgG1 ELISA Detection Antibody.



Human IgG1 Antibody Biotin ELISA Subclass Specificity Analysis. ELISA analysis of human immunoglobulin subclasses demonstrates that the parent clone RM117 antibody 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. These findings reflect hinge region-directed specificity of clone RM117 and are retained in the biotinylated format of the Human IgG1 Antibody for ELISA / Biotinylated Anti-Human IgG1 ELISA Detection Antibody.



Human IgG1 Antibody Biotin ELISA Titration Curve. ELISA titration 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 kinetics. Detection was performed using an alkaline phosphatase-conjugated anti-rabbit IgG secondary antibody. This titration profile reflects the intrinsic binding characteristics of the parent clone RM117 antibody and is representative of the performance retained in the biotinylated format of the Human IgG1 Antibody for ELISA / Biotinylated Anti-Human IgG1 ELISA Detection Antibody.

Description

Human immunoglobulin gamma 1 (IGHG1) encodes the heavy chain constant region of IgG1, the predominant IgG subclass in human circulation and a major contributor to antibody-mediated immune defense. IgG1 is highly active in Fc receptor engagement, complement activation, and opsonization, and is frequently the dominant subclass produced in response to protein antigens. Its abundance and functional relevance make it a key target for quantitative immunoassays and antibody characterization studies.

Human IgG1 Antibody for ELISA / Biotinylated Anti-Human IgG1 ELISA Detection Antibody is engineered for enhanced sensitivity in ELISA workflows that utilize streptavidin-based signal amplification systems. Human IgG1 antibody, also referred to as anti-IGHG1 antibody or anti-human IgG1 subclass antibody, is widely used for detecting and quantifying IgG1 with high specificity. This biotinylated recombinant rabbit monoclonal antibody clone RM117 was generated against a peptide corresponding to the hinge region of human IgG1, enabling strong subclass selectivity and supporting amplified detection without loss of specificity.

In sandwich ELISA configurations, biotinylated detection antibodies provide a significant advantage by increasing assay sensitivity and expanding dynamic range through streptavidin-mediated signal amplification. The Human IgG1 Antibody for ELISA / Biotinylated Anti-Human IgG1 ELISA Detection Antibody binds selectively to captured IgG1, allowing accurate detection even at low analyte concentrations. This makes it particularly valuable in applications requiring high sensitivity, such as low-abundance antibody detection, immune response quantification, and assay development.

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

provides strong affinity, consistent performance, and reproducibility across assays. Biotin conjugation enhances versatility by enabling compatibility with streptavidin-HRP and streptavidin-AP detection systems commonly used in ELISA platforms.

Measurement of IgG1 using biotinylated detection antibodies is widely applied in immunology research, vaccine evaluation, and therapeutic antibody development, where subclass-specific detection is critical for interpreting immune function. This antibody supports these applications by enabling sensitive and reliable measurement of IGHG1-containing immunoglobulins in ELISA-based systems requiring enhanced detection capability and flexible assay design.

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 / Biotinylated 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 biotinylated recombinant rabbit monoclonal Human IgG1 antibody (clone RM117).

Storage

Store the recombinant Human IgG1 antibody at -20oC.

Alternate Names

Biotin anti-human IgG1 antibody, Biotinylated IgG1 detection antibody, Human IgG1 biotin ELISA antibody, Immunoglobulin G1 biotin antibody, IgG1 biotin detection antibody