

#### DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human Pentraxin 3/TSG-14 in direct ELISAs and Western blots. In direct ELISAs, less than 10% cross-reactivity with recombinant mouse Pentraxin 3 is observed.                                                                                                       |
| <b>Source</b>             | Polyclonal Goat IgG                                                                                                                                                                                                                                                         |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                   |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant human Pentraxin 3/TSG-14<br>Glu18-Ser381<br>Accession # P26022                                                                                                                                                              |
| <b>Conjugate</b>          | Alexa Fluor 700<br>Excitation Wavelength: 675-700 nm<br>Emission Wavelength: 723 nm                                                                                                                                                                                         |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*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.

**Western Blot** 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- $\alpha$  or IL-1 $\beta$  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" pentraxins (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 up-regulated by TNF- $\alpha$ , IL-1 $\beta$ , 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.

#### PRODUCT SPECIFIC NOTICES

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