Rat Pentraxin 2/SAP Antibody

Monoclonal Mouse IgG_{2A} Clone # 273902

Catalog Number: MAB18951

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat Pentraxin 2/SAP in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human Pentraxin 2 or recombinant mouse Pentraxin 2 is observed.
Source	Monoclonal Mouse IgG_{2A} Clone # 273902
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant rat Pentraxin 2/SAP Gln21-Ser228 (predicted) Accession # P23680
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
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.*

Blockade of Receptor-ligand Interaction	In a functional ELISA, 0.2-0.8 µg/mL of this antibody will block 50% of the binding of 1.5 µg/mL of biotinylated Recombinant Human CD32a/Fcγ RIIa to immobilized Recombinant Rat Pentraxin 2/SAP (Catalog # 2558-SA) coated at 2 µg/mL (100 µL/well). At 10 µg/mL, this antibody will block >90% of the binding.

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.

BACKGROUND

Pentraxin 2 (PTX2), also known as Serum Amyloid P Component (SAP), is a secreted serum glycoprotein that is a universal non-fibrillar component of amyloid deposits. These extracellular deposits of insoluble protein fibrils are the result of protein misfolding and can lead to tissue damage and disease (1, 2). PTX2 belongs to the pentaxin superfamily, whose members have the characteristic pentagonal discoid arrangement of five non-covalently bound subunits. Pentaxins bind to a variety of molecules in a calcium-dependent lectin-like manner through a pattern-recognition-binding site (1, 4, 5). Two subfamilies of pentaxins, the classical or short pentaxin subfamily that includes the serum C-reactive protein (CRP) and PTX2, and the fusion or long pentaxin subfamily whose members contain pentaxin-related carboxyl-terminal halves, are known (1).

PTX2 and CRP share approximately 50% amino acid sequence identity (2, 5). They are produced and secreted by liver hepatocytes and circulates in plasma. Rat and mouse PTX2 are major acute-phase proteins whose plasma concentrations increase dramatically during an acute phase response (2). In human where CRP is the major acute-phase protein, the plasma concentration of human PTX2 remains relatively constant in response to tissue-damage (2, 5). The 26 kDa, 208 amino acid (aa) mature rat SAP shares 79% and 70% aa identity with mouse and human SAP, respectively.

PTX2 associates ubiquitously with all amyloid deposits that are implicated in a diverse range of diseases including Alzheimer's and prion diseases, type 2 diabetes and various systemic amyloidoses (3, 6, 7). As a non-fibrillar component, PTX2 regulates the solubility of amyloid fibrils and protects them from degradation by proteolytic enzymes and phagocytic cells. In addition to its role in the pathogenesis of amyloidoses, PTX2 also has an important physiological function in innate immunity (8). It is an opsonin that interacts with all three types of human Fcγ receptors that mediate phagocytosis by polymorphonuclear leukocytes. It has been proposed that PTX2 may function as an opsonin for a variety of ligands including autoantigens, apoptotic cells, chromatin, DNA, and micro-organisms.

References:

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