

PRODUCT INFORMATION

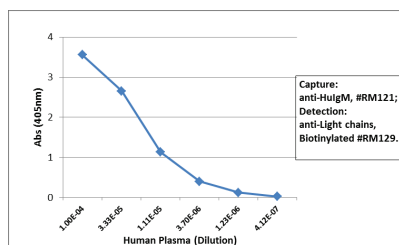


IgM (human) Rabbit Monoclonal Antibody - Biotinylated (RM121) Item No. 32367

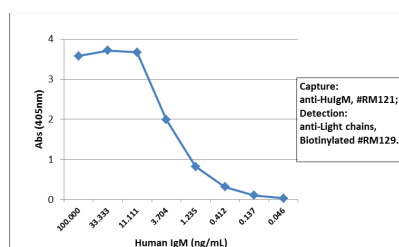
Overview and Properties

Contents:	This vial contains 50 µg of protein A-affinity purified monoclonal antibody.
Synonym:	Immunoglobulin M
Immunogen:	Human IgM
Cross Reactivity:	(+) IgM; (-) Human IgG, IgA, IgD, or IgE
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Concentration:	1.0 mg/ml
Clone:	RM121
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA, Immunocytochemistry (ICC), and Immunohistochemistry (IHC); the recommended starting concentration is 50-200 ng/well for capture and 0.05–0.2 µg/ml for detection for ELISA and 0.5–2 µg/ml for ICC and IHC. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

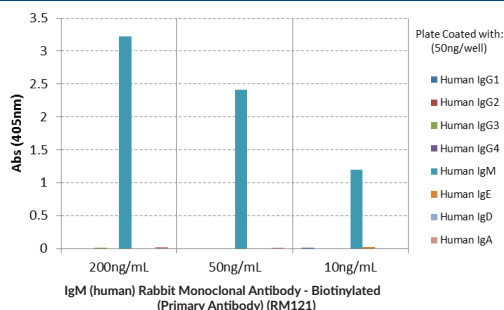
Images



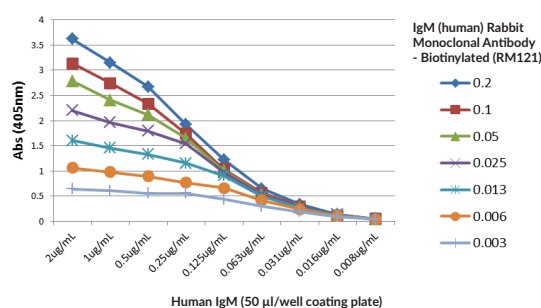
Sandwich ELISA using IgM (human) Rabbit Monoclonal Antibody - Biotinylated (RM121) as the capture antibody (100 ng/well), and biotinylated anti-human light chains (κ+λ) antibody Ig Light Chain (human) Rabbit Monoclonal Antibody - Biotinylated (Item No. 32112) as the detection antibody, followed by an alkaline phosphatase-conjugated streptavidin.



Sandwich ELISA using IgM (human) Rabbit Monoclonal Antibody - Biotinylated (RM121) as the capture antibody (100 ng/well), and biotinylated anti-human light chains (κ+λ) antibody Ig Light Chain (human) Rabbit Monoclonal Antibody - Biotinylated (Item No. 32112) as the detection antibody, followed by an alkaline phosphatase-conjugated streptavidin.



ELISA of human immunoglobulins (Igs). IgM (human) Rabbit Monoclonal Antibody - Biotinylated (RM121) reacts only to human IgM. No cross reactivity with Human IgG, IgE, IgD, or IgA. The plate was coated with 50 ng/well of different immunoglobulins. 200 ng/ml and 50 ng/ml of IgM (human) Rabbit Monoclonal Antibody - Biotinylated (RM121) was used as the primary antibody. An alkaline phosphatase-conjugated anti-rabbit IgG was used as the secondary antibody.



A titer ELISA using IgM (human) Rabbit Monoclonal Antibody - Biotinylated (RM121). The plate was coated with different amounts of human IgM. A serial dilution of IgM (human) Rabbit Monoclonal Antibody - Biotinylated (RM121) was used as the primary antibody. An alkaline phosphatase-conjugated anti-rabbit IgG was used as the secondary antibody.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Immunoglobulin M (IgM) is a member of the immunoglobulin superfamily of glycoproteins that plays a central role in the adaptive immune response and in mucosal immunology.^{1,2} IgM consists of two light chains of approximately 25 kDa each, as well as two heavy chains of approximately 70 kDa each that contain C-terminal extensions, known as tailpieces, which allow for IgM oligomerization.^{2,3} The heavy chains are linked together by disulfide bonds to form an Fc region and also combine with the light chains to form the Fab region, which mediate receptor and antigen binding, respectively.⁴ Five IgM proteins oligomerize *via* disulfide bonds in the presence of a 15-kDa joining chain, a process that is required for transcytosis of IgM from plasma cells to mucosal epithelial cells *via* the polyimmunoglobulin receptor (pIgR).² Monomeric and oligomeric IgM are both ligands for the IgM and IgA-binding high affinity Igα and the Igμ Fc receptor (Fcα/μ-R) on dendritic cells, which mediates cellular uptake of IgM-conjugated antigens, and the IgM-binding Fcμ-R on B and T cells, which is important for B cell maturation among other functions.^{2,5-7} IgM is produced primarily in the plasma by naïve B cells and expressed in its monomeric low-affinity form on the cell surface.¹ Activated B cells secrete pentameric high-affinity IgM, which opsonizes antigens to target them for removal by phagocytes and to activate complement *via* the classical pathway.^{1,8} IgM antibodies are produced early in infection and have been used to determine exposure to a specific pathogen.¹ IgM levels are elevated in hyper-IgM syndromes, which are characterized by dysfunctions in Ig class switching recombination.⁹ Cayman's IgM (human) Rabbit Monoclonal Antibody - Biotinylated (RM121) can be used for ELISA, immunocytochemistry (ICC), and immunohistochemistry (IHC) applications. The antibody recognizes the heavy chain of IgM from human samples.

References

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