

PRODUCT INFORMATION

IgG3 (human) Matched Antibody Pair (Clones RM119/RM129)

Item No. 42879

Overview and Properties

Antibody	Item Name	Storage Buffer	Clone	Applications*
Capture	IgG3 (human) Rabbit Monoclonal Antibody (Clone RM119)	100 µg at 1.0 mg/ml in PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide	RM119	Sandwich ELISA: 50-200 ng/well
Detection	Ig Light Chain (human) Rabbit Monoclonal Antibody - Biotinylated (Clone RM129)	25 µg at 1.0 mg/ml in PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide	RM129	Sandwich ELISA: 0.1-0.5 µg/ml

*Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Contents: Contains protein A-affinity purified monoclonal antibody

Synonym: Immunoglobulin G3

Cross Reactivity: (+) IgG3; (-) Other immunoglobulins, other IgG subclasses, cynomolgus monkey, rhesus monkey, mouse, rat, goat IgG.

Species Reactivity: (+) Human

Form: Liquid

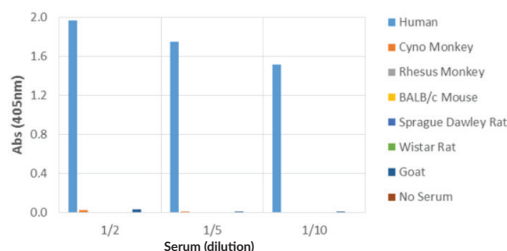
Storage: -20°C (as supplied)

Stability: ≥1 year

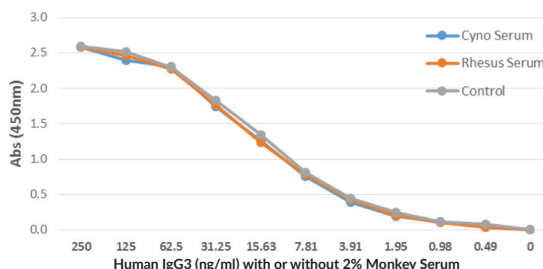
Host: Rabbit

Isotype: IgG

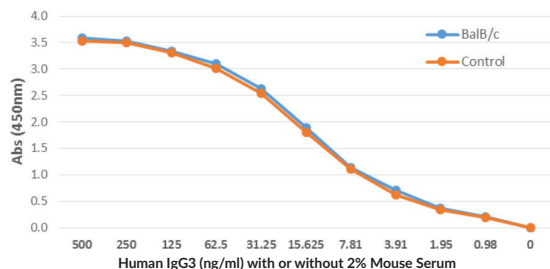
Images



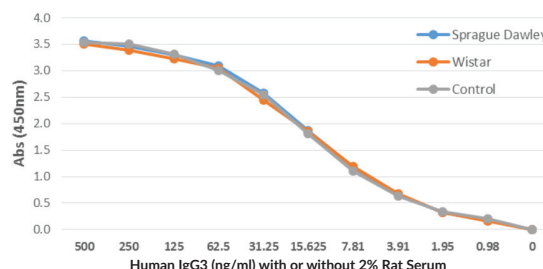
Sandwich ELISA using IgG3 (human) Matched Antibody Pair (Clones RM119/RM129), shows species reactivity to human only and no cross-reactivity to monkey (cyno or rhesus), mouse, rat, or goat IgG.



Detection of human IgG3 in monkey serum. Sandwich ELISA using IgG3 (human) Matched Antibody Pair (Clones RM119/RM129), followed by a HRP-conjugated streptavidin.



Detection of human IgG3 in mouse serum. Sandwich ELISA using IgG3 (human) Matched Antibody Pair (Clones RM119/RM129), followed by a HRP-conjugated streptavidin.



Detection of human IgG3 in rat serum. Sandwich ELISA using IgG3 (human) Matched Antibody Pair (Clones RM119/RM129), followed by a HRP-conjugated streptavidin.

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.

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PRODUCT INFORMATION



Description

Immunoglobulin G (IgG) is a member of the immunoglobulin superfamily of glycoproteins that plays a central role in the adaptive immune response.¹ It is produced by B cells and later secreted by plasma cells and is the most abundant circulating antibody in human and mouse serum.¹⁻³ IgG consists of two heavy chains of approximately 50 kDa each and two light chains of approximately 25 kDa each.¹ 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 IgG exists as four isotypes in humans, IgG1, IgG2, IgG3, and IgG4, each of which has a distinct effector function. IgG3 production is driven by bacterial- or viral-associated antigens, including HIV-1 and *Staphylococcus* antigens, and occurs early in the immune response following IgM class-switching.^{2,5} IgG3 binds to and neutralizes pathogens, as well as activates complement and opsonizes bacteria, leading to complement-dependent cytotoxicity (CDC) and antibody-dependent cell-mediated cytotoxicity (ADCC), respectively. Serum IgG3 levels are increased in patients with primary biliary cirrhosis, Sjögren's syndrome, systemic sclerosis, or systemic lupus erythematosus (SLE).⁶ Cayman's IgG3 (human) Matched Antibody Pair (Clones RM119/RM129) contains IgG3 (human) Rabbit Monoclonal Antibody (Clone RM119) (Item No. 32122) as a capture antibody, Ig Light Chain (human) Rabbit Monoclonal Antibody - Biotinylated (Clone RM129) (Item No. 32112) as a detection antibody, and a sample diluent to reduce non-specific background. The antibody pair can be used for sandwich ELISAs and other sandwich assays for the specific detection of IgG3 in human samples and experimentally introduced human IgG3 in monkey, mouse, or rat serum.

References

1. Schroeder, H.W., Jr. and Cavicini, L. Structure and function of immunoglobulins. *J. Allergy Clin. Immunol.* **125**(2 Suppl. 2), S41-S52 (2010).
2. Vidarsson, G., Dekkers, G., and Rispens, T. IgG subclasses and allotypes: From structure to effector functions. *Front. Immunol.* **5**, 520 (2014).
3. Mayumi, M., Kuritani, T., Kubagawa, H.M., et al. IgG subclass expression by human B lymphocytes and plasma cells: B lymphocytes precommitted to IgG subclass can be preferentially induced by polyclonal mitogens with T cell help. *J. Immunol.* **130**(2), 671-677 (1983).
4. Vaillant, A.A.J. and Ramphul, K. Immunoglobulin. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing (2020). Available from: <https://www.ncbi.nlm.nih.gov/books/NBK513460/>
5. Damelang, T., Rogerson, S.J., Kent, S.J., et al. Role of IgG3 in infectious diseases. *Trends Immunol.* **40**(3), 197-211 (2019).
6. Zhang, H., Li, P., Wu, D., et al. Serum IgG subclasses in autoimmune diseases. *Medicine (Baltimore)* **94**(2), e387 (2015).

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