

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human C-Reactive Protein/CRP in direct ELISAs and Western blots. In Western blots, approximately 35% cross-reactivity with recombinant mouse CRP and 10% cross-reactivity with recombinant rat CRP is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human C-Reactive Protein/CRP Phe17-Pro224 Accession # P02741
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 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.

Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunocytochemistry	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	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

CRP is a member of the pentraxin family of proteins that are characterized by a cyclic pentameric structure. Human CRP gene encodes a 224 amino acids precursor. The mature human CRP protein has 206 amino acids that are non-covalently linked to form the pentamer. Human CRP shares 71% and 64% amino acid sequence homology with mouse and rat respectively.

CRP, synthesized by hepatocytes, is a major acute phase serum protein in human. IL-6, IL-1 and glucocorticoids are the major inducer of the CRP gene. In response to infection, inflammation or tissue damage, the level of CRP in human serum can increase 1,000-fold within 24-48 hours. It will come back to base level of less than 1 µg/mL very fast. Human CRP is an acute-phase serum protein that plays a role in the first line in host innate host defense. Like other pentraxins, CRP exhibits Ca⁺⁺ - dependent binding to ligands. Phosphocholine (PCh), a constituent of many bacterial and fungal walls, is a principal ligand of CRP. CRP also binds to the membrane of injured cells, membrane and nuclear components of necrotic and apoptotic cells. Upon binding with the ligands, CRP is recognized by C1q and initiates the activation of complement cascade. Ligand bound CRP also binds to Fcγ RI and Fcγ RIa on phagocytes and activates phagocytotic responses. In addition to phagocytosis, CRP also can induce production of hydrogen peroxide and inflammatory cytokines, such as IL-1, IL-6 and TNF-α by monocytes. With these functions, human CRP is an important serum protein for anti-bacterial pathogen and clearance of damaged and apoptotic cells. However, in mouse, CRP is expressed at very low level and is not an acute phase reactant. Serum amyloid P component (SAP), another pentraxin, is the major acute phase serum protein in mice. It has been shown that high levels of CRP in humans is associated with an increased risk of cardiovascular diseases.

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