PRODUCT INFORMATION

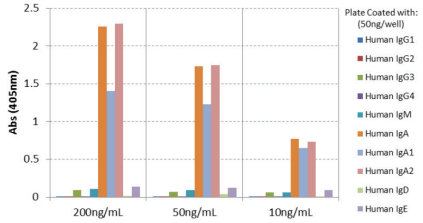
IgA1 and IgA2 (human) Rabbit Monoclonal Antibody - Biotinylated (RM128)

Item No. 32368

Overview and Properties

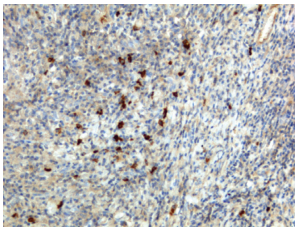
Contents:	This vial contains 50 µg of protein A-affinity purified monoclonal antibody.
Synonym:	Immunoglobulin A
Immunogen:	Human IgA
Cross Reactivity:	(+) IgA1, IgA2; (-) Human IgG, IgM, IgD, IgE
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM128
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA, Immunocytochemistry (ICC), and Immunohistochemistry (IHC); the recommended starting concentration is 50-200 ng/well for ELISA (capture), 0.05-0.2 µg/ml for ELISA (detection), 0.5-2 µg/ml for ICC, and 0.1-1 µg/ml for IHC. Other applications were tested, therefore optimal working concentration/dilution should be determined empirically.

Images

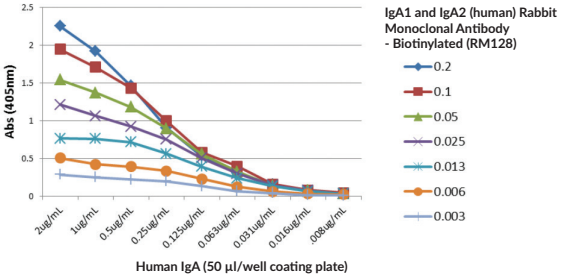


IgA1 and IgA2 (human) Rabbit Monoclonal Antibody - Biotinylated (Primary Antibody) (RM128)

ELISA of mouse immunoglobulins (Igs). IgA1 and IgA2 (human) Rabbit Monoclonal Antibody - Biotinylated (RM128) reacts to both human IgA1 and IgA2. Weak cross reactivity with human IgG, IgM, IgD or IgE. The plate was coated with 50 ng/well of different immunoglobulins. 200 ng/ml, 50 ng/ml, or 10 ng/ml of IgA1 and IgA2 (human) Rabbit Monoclonal Antibody - Biotinylated (RM128) was used as the primary antibody. An alkaline phosphatase-conjugated anti-rabbit IgG was used as the secondary antibody.



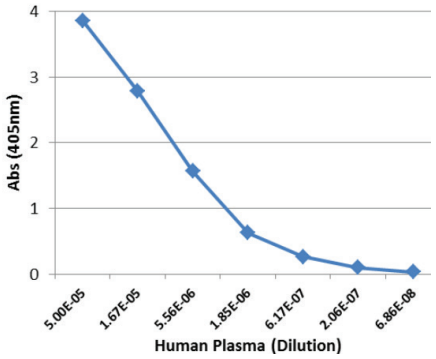
Immunohistochemical staining of formalin-fixed and paraffin-embedded human lymphoid tissue using IgA1 and IgA2 (human) Rabbit Monoclonal Antibody - Biotinylated (RM128).



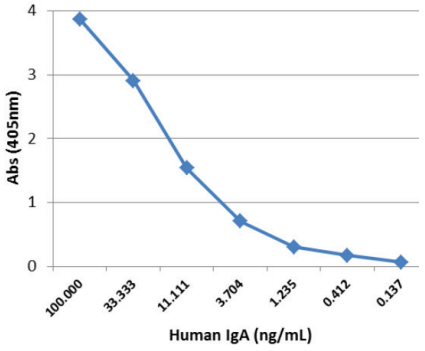
A titer ELISA using IgA1 and IgA2 (human) Rabbit Monoclonal Antibody - Biotinylated (RM128). The plate was coated with different amounts of human IgA. A serial dilution of IgA1 and IgA2 (human) Rabbit Monoclonal Antibody - Biotinylated (RM128) was used as the primary antibody. An alkaline phosphatase-conjugated anti-rabbit IgG was used as the secondary antibody.

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



Detection of human IgA *via* sandwich ELISA using IgA1 and IgA2 (human) Rabbit Monoclonal Antibody - Biotinylated (RM128) as the capture antibody and biotinylated anti-human light chains (κ+ λ) antibody as the detection antibody, followed by an alkaline phosphatase-conjugated streptavidin.



Detection of human IgA *via* sandwich ELISA using IgA1 and IgA2 (human) Rabbit Monoclonal Antibody - Biotinylated (RM128) as the capture antibody at 100 ng/well and biotinylated anti-human light chains (κ+ λ) antibody as the detection antibody, followed by an alkaline phosphatase-conjugated streptavidin.

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] Human IgA consists of two identical light chains of approximately 25 kDa each, as well as two heavy chains of approximately 60 kDa each that contain C-terminal extensions, known as tailpieces, which allow for IgA oligomerization.[7,8] There are two IgA subclasses, IgA1 and IgA2, which are encoded by IGHA1/α1 and IGHA2/α2, respectively, and have differences primarily in the hinge and heavy chain constant regions.[7] IgA 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.[1,2] Monomeric IgA1 is predominant in the serum, but dimeric secretory IgA (SIgA) is the predominant form in mucosal surfaces and secretions with the ratio of subclasses varying based on the IgA-secreting cell types present.[3,7] Dimeric and polymeric IgA bind to Igα Fc receptor I (FcαRI) and the IgM- and IgA-binding high affinity Igα and Igμ Fc receptor (Fcα/μ-R), which are both involved in mediating immune responses.[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] Serum levels of IgA are decreased in patients with IgA deficiency, who are typically asymptomatic but may have allergy or autoimmune disorders or experience recurrent infections.[5] IgA deposits in vessels and, in certain cases, the glomerulus in children with IgA vasculitis (IgAV), a disorder characterized by vascular inflammation, purpura, joint pain, gastrointestinal disturbances, and, in severe cases, glomerulonephritis.[6] Cayman's IgA1 and IgA2 (human) Rabbit Monoclonal Antibody - Biotinylated (RM128) can be used for ELISA, immunocytochemistry (ICC), and immunohistochemistry (IHC) applications.

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. Woof, J.M., and Russell, M.W. Structure and function relationships in IgA. *Mucosal Immunol.* **4(6)**, 590-597 (2011).
4. van Egmond, M., Damen, C.A., van Spriel, A.B., *et al*. IgA and the IgA Fc receptor. *Trends Immunol*. **22(4)**, 205-211 (2001).
5. Yel, L. Selective IgA deficiency. *J. Clin. Immunol*. **30(1)**, 10-16 (2010).
6. Heineke, M.H., Ballering, A.V., Jamin, A., *et al*. New insights in the pathogenesis of immunoglobulin A vasculitis (Henoch-Schönlein purpura). *Autoimmun. Rev*. **16(12)**, 1246-1253 (2017).
7. Woof, J.M. The structure of IgA. Mucosal Immune Defense: Immunoglobulin A 1-24 (2007).
8. Kerr, M.A. The structure and function of human IgA. *Biochem. J*. **271(2)**, 285-296 (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