PRODUCT INFORMATION

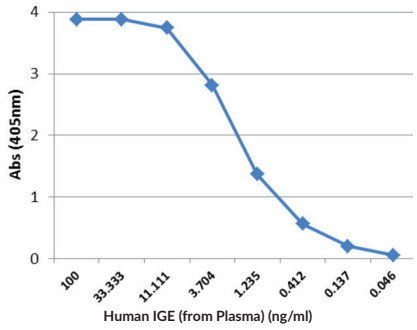
IgE (human) Rabbit Monoclonal Antibody (Clone RM122)

Item No. 32118

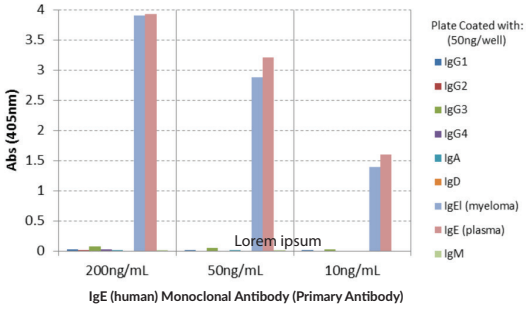
Overview and Properties

Contents:	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
Synonym:	Immunoglobulin E
Immunogen:	Human IgE
Cross Reactivity:	(+) Human IgE; (-) Human IgA, IgD, IgG, IgM
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:	RM122
Host:	Rabbit
Isotype:	IgG
Application:	ELISA; the recommended starting concentration is 10-100 ng/well (for capture) and 0.01-0.1 µg/ml (for detection). Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

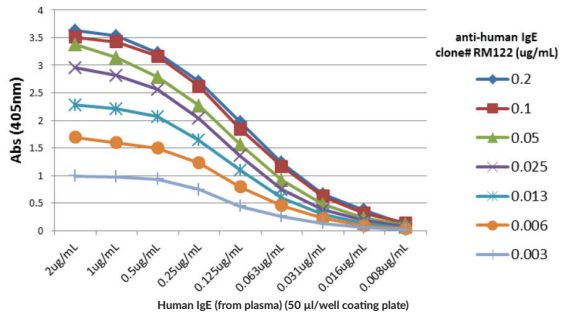
Images



Sandwich ELISA using IgE (human) Rabbit Monoclonal Antibody (Clone RM122) as the capture antibody. Ig Light Chain (human) Monoclonal Antibody - Biotinylated (Item No. 32112) was used as the detection antibody, followed by alkaline phosphatase-conjugated streptavidin.



ELISA of human immunoglobulins (Igs). IgE (human) Rabbit Monoclonal Antibody reacts to human IgEλ from human myeloma plasma and IgE from human plasma. No cross reactivity with human IgG, IgM, IgD, or IgA. The plate was coated with 50 ng/well of different Igs. 200, 50, or 10 ng/ml of IgE (human) Rabbit Monoclonal Antibody (Clone RM122) was used as the primary antibody. An alkaline phosphatase-conjugated anti-rabbit IgG was used as the secondary antibody.



A titer ELISA using IgE (human) Rabbit Monoclonal Antibody (Clone RM122). The plate was coated with different amounts of human IgE. A serial dilution of IgE (human) Rabbit Monoclonal Antibody (Clone RM122 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

Description

Immunoglobulin E (IgE) is a member of the immunoglobulin superfamily of glycoproteins that plays a central role in type I hypersensitivity reactions and the immune response to parasites.[1-3] It is synthesized by B cells and later secreted by plasma cells and is the least abundant circulating immunoglobulin in human serum.[1,2] IgE consists of two light chains and two heavy chains, or ε chains, that contain one variable region and four Ig-like constant domains Cε1-Cε4, but lacks the flexible hinge region seen in IgD, IgG, and IgA.[3,4] 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.[5] IgE binds to type I Fcε receptors (FcεRIs) on the surface of mast cells, basophils, and antigen-presenting dendritic cells.[2] Multivalent antigen binding to IgE on the surface of mast cells induces IgE crosslinking and mast cell degranulation to initiate type I hypersensitivity reactions, including, but not limited to, systemic anaphylaxis, wheal and flare responses, allergic rhinitis, bronchial asthma, and food allergies. Serum levels of IgE are elevated in response to parasitic infection and IgE directly binds parasites to target the parasite for eosinophil degranulation-induced destruction. Cayman's IgE (human) Rabbit Monoclonal Antibody (Clone RM122) 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. Winter, W.E., Hardt, N.S., and Fuhrman, S. Immunoglobulin E: Importance in parasitic infections and hypersensitivity responses. *Arch. Pathol. Lab. Med.* **124(9)**, 1382-1385 (2000).
3. Gould, H.J., Sutton, B.J., Beavil, A.J., *et al.* The biology of IGE and the basis of allergic disease. *Annu. Rev. Immunol.* **21**, 579-628 (2003).
4. Sutton, B.J., Davies, A.M., Bax, H.J., *et al.* IgE antibodies: From structure to function and clinical translation. *Antibodies (Basel)* **8(1)**, 19 (2019).
5. 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/

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FAX: [734] 971-3640
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