PRODUCT INFORMATION

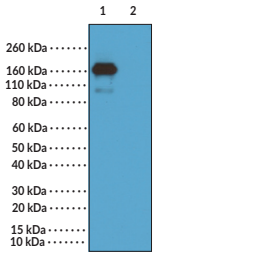
IgA (mouse) Monoclonal Antibody (Clone RM220)

Item No. 20715

Overview and Properties

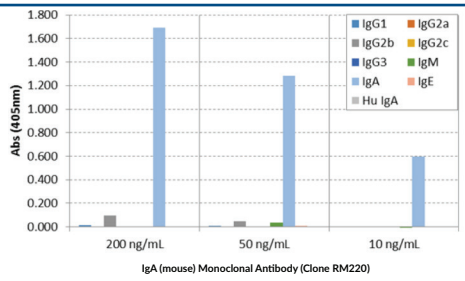
Contents:	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
Immunogen:	Mouse IgA
Cross Reactivity:	(-) Human IgA; (-) Mouse IgG1, IgG2a, IgG2b, IgG2c, IgG3, IgE, IgM
Species Reactivity:	(+) Mouse
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Concentration:	1 mg/ml
Clone:	RM220
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA and Western blot (WB; non-reducing conditions); the recommended starting concentration for ELISA is 0.005–0.2 µg/ml and 0.5–2 µg/ml for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images

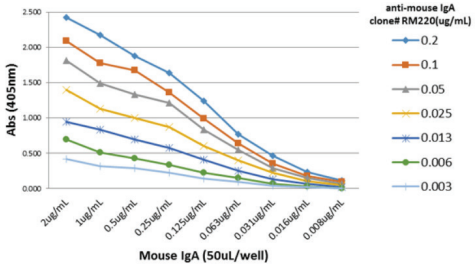


Lane 1: Mouse IgA (non-reduced)
Lane 2: Mouse IgA (reduced)

WB of non-reduced and reduced mouse IgA, using 0.5 µg/ml of IgA (mouse) Monoclonal Antibody (Clone RM220). This antibody reacts to non-reduced IgA.



ELISA of Mouse Immunoglobulins (Igs). IgA (mouse) Monoclonal Antibody (Clone RM220) reacts to mouse IgA. No cross reactivity with mouse IgG1, IgG2a, IgG2b, IgG2c, IgG3, IgM, IgE, or human IgA. The plate was coated with 50 ng/well of different Igs. 200, 50, or 10 ng/ml of IgA (mouse) Monoclonal Antibody (Clone RM220) was used as the primary antibody. An alkaline phosphatase-conjugated anti-rabbit IgG was used as the secondary antibody.



A Titer ELISA of Mouse IgA. The plate was coated with different amounts of mouse IgA. A serial dilution of IgA (mouse) Monoclonal Antibody (Clone RM220) was used as the primary antibody. An alkaline phosphatase-conjugated anti-rabbit IgG was used as the secondary antibody.

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Description

Immunoglobulin A (IgA) is a member of the immunoglobulin superfamily of glycoproteins with roles in host defense against intestinal pathogens and both quantitative and qualitative control of host commensal microbiota composition.[1,2] It is produced by B cells and later secreted by plasma cells and is the most abundant antibody on mucosal surfaces that comprises at least 70% of all Ig produced in mice. Mouse IgA consists of two heavy chains of approximately 53.5 kDa each and two light chains of approximately 25 kDa each.[3] Unlike human IgA, mouse IgA exists as a single isotype and is primarily found as a dimer that lacks the disulfide bonds between the light and heavy chains present in other Ig classes.[3,4] Production of IgA is induced in the gut only in animals containing intestinal microbes, and the number of IgA-producing plasma cells is reduced in germ-free mice.[1] IgA-deficient mice exhibit increased lethality compared with wild-type mice in a model of influenza infection, as well as reduced parasite clearance in a model of *G. muris* infection. However, IgA deficiency does not affect clearance of vaginal infection with herpes simplex virus 2 (HSV-2), indicating redundancy in pathogen protection with compensation by antibodies of other isotypes or innate immune mechanisms at mucosal surfaces. Cayman's IgA (mouse) Monoclonal Antibody (Clone RM220) can be used for ELISA and Western blot (WB; non-reducing conditions) applications. The antibody recognizes IgA at approximately 160 kDa from mouse samples.

References

1. Macpherson, A.J., McCoy, K.D., Johansen, F.-E., *et al.* The immune geography of IgA induction and function. *Mucosal Immunol.* **1(1)**, 11-22 (2008).
2. Mathias, A., Pais, B., Favre, L., *et al.* Role of secretory IgA in the mucosal sensing of commensal bacteria. *Gut Microbes* **5(6)**, 688-695 (2014).
3. Grey, H.M., Sher, A., and Shalitin, N. The subunit structure of mouse IgA. *J. Immunol.* **105(1)**, 75-84 (1970).
4. de Sousa-Pereira, P. and Woof, J.M. IgA: Structure, function, and developability. *Antibodies (Basel)* **8(4)**, 57 (2019).

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