

PRODUCT INFORMATION



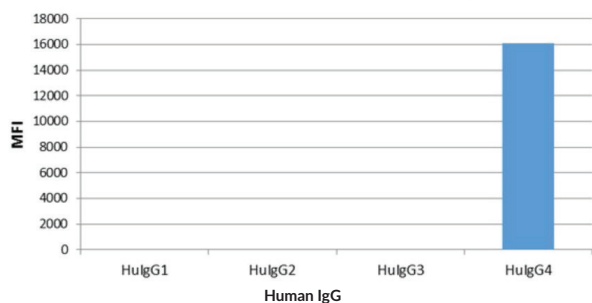
IgG4 Fc (human) Rabbit Monoclonal Antibody

Item No. 32124

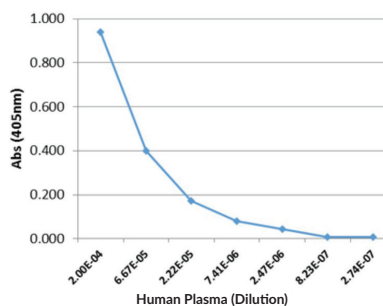
Overview and Properties

Contents: This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
Synonym: Immunoglobulin G4
Immunogen: Peptide corresponding to the Fc region of human IgG4
Cross Reactivity: (+) IgG4; (-) Human IgG1, IgG2, IgG3, IgM, IgA, IgD, IgE; (-) Goat, mouse, rat 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: 1.0 mg/ml
Clone: RM217
Host: Rabbit
Isotype: IgG
Application: 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.

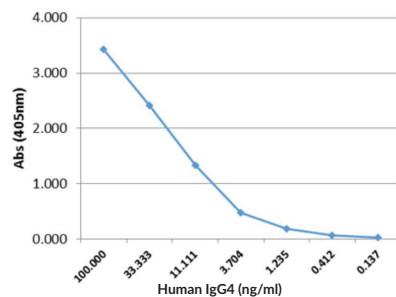
Images



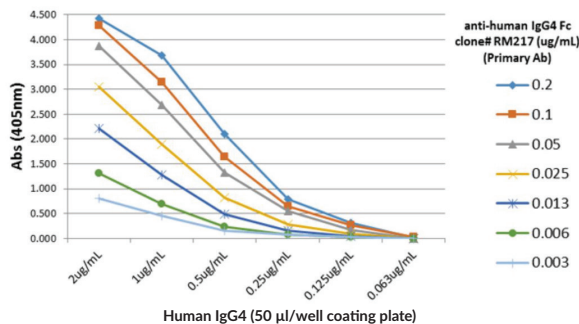
IgG4 Fc (human) Rabbit Monoclonal Antibody specifically reacts to human IgG4. There is no cross reactivity with human IgG1, IgG2, or IgG3.



Sandwich ELISA using IgG4 Fc (human) Rabbit Monoclonal Antibody as the capture antibody and Ig Light Chain (human) Monoclonal Antibody - Biotinylated (Item No. 32112) as the detection antibody, followed by an alkaline phosphatase-conjugated streptavidin.



Sandwich ELISA using IgG4 Fc (human) Rabbit Monoclonal Antibody as the capture antibody and Ig Light Chain (human) Monoclonal Antibody - Biotinylated (Item No. 32112) as the detection antibody, followed by an alkaline phosphatase-conjugated streptavidin.



A Titer ELISA using IgG4 Fc (human) Rabbit Monoclonal Antibody. The plate was coated with different amounts of human IgG4. A serial dilution of IgG4 Fc (human) Rabbit Monoclonal Antibody 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, 02/10/2021

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. IgG4 is the least predominant IgG isotype in human serum and contains a serine at position 228 in its hinge region that facilitates Fab arm exchange, resulting in two antigen binding sites and a functionally monovalent antibody.⁵ Increased serum levels of IgG4 positively correlate with desensitization and allergen tolerance in beekeepers, laboratory workers chronically exposed to rodent allergens, and individuals undergoing allergy immunotherapy for severe allergies to cats, dust mites, birch pollen, and wasps. Cayman's IgG4 Fc (human) Rabbit Monoclonal Antibody can be used for ELISA.

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. Trampert, D.C., Hubers, L.M., van de Graaf, S.F.J., *et al.* On the role of IgG4 in inflammatory conditions: lessons for IgG4-related disease. *Biochim. Biophys. Acta Mol. Basis Dis.* **1864(4 Pt. B)**, 1401-1409 (2018).

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