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

IgA (Immunoglobulin Alpha Heavy Chain) (B-Cell Marker) Antibody - With BSA and Azide

Mouse Monoclonal Antibody [Clone HISA43]
Catalog # AH11511

Product Information

Application	IHC, IF, FC
Primary Accession	P01876
Other Accession	3493 (IGHA1), 3494 (IGHA2), 699841, P01877 (IGHA2)
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG1, kappa
Clone Names	HISA43
Calculated MW	42849

Additional Information

Other Names	Ig alpha-1 chain C region, IGHA1
Application Note	IHC~~1:100~500 IF~~1:50~200 FC~~1:10~50
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	IgA (Immunoglobulin Alpha Heavy Chain) (B-Cell Marker) Antibody - With BSA and Azide is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	IGHA1 {ECO:0000303|PubMed:11340299, ECO:0000303|Ref.13}
Function	Constant region of immunoglobulin heavy chains. Immunoglobulins, also known as antibodies, are membrane-bound or secreted glycoproteins produced by B lymphocytes. In the recognition phase of humoral immunity, the membrane-bound immunoglobulins serve as receptors which, upon binding of a specific antigen, trigger the clonal expansion and differentiation of B lymphocytes into immunoglobulins- secreting plasma cells. Secreted immunoglobulins mediate the effector phase of humoral immunity, which results in the elimination of bound antigens (PubMed:20176268, PubMed:22158414). The antigen binding site is formed by the variable domain of one heavy chain, together with that of its associated light chain. Thus, each immunoglobulin has two antigen binding sites with remarkable affinity for a particular antigen. The variable domains are assembled by a process called V-(D)-J rearrangement and can then be subjected to somatic hypermutations which, after exposure to antigen and selection, allow affinity

	maturation for a particular antigen (PubMed:17576170, PubMed:20176268). Ig alpha is the major immunoglobulin class in body secretions (PubMed:2241915).
Cellular Location	[Isoform 1]: Secreted

Background

This MAb is specific to heavy chain of IgA and shows minimal cross-reaction with heavy chains of other immunoglobulins. It is reactive with both IgA1 and IgA2 subclasses of Alpha heavy chain. It reacts with the third constant domain (CH3) of the alpha chain of IgA molecules. Immunoglobulins are four-chain, Y-shaped, monomeric structures comprised of two identical heavy chains and two identical light chains held together through inter-chain disulfide bonds. The chains form two domains, the Fab (antigen binding) fragment and the Fc (constant) fragment. Immunoglobulin A (IgA) is the main protein of the mucosal immune system. It is generated by B-cells in gut-associated lymphoid tissues. Daily production of IgA exceeds that of any of the other immunoglobulins. IgA exists mainly in dimers but can also exist as polymers or as monomers. Dimers and polymers contain a joining (J) chain that can be bound by the polymeric immunoglobulin receptor (pIgR) for transportation of the molecule to mucosal surfaces. The most common feature of plasmacytomas, and certain non-Hodgkinâ€™s lymphomas is the restricted expression of a single heavy chain class. Demonstration of clonality in lymphoid infiltrates indicates that the infiltrate is clonal and therefore malignant.

References

Biewenga J. et al. Monoclonal antibodies against different domains of human IgA: Specificities determined by immunoblotting and haemagglutinationinhibition. Mol. Immunol. 23: 761 767 (1986). | Biewenga J. et al. Domain specificity and assay specificity of monoclonal antibodies against human IgA. Adv. Exp. Med. Biol. 216B: 1239 1249 (1987). | Mestecky J. et al. Evaluation of monoclonal antibodies with specificity for human IgA, IgA subclasses and allotypes and secretory component. Results of an IUIS/WHO collaborative study. J. Immunol. Meth. 193: 103 148 (1996)