

PRODUCT INFORMATION

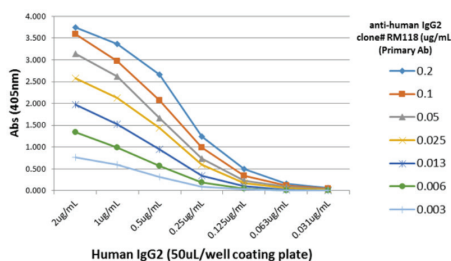


IgG2 (human) Rabbit Monoclonal Antibody (Clone RM118) Item No. 32121

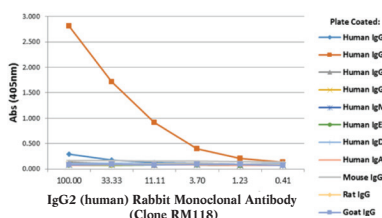
Overview and Properties

Contents:	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
Synonym:	Immunoglobulin G2
Immunogen:	Human IgG2
Cross Reactivity:	(+) IgG2 Heavy Chain; (-) Human IgA, IgD, IgE, IgG1, IgG2 IgG3, IgG4, IgM; (-) Cynomolgus monkey, goat, mouse, rat, rhesus monkey IgG
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:	RM118
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA; the recommended starting concentration for capture is 50-200 ng/well and 0.05-0.2 µg/ml for detection. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

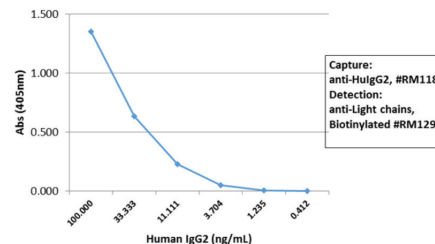
Images



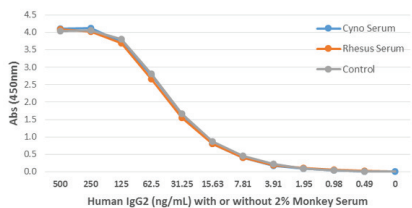
A Titer ELISA of IgG2 (human) Rabbit Monoclonal Antibody (Clone RM118). The plate was coated with different amounts of human IgG2. A serial dilution of IgG2 (human) Rabbit Monoclonal Antibody (Clone RM118) was used as the primary antibody. An alkaline phosphatase-conjugated anti-rabbit IgG was used as the secondary antibody.



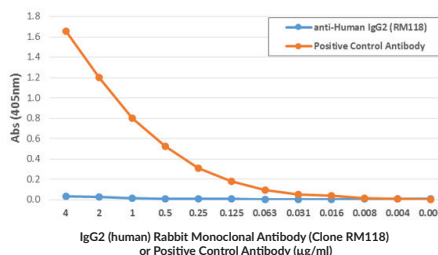
ELISA of IgG2 (human) Rabbit Monoclonal Antibody (Clone RM118). IgG2 (human) Rabbit Monoclonal Antibody (Clone RM118) reacts only to human IgG2 and not to any other IgG subclasses (IgG1, IgG3, or IgG4), and no cross reactivity to IgM, IgA, IgD, IgE, mouse IgG, rat IgG, or goat IgG.



A Sandwich ELISA Using IgG2 (human) Rabbit Monoclonal Antibody (Clone RM118) as the Capture Antibody. Ig Light Chain (human) Monoclonal Antibody - Biotinylated (Item No. 32112) was used as the detection antibody, followed by an alkaline phosphatase-conjugated streptavidin.



Detection of Human IgG2 in Monkey Serum. IgG2 (human) Rabbit Monoclonal Antibody (Clone RM118) (capture) and Ig Light Chain (human) Monoclonal Antibody - Biotinylated (Item No. 32112; detection) were used as a sandwich ELISA pair, followed by a HRP-conjugated streptavidin.



ELISA of Rhesus Monkey IgG. IgG2 (human) Rabbit Monoclonal Antibody (Clone RM118) does not react to monkey IgG. The plate was coated with rhesus monkey IgG. A serial dilution of IgG2 (human) Rabbit Monoclonal Antibody (Clone RM118) was used with a monkey IgG binding antibody (positive control) as the detection 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, 11/10/2023

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 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.² IgG exists as four isotypes in humans, IgG1, IgG2, IgG3, and IgG4, each of which has a distinct effector function. IgG2 is primarily responsible for anticarbohydrate responses against bacterial polysaccharides but, unlike IgG1, IgG2 does not bind Fc receptors or induce Fc receptor-mediated effector functions.⁵ Maternal IgG2s are shared with the fetus *via* placental transfer and mothers of children born with group B streptococcal-induced sepsis have decreased serum levels of IgG2 compared with mothers of children born uninfected. Serum levels of IgG2 are also decreased in patients with recurrent infections with capsulated bacteria, sinopulmonary infections, and otitis media. IgG2 (human) Rabbit Monoclonal Antibody (Clone RM118) can be used for ELISA. The antibody recognizes the heavy chain of IgG2 from human 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 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. Jefferis, R. and Kumararatne, D.S. Selective IgG subclass deficiency: Quantification and clinical relevance. *Clin. Exp. Immunol.* **81(3)**, 357-367 (1990).

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