IgA Antibody Clone SPM187 / IGHA [clone SPM187] (V2618)

Catalog No.	Formulation	Size
V2618-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2618-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2618SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	SPM187
Purity	Protein G affinity chromatography
UniProt	P01876, P01877
Localization	Cytoplasm, cell surface and secreted
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml 30 min RT
Limitations	This IgA antibody is available for research use only.

Description

Immunoglobulin alpha heavy chain (IGHA) is the defining heavy chain component of immunoglobulin A (IgA), an antibody class that plays a major role in humoral and mucosal immune defense. IgA antibodies are produced by differentiated B lymphocytes and plasma cells and function to neutralize pathogens and toxins at epithelial surfaces and within extracellular fluids. The IgA Antibody Clone SPM187 recognizes the alpha heavy chain of human IgA and enables detection of IgA-expressing cells and immunoglobulin molecules in biological samples. IgA antibodies contribute to protective immune responses at mucosal barriers including the gastrointestinal tract, respiratory tract, and genitourinary tract.

IgA exists as two subclasses in humans, IgA1 and IgA2, both of which contain the immunoglobulin alpha heavy chain encoded by the IGHA gene locus. These subclasses differ primarily in hinge region length and susceptibility to bacterial proteases. IgA1 is typically the dominant subclass found in serum and many extracellular fluids, while IgA2 is relatively enriched in mucosal secretions where its shorter hinge region provides increased resistance to microbial enzymatic cleavage. Antibodies directed against IGHA therefore detect both IgA subclasses and provide a measure of total IgA expression.

IgA antibodies are produced by plasma cells located in lymphoid tissues such as bone marrow, spleen, lymph nodes, and mucosa-associated lymphoid tissues including tonsils and intestinal immune structures. In mucosal environments polymeric IgA antibodies are transported across epithelial cells through interaction with the polymeric immunoglobulin receptor. Following transport the antibody is released into mucosal secretions as secretory IgA complexes that help maintain immune protection by preventing microbial attachment and facilitating immune exclusion mechanisms.

Because IgA-producing plasma cells are common in lymphoid and mucosal tissues, detection of Immunoglobulin alpha heavy chain expression is useful for identifying plasma cell populations and examining humoral immune responses. An IgA antibody allows visualization of IgA-containing immunoglobulins and antibody-producing cells in research studies focused on immune regulation, plasma cell biology, and antibody-mediated host defense.

Application Notes

Optimal dilution of the IgA Antibody Clone SPM187 should be determined by the researcher.

1. Staining of formalin-fixed tissues requires boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min followed by cooling at RT for 20 min

Immunogen

Purified human IgA was used as the immunogen for the Anti-IgA antibody.

Storage

Store the IgA antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

Immunoglobulin A antibody, IGHA antibody, Ig alpha heavy chain antibody, IgA heavy chain antibody, Alpha chain IgA antibody