PRODUCT INFORMATION



y Heavy Chain (human) Rabbit Monoclonal Antibody - Biotinylated (RM116)

Item No. 32364

Overview and Properties

This vial contains 50 µg of protein A-affinity purified monoclonal antibody. Contents:

IgG Heavy Chain, Immunoglobulin G Heavy Chain Synonyms:

Immunogen: Human IgG

(+) IgG1, IgG2, IgG3, IgG4; (-) Human IgM, IgA, IgD, IgE; (-) Goat, mouse, rat IgG Cross Reactivity:

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

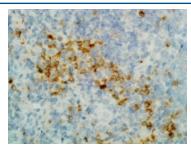
Concentration: 1 mg/ml Clone: RM116 Host: Rabbit Isotype: **IgG**

Applications: ELISA, immunocytochemistry (ICC), and immunohistochemistry (IHC); the

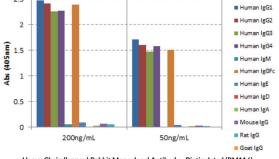
> recommended starting concentration is 0.05-1 μg/ml for ELISA and 0.5-2 μg/ml for ICC and IHC. Other applications were not tested, therefore optimal working

concentration/dilution should be determined empirically.

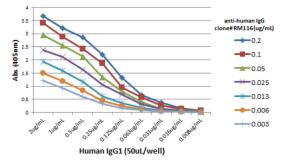
Images



Immunohistochemical staining of human tonsil tissue using v Heavy Chain (human) Monoclonal Antibody - Biotinylated (RM116).



y Heavy Chain (human) Rabbit Monoclonal Antibody - Biotinylated (RM116)



A Titer ELISA using y Heavy Chain (human) Rabbit Monoclonal Antibody Biothylated (RM116). The plate was coated with different amounts of human IgG1. A serial dilution of γ Heavy Chain (human) Rabbit Monoclonal Antibody - Biothylated (RM116) was used as the primary antibody and an alkaline phosphatase-conjugated anti-rabbit IgG was used as the secondary antibody.

ELISA of human immunoglobulins (Igs). γ Heavy Chain (human) Rabbit Monoclonal Antibody - Biotinylated (RM116) reacts to the γ 1, γ 2, γ 3, and γ 4 heavy chain of human IgGs, and the Fc of human IgG. No cross reactivity with other human heavy chains, mouse lgG, rat lgG, or goat lgG. The plate was coated with 50 ng/well of different lgGs. γ Heavy Chain (human) Rabbit Monoclonal Antibody - Biotinylated (RM116) was used as the primary antibody and an alkaline phosphatase-conjugated anti-rabbit lgG 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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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. 1,2 It is produced by B cells and later secreted by plasma cells and is the most abundant circulating antibody in rabbit serum. IgG consists of two identical heavy chains, also known as γ heavy chains, of approximately 50 kDa each and two identical light chains of approximately 25 kDa each. The heavy chains are linked together by a single disulfide bond to form an Fc region and also combine with the light chains through additional disulfide bonds to form the Fab region, which mediate receptor and antigen binding, respectively. IgG is produced following IgM class-switching in response to infection and is involved in numerous humoral host defense responses, including antibody-dependent cell-mediated cytotoxicity (ADCC), toxin neutralization, and pathogen opsonization. 1,3,4 γ Heavy chains are truncated and unable to associate with IgG light chains in patients with the rare disease γ heavy chain disease. Cayman's γ Heavy Chain (human) Rabbit Monoclonal Antibody - Biotinylated (RM116) can be used for ELISA, immunocytochemistry (ICC), and immunohistochemistry (IHC) applications. The antibody recognizes the Fc region of the γ heavy chain from human samples.

References

- 1. Weber, J., Peng, H., and Rader, C. From rabbit antibody repertoires to rabbit monoclonal antibodies. *Exp. Mol. Med.* **49(3)**, e305 (2017).
- 2. Rayner, L.E., Kadkhodayi-Kholghi, N., Heenan, R.K., *et al.* The solution structure of rabbit IgG accounts for its interactions with the Fc receptor and complement C1q and its conformational stability. *J. Mol. Biol.* **425(3)**, 506-523 (2013).
- 3. Vidarsson, G., Dekkers, G., and Rispens, T. IgG subclasses and allotypes: From structure to effector functions. Front. Immunol. 5, 520 (2014).
- 4. Williams, R.C., Jr., Osterland, C.K., Margherita, S., et al. Studies of biologic and serologic activities of rabbit-IgG antibody depleted of carbohydrate residues. J. Immunol. 111(6), 1690-1698 (1973).
- Bieliauskas, S., Tubbs, R.R., Bacon, C.M., et al. Gamma heavy-chain disease: Defining the spectrum of associated lymphoproliferative disorders through analysis of 13 cases. Am. J. Surg. Pathol. 36(4), 534-543 (2012).

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