

PRODUCT INFORMATION



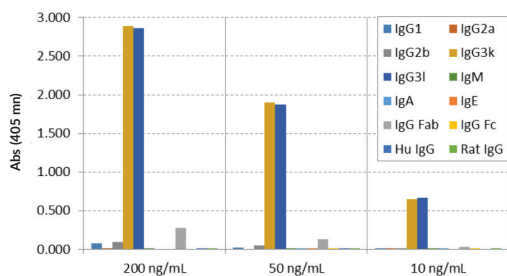
IgG3 (mouse) Rabbit Monoclonal Antibody (Clone RM218)

Item No. 32098

Overview and Properties

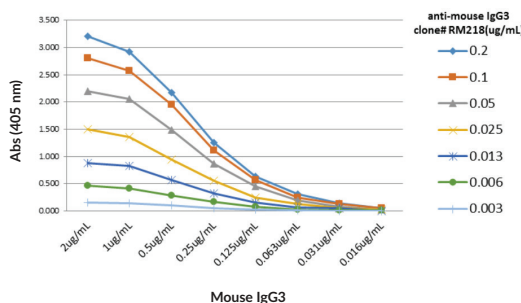
Contents:	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
Synonym:	Immunoglobulin G3
Immunogen:	Mouse IgG3
Cross Reactivity:	(+) Mouse IgG3 Fab region;(-) Mouse IgG1, IgG2a, IgG2b, IgM, IgA, IgE (-) Human and rat IgG
Species Reactivity:	(+) Mouse
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Concentration:	1 mg/ml
Clone:	RM218
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA and Western Blot (WB); the recommended starting concentration for ELISA is 0.005-0.2 µg/ml and 0.1-0.5 µg/ml for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



IgG3 (mouse) Rabbit Monoclonal Antibody (Clone RM218)

ELISA of Mouse Immunoglobulins (Igs). IgG3 (mouse) Rabbit Monoclonal Antibody (Clone RM218) reacts to both mouse IgG3 κ and IgG3 λ and not to mouse IgG1, IgG2a, IgG2b, IgM, IgA, IgE, human IgG, or rat IgG. The plate was coated with 50 ng/well of different Igs. 200, 50, or 10 ng/ml of IgG3 (mouse) Rabbit Monoclonal Antibody was used as the primary antibody. An alkaline phosphatase-conjugated anti-rabbit IgG was used as the secondary antibody.



A Titer ELISA using IgG3 (mouse) Rabbit Monoclonal Antibody (Clone RM218). The plate was coated with different amounts of mouse IgG3. A serial dilution of IgG3 (mouse) Rabbit Monoclonal Antibody (Clone RM218) 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.

Copyright Cayman Chemical Company, 11/09/2023

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

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 mice: IgG1, IgG2b, IgG3, and, in a strain-specific manner, IgG2a or IgG2c.^{5,6} 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.^{2,7} IgG3 binds to and neutralizes pathogens, as well as activates complement and opsonizes bacteria, leading to complement-dependent cytotoxicity (CDC) and antibody-dependent cell cytotoxicity (ADCC), respectively. Serum IgG3 levels are increased in patients with primary biliary cirrhosis, Sjögren's syndrome, systemic sclerosis, or systemic lupus erythematosus (SLE).⁸ Cayman's IgG3 (mouse) Rabbit Monoclonal Antibody (Clone RM218) can be used for ELISA and Western blot (WB) applications. The antibody recognizes the Fab region of IgG3 from mouse samples.

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 Rispen, 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. Collins, A.M. IgG subclass co-expression brings harmony to the quartet model of murine IgG function. *Immunol. Cell Biol.* **94(10)**, 949-954 (2016).
6. Martin, R.M., Brady, J.L., and Lew, A.M. The need for IgG2c specific antiserum when isotyping antibodies from C57BL/6 and NOD mice. *J. Immunol. Methods* **212(2)**, 187-192 (1998).
7. Damelang, T., Rogerson, S.J., Kent, S.J., *et al.* Role of IgG3 in infectious diseases. *Trends Immunol.* **40(3)**, 197-211 (2019).
8. Zhang, H., Li, P., Wu, D., *et al.* Serum IgG subclasses in autoimmune diseases. *Medicine (Baltimore)* **94(2)**, e387 (2015).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM