

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects human and mouse Pentraxin 2/SAP in direct ELISAs and Western blots. In direct ELISA, less 75% cross-reactivity with recombinant rat Pentraxin 2/SAP is observed, and approximately 25% cross-reactivity with recombinant human CRP is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Pentraxin 2/SAP Gln21-Asp224 Accession # P12246
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.

	Recommended Concentration	Sample
Western Blot	0.2 µg/mL	See Below
Simple Western	2 µg/mL	See Below


DATA

Western Blot

Detection of Human and Mouse Pentraxin 2/SAP by Western Blot. Western blot shows lysates of mouse kidney tissue, mouse liver tissue, and human kidney tissue. PVDF membrane was probed with 0.2 µg/mL of Sheep Anti-Human/Mouse Pentraxin 2/SAP Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2558) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for Pentraxin 2/SAP at approximately 26 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Simple Western

Detection of Mouse Pentraxin 2/SAP by Simple Western™. Simple Western lane view shows lysates of mouse kidney tissue, loaded at 0.2 mg/mL. A specific band was detected for Pentraxin 2/SAP at approximately 36 kDa (as indicated) using 2 µg/mL of Sheep Anti-Human/Mouse Pentraxin 2/SAP Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2558) followed by 1:50 dilution of HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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. <ul style="list-style-type: none"> ● 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 (also known as Serum Amyloid P Component or SAP) is a secreted glycoprotein that is a universal non-fibrillar component of amyloid deposits. Amyloid is an abnormal extracellular deposit of insoluble protein fibrils that can lead to tissue damage and disease (1-3). Pentraxin 2 belongs to the pentraxin (pentaxin) family, whose members have a characteristic pentagonal discoid arrangement of five non-covalently bound subunits (4). Pentraxin domains contain the consensus sequence, HxCx(S/T)WxS (x = any amino acid), a lectin fold, and two calcium-binding sites (1). They bind to a variety of unrelated molecules in a calcium-dependent lectin-like manner (1, 4, 5). Pentraxin 2 and C-reactive protein (CRP) are members of the classical or short pentraxin subfamily and share 46% amino acid (aa) identity (1). Mouse Pentraxin 2 is the major acute-phase protein whose expression is dependent on complement activation, IL-6 and/or IL-1 β , while in humans, CRP is the major acute-phase protein (2, 5, 9). Both are produced and secreted by liver hepatocytes and circulate in plasma. The 204 aa mature mouse Pentraxin 2 shares 79% aa identity with rat Pentraxin 2 and 63-70% aa identity with human, guinea pig, golden hamster, porcine, and bovine Pentraxin 2 (2, 5). Amyloid deposits containing Pentraxin 2 are implicated in a diverse range of diseases including Alzheimer's, prion diseases, type 2 diabetes and various systemic amyloidoses (3, 6, 7). Pentraxin 2 regulates the solubility of amyloid fibrils and protects them from degradation. In addition to its pathogenic role, Pentraxin 2 also has an important physiological function in innate immunity (8). It is an opsonin that interacts with all three types of human Fc γ receptors that mediate neutrophil phagocytosis (8). Pentraxin 2 has been proposed to bind and sequester a variety of ligands including auto-antigens, apoptotic cells, chromatin, DNA, and micro-organisms (1-3). Pentraxin 2 is also a normal component of basement membranes (1).

References:

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