

PRODUCT INFORMATION



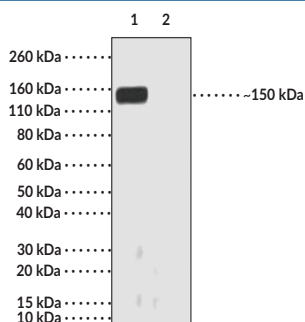
IgG Fab (rabbit) Monoclonal Antibody (Clone RMG01)

Item No. 32099

Overview and Properties

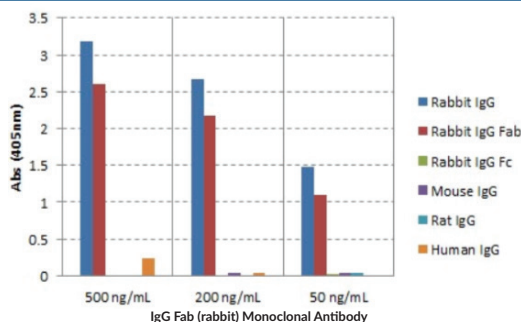
Contents:	This vial contains 100 µg of protein G-affinity purified monoclonal antibody.
Synonym:	Immunoglobulin G
Immunogen:	Rabbit IgG
Cross Reactivity:	(-) Human, mouse, rat IgG
Species Reactivity:	(+) Rabbit
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Concentration:	1 mg/ml
Clone:	RMG01
Host:	Goat
Isotype:	IgG
Applications:	ELISA and Western blot (WB; non-reducing conditions); the recommended starting concentration for ELISA is 0.01-0.5 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

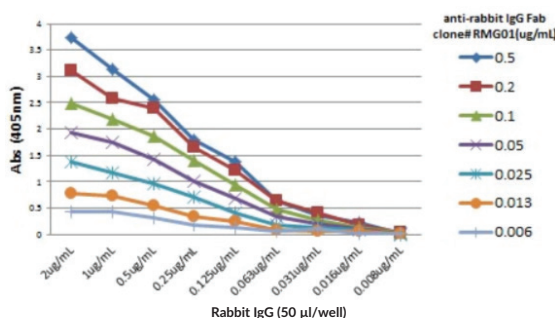


Lane 1: Non-reduced rabbit IgG (20 ng)
Lane 2: Reduced rabbit IgG (20 ng)

WB of Non-reduced and Reduced Rabbit IgG using 0.2 µg/ml of IgG Fab (rabbit) Monoclonal Antibody. This antibody reacts to non-reduced rabbit IgG (~150 kDa).



ELISA of IgGs from Different Species. IgG Fab (rabbit) Monoclonal Antibody reacts to the Fab region of rabbit IgG. No cross reactivity with human IgG, rat IgG, or mouse IgG. The plate was coated with 50 ng/well of different IgGs, 500, 200, or 50 ng/ml of IgG Fab (rabbit) Monoclonal Antibody was used as the primary antibody. An alkaline phosphatase-conjugated anti-goat IgG was used as the secondary antibody.



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

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Description

Immunoglobulin G (IgG) is a member of the immunoglobulin superfamily of glycoproteins that plays a central role in the adaptive immune response.¹⁻³ 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 of approximately 50 kDa each and two identical light chains of approximately 25 kDa each.^{1,2} 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.^{1,2,4,5} Rabbits express three light chains, IgGκ (K1), IgGκ (K2), and IgGγ, with IgGκ (K1)-containing IgGs comprising approximately 90% of the total IgG population. Unlike human and mouse IgG, rabbit IgG has a single subclass and a short upper and middle hinge length of only 11 residues that facilitates the hinge extension necessary for binding of the Fc receptor (FcR) and activating complement component 1q (C1q) to facilitate complement activation.^{1,3} Cayman's IgG Fab (rabbit) Monoclonal Antibody (Clone RMG01) can be used for ELISA and Western blot (WB) applications. The antibody recognizes the Fab region of non-reduced IgG at approximately 150 kDa from rabbit samples.

References

1. Allan, R. and Isliker, H. Studies on the complement-binding site of rabbit immunoglobulin G-11. The reaction of rabbit IgG and its fragments with Clq. *Immunochemistry* **11**(5), 243-248 (1974).
2. Weber, J., Peng, H., and Rader, C. From rabbit antibody repertoires to rabbit monoclonal antibodies. *Exp. Mol. Med.* **49**(3), e305 (2017).
3. 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).
4. Vidarsson, G., Dekkers, G., and Rispens, T. IgG subclasses and allotypes: From structure to effector functions. *Front. Immunol.* **5**, 520 (2014).
5. 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).

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