

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
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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 Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

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 apelin/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.

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