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IgG4

Rabbit Monoclonal antibody(Mab)
Catalog # AD80197

Product Information

Application	IHC-P
Primary Accession	P01861
Reactivity	Human
Host	Rabbit
Clonality	Monoclonal
Clone Names	863G1E2
Calculated MW	43832

Additional Information

Gene Name	IGHG4 {ECO:0000303|PubMed:11340299, ECO:0000303|Ref.5}
Other Names	Immunoglobulin heavy constant gamma 4 {ECO:0000303|PubMed:11340299, ECO:0000303|Ref.6}, Ig gamma-4 chain C region, IGHG4 {ECO:0000303|PubMed:11340299, ECO:0000303|Ref.6}
Dilution	IHC-P~~Ready-to-use
Storage	Maintain refrigerated at 2-8°C.
Precautions	IgG4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

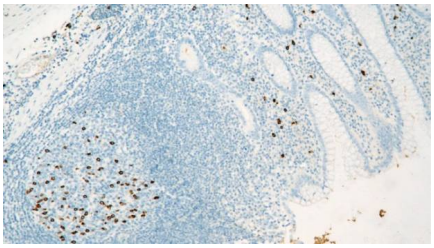
Protein Information

Name	IGHG4 {ECO:0000303|PubMed:11340299, ECO:0000303|Ref.6}
Function	Constant region of immunoglobulin (Ig) heavy chains. Igs are membrane-bound or secreted glycoproteins produced by B lymphocytes. In the recognition phase of humoral immunity, the membrane-bound Igs serve as receptors, which upon binding to a specific antigen trigger the clonal expansion and differentiation of B lymphocytes into Ig-secreting plasma cells. Secreted Igs known as antibodies mediate the effector phase of humoral immunity by blocking the interaction of infectious antigens with cellular receptors (via the antigen-binding region) and eliciting effector mechanisms that lead to pathogen neutralization (via the constant region) (PubMed:17576170, PubMed:20176268, PubMed:22158414). The antigen-binding region is formed by the variable domain of one heavy chain paired with the variable domain of its associated light chain. Each Ig molecule has two antigen-binding sites with remarkable affinity for a particular antigen due to V-(D)-J rearrangement, somatic hypermutations and affinity maturation of the variable domains upon antigen exposure (PubMed:17576170, PubMed:20176268, PubMed:22158414). The constant region defines the Ig

isotype that perform distinct sets of effector functions. B cells diversify and rearrange their Ig constant regions through class-switch recombination, a process by which the constant region is switched from one Ig isotype to another, namely from IgM and IgD to IgG, IgA and IgE (PubMed:17576170, PubMed:20176268, PubMed:22158414). The constant region interacts (via the fragment crystallizable, Fc) with the Fc receptors on innate immune cells to mediate humoral effector functions. Ig gamma-4 (IgG4) isotype does not elicit antibody-dependent cellular cytotoxicity (ADDC) or complement-dependent cytotoxicity (CDC). Instead it is likely involved in immune tolerance mechanisms to allergens and parasites either by blocking IgE-antigen complex formation or by directly inhibiting mast cell degranulation through Fc receptor signaling. In the context of tumorigenesis, it may participate in immunosuppressive mechanisms.

Cellular Location [Isoform 1]: Secreted

Images



Immunohistochemical analysis of formalin-fixed and paraffin-embedded human appendix tissue was performed with IgG4 primary antibody, followed by peroxidase-conjugated secondary antibody and DAB staining.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.