PRODUCT INFORMATION

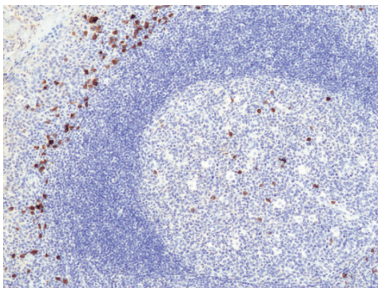
IgA1 and IgA2 (human) Rabbit Monoclonal Antibody (Clone RM513)

Item No. 42779

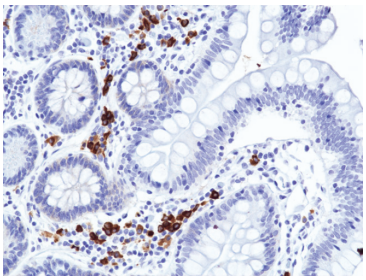
Overview and Properties

Contents:	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
Synonym:	Immunoglobulin A1 and A2
Immunogen:	Human plasma 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
Concentration:	1.0 mg/ml
Clone:	RM513
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC); the recommended starting dilution is 1:100 - 1:200. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

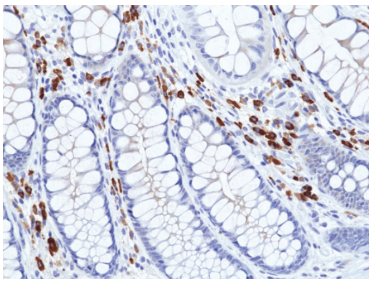
Images



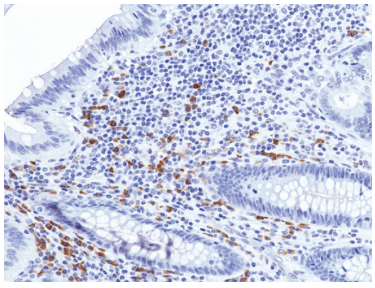
Immunohistochemical staining of formalin-fixed and paraffin-embedded human tonsil tissue section using IgA1 and IgA2 (human) Rabbit Monoclonal Antibody (Clone RM513) at a dilution of 1:100.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human small intestine tissue section using IgA1 and IgA2 (human) Rabbit Monoclonal Antibody (Clone RM513) at a dilution of 1:200.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human colon tissue section using IgA1 and IgA2 (human) Rabbit Monoclonal Antibody (Clone RM513) at a dilution of 1:200.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human appendix tissue section using IgA1 and IgA2 (human) Rabbit Monoclonal Antibody (Clone RM513) at a dilution of 1:200.

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

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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] 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.[3,4] 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.[3] 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.[3,5] 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.[5,6] 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.[7] 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.[8] Cayman's IgA1 and IgA2 (human) Rabbit Monoclonal Antibody (Clone RM513) can be used for immunohistochemistry (IHC).

References

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4. Kerr, M.A. The structure and function of human IgA. *Biochem. J.* **271(2)**, 285-296 (1990).
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6. 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).
7. Yel, L. Selective IgA deficiency. *J. Clin. Immunol.* **30(1)**, 10-16 (2010).
8. 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).

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