Recombinant IgA Antibody / Heavy chain [clone IGHA/7567R] (V4381)

Catalog No.	Formulation	Size
V4381-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4381-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4381SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	IGHA/7567R
Purity	Protein A/G affinity
UniProt	P01876, P01877
Localization	Cytoplasm, Cell surface, Secreted
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 minutes at RT
Limitations	This recombinant IgA antibody is available for research use only.

Description

Recombinant IgA antibody detects the immunoglobulin A heavy chain, a core structural component of IgA antibodies responsible for mediating mucosal immune defense. The UniProt recommended name is Immunoglobulin heavy constant

alpha (IGHA1/IGHA2, depending on subclass). IgA is the most abundant antibody isotype found in mucosal secretions such as saliva, tears, intestinal fluid, and respiratory mucus, where it serves as a first line of defense against pathogens at epithelial barriers.

Functionally, recombinant IgA antibody recognizes the alpha heavy chain that defines the IgA isotype. IgA exists in two major subclasses, IgA1 and IgA2, which differ in their hinge region and tissue distribution. Secretory IgA typically forms dimers or polymers through association with the J chain and the secretory component, allowing it to cross epithelial surfaces. This structure enables IgA to neutralize bacteria, viruses, and toxins without triggering strong inflammatory responses. In serum, monomeric IgA contributes to immune complex clearance via interaction with Fc alpha receptors on phagocytes.

The immunoglobulin alpha heavy chain gene is located on chromosome 14q32.33 and encodes the constant region that distinguishes IgA from other antibody classes. IgA is produced by plasma cells in mucosal tissues, tonsils, and Peyer's patches, and its secretion is regulated by cytokines such as TGF-beta and IL-10. Through engagement with polymeric immunoglobulin receptors (pIgR), IgA is transported across epithelial cells into mucosal secretions, forming secretory IgA that protects mucosal surfaces from infection.

Clinically, IgA serves as an important marker in immunological and pathological conditions. Elevated serum IgA levels can occur in chronic infections, autoimmune diseases, and liver disorders, while IgA deficiency is among the most common primary immunodeficiencies, predisposing individuals to respiratory and gastrointestinal infections. Abnormal deposition of IgA-containing immune complexes is characteristic of IgA nephropathy, a leading cause of glomerulonephritis worldwide.

Recombinant IgA antibody is validated for use in relevant immunological research applications to detect alpha heavy chain expression, quantify IgA levels, and study mucosal immunity. NSJ Bioreagents provides recombinant IgA antibody reagents optimized for immunology, diagnostics, and antibody structure-function research.

Application Notes

Optimal dilution of the recombinant IgA antibody should be determined by the researcher.

Immunogen

Full-length native purified protein corresponding to Human IgA was used as the immunogen for the recombinant IgA antibody. It is reactive with both IgA1 and IgA2 subclasses of Alpha heavy chain.

Storage

Aliquot the recombinant IgA antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.