

# PRODUCT INFORMATION

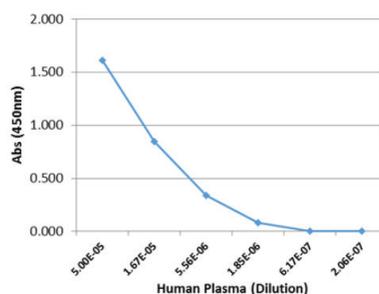


## IgG2 (human) Rabbit Monoclonal Antibody - Biotinylated (Clone RM118) Item No. 32374

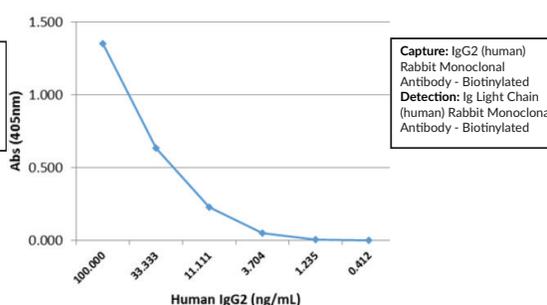
### Overview and Properties

|                            |  |
|----------------------------|--|
| <b>Contents:</b>           | This vial contains 50 µg of protein A-affinity purified monoclonal antibody.   |
| <b>Synonym:</b>            | Immunoglobulin G2  |
| <b>Immunogen:</b>          | Human IgG2   |
| <b>Cross Reactivity:</b>   | (+) IgG2; (-) Human IgG1, IgG3, IgG4, IgM, IgA, IgD, IgE; (-) Goat, mouse, rat IgG   |
| <b>Species Reactivity:</b> | (+) Human  |
| <b>Form:</b>               | Liquid   |
| <b>Storage:</b>            | -20°C (as supplied)  |
| <b>Stability:</b>          | ≥1 year  |
| <b>Storage Buffer:</b>     | PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide  |
| <b>Concentration:</b>      | 1 mg/ml  |
| <b>Clone:</b>              | RM118  |
| <b>Host:</b>               | Rabbit   |
| <b>Isotype:</b>            | IgG  |
| <b>Applications:</b>       | ELISA; the recommended starting concentration is 50-200 ng/well (for capture) and 0.05-0.2 µg/ml (for detection). Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically. |

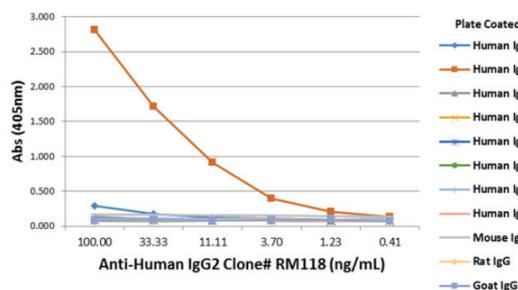
### Images



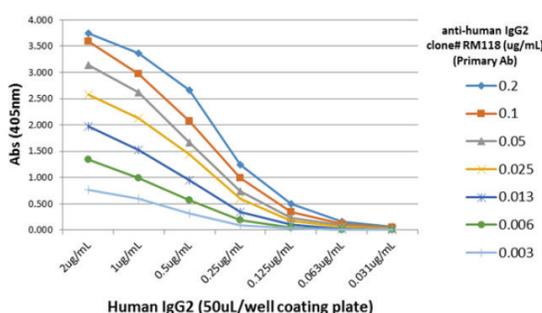
Detection of Human IgG2 in Plasma. Sandwich ELISA using IgG2 (human) Rabbit Monoclonal Antibody - Biotinylated (Clone RM118) as the capture antibody and Ig Light Chain (human) Rabbit Monoclonal Antibody - Biotinylated (Item No. 32112) as the detection antibody, followed by an alkaline phosphatase-conjugated streptavidin.



Detection of Human IgG2. Sandwich ELISA using IgG2 (human) Rabbit Monoclonal Antibody - Biotinylated (Clone RM118) as the capture antibody and 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. IgG2 (human) Rabbit Monoclonal Antibody - Biotinylated (Clone RM118) reacts only to human IgG2 and not to human IgG1, IgG3, IgG4, IgM, IgE, IgD, IgA, mouse IgG, rat IgG, or goat IgG. The plate was coated with 50 ng/well of different immunoglobulins. IgG2 (human) Rabbit Monoclonal Antibody - Biotinylated (Clone RM118) was used as the primary antibody and an alkaline phosphatase-conjugated anti-rabbit IgG was used as the secondary antibody.



A Titer ELISA using IgG2 (human) Rabbit Monoclonal Antibody - Biotinylated (Clone RM118). The plate was coated with different amounts of human IgG2. A serial dilution of IgG2 (human) Rabbit Monoclonal Antibody - Biotinylated (Clone RM118) was used as the primary antibody and 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, 03/12/2024

**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.<sup>1</sup> It is produced by B cells and later secreted by plasma cells and is the most abundant circulating antibody in human and mouse serum.<sup>1-3</sup> IgG consists of two heavy chains of approximately 50 kDa each and two light chains of approximately 25 kDa each.<sup>1</sup> 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.<sup>4</sup> 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.<sup>2</sup> 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.<sup>5</sup> 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. Cayman's IgG2 (human) Rabbit Monoclonal Antibody - Biotinylated (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