Human Pentraxin 3/TSG-14 Antibody

Monoclonal Mouse IgG_{2A} Clone # 247936

Catalog Number: MAB18261

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Pentraxin 3/TSG-14 in direct ELISAs.
Source	Monoclonal Mouse IgG_{2A} Clone # 247936
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Pentraxin 3/TSG-14 Glu18-Ser381 Accession # P26022
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

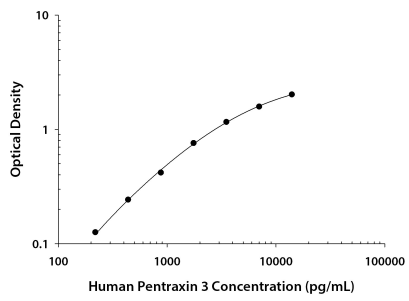
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

ELISA	This antibody functions as an ELISA detection antibody when paired with Mouse Anti-Human Pentraxin 3/TSG-14 Monoclonal Antibody (Catalog # MAB1826). *This product is intended for assay development on various assay platforms requiring antibody pairs. We recommend the Human Pentraxin 3/TSG-14 DuoSet ELISA Kit (Catalog # DY1826) for convenient development of a sandwich ELISA or the Human Pentraxin 3/TSG-14 Quantikine ELISA Kit (Catalog # DPTX30B) for a complete optimized ELISA.*

DATA

ELISA



Human Pentraxin 3/TSG-14 ELISA Standard Curve. Recombinant Human Pentraxin 3/TSG-14 protein was serially diluted 2-fold and captured by Mouse Anti-Human Pentraxin 3/TSG-14 Monoclonal Antibody (Catalog # MAB1826) coated on a Clear Polystyrene Microplate (Catalog # DY990). Mouse Anti-Human Pentraxin 3/TSG-14 Monoclonal Antibody (Catalog # MAB18261) was biotinylated and incubated with the protein captured on the plate. Detection of the standard curve was achieved by incubating Streptavidin-HRP (Catalog # DY998) followed by Substrate Solution (Catalog # DY999) and stopping the enzymatic reaction with Stop Solution (Catalog # DY994).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

Pentraxin 3 (PTX3), TSG-14, was initially identified as a TNF-α or IL-1β inducible gene (1 - 3). It belongs to the pentraxin family, which was named originally for the homo-pentameric structure formed by its members (4). The pentraxin family is divided into two subfamilies: the “short” and the “long” pentraxins with approximate molecular weights of 25 kDa and 50 kDa, respectively. TSG-14 is a member of the long pentraxin subfamily, which also includes the *Xenopus laevis* XL-PXN1, the guinea pig apexin/p50, the rat neuronal pentraxin I (NPI) and NPR, the human neuronal pentraxin II (NPTX2) and the human neuronal activity-related pentraxin (5). Mature secreted TSG-14 contains a pentaxin-like domain at its carboxy-terminus that shares 23 - 28% amino acid (aa) sequence similarity to C-reactive protein (CRP) and serum amyloid P component (SAP), which belongs to the short pentraxin subfamily. However, the N-terminal sequence of TSG-14 does not share aa sequence homology with any of the “short” pentaxins (3). Unlike CRP and SAP, which forms pentamers only, TSG-14 forms both pentameric and higher ordered oligomers (5). Similarly to CRP and SAP, TSG-14 binds to the complement cascade component C1q (6). However, TSG-14 does not bind to phosphoethanolamine, phosphocholine, or high pyruvate agarose, which are known ligands for CRP and SAP. TSG-14 is a marker of the acute phase response and is highly expressed in advanced atherosclerotic plaques (12). While CRP and SAP are primarily produced in the liver, TSG-14 expression is strongly upregulated by TNF-α, IL-1β, and bacterial LPS in peripheral fibroblasts, endothelial cells, and macrophages (7). At the amino acid level, human and mouse TSG-14 share 88% aa sequence homology (8). TSG-14 concentration is elevated in the joint fluid of patients with rheumatoid arthritis (RA), indicating that TSG-14 may be a potential mediator of immune response (9). TSG-14 may also function in the regulation of the uptake and clearance of apoptotic cells by dendritic cells (10). In vivo study showed that TSG-14 transgenic mice are more resistant to sepsis and endotoxemia compared to wild type during the inflammatory injury (11). Increased expression of TSG-14 may enhance the immune response to protect the host from infection.

References:

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