10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-IgG4 IGHG4 Rabbit Monoclonal Antibody

Catalog # ABO13374

Product Information

Application	WB, IHC
Primary Accession	P01861
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Human
Clonality	Monoclonal
Format	Liquid
Description	Anti-IgG4 IGHG4 Rabbit Monoclonal Antibody . Tested in WB, IHC applications. This antibody reacts with Human.

Additional Information

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}
Calculated MW	43832
Application Details	WB 1:1000-1:2000 IHC 1:500-1:1000
Subcellular Localization	Secreted.
Source	Eukaryota
Contents	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
Clone Names	Clone: DCF-9
Immunogen	A synthesized peptide derived from human IgG4
Purification	Affinity-chromatography
Storage	Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

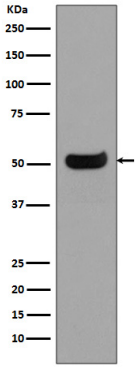
Protein Information

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

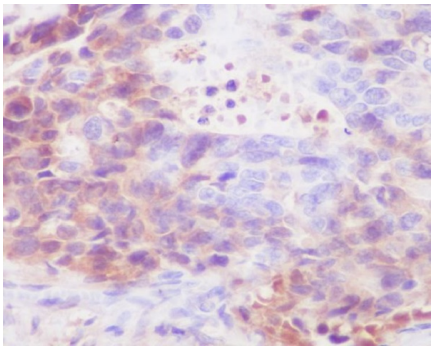
as receptors, which upon binding to a specific antigen trigger the clonal expansion and differentiation of B lymphocytes into Ig-secreting plasma cells. Secreted Igs known as antibodies mediate the effector phase of humoral immunity by blocking the interaction of infectious antigens with cellular receptors (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



Western blot analysis of human IgG4 expression in Human spleen lysate.



Immunohistochemical analysis of paraffin-embedded human stomach carcinoma, using human IgG4 Antibody.