

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat C-Reactive Protein/CRP in direct ELISAs. In sandwich immunoassays, no cross-reactivity with recombinant mouse CRP, recombinant porcine CRP, recombinant human (rh) Pentraxin 2, or rhPentraxin 3 is observed.
Source	Monoclonal Mouse IgG _{2A} Clone # 233539
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant rat C-Reactive Protein/CRP His20-Ser230 Accession # P48199
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 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 Capture (Matched Antibody Pair) Optimal dilution of this antibody should be experimentally determined.

ELISA Detection (Matched Antibody Pair) 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. The rat CRP gene encodes a 230 amino acid (aa) precursor with a signal peptide of 19 aa and the mature polypeptide of 211 aa. Rat CRP shares 64% and 70% aa sequence homology with human and mouse CRP respectively. Human, mouse and rabbit CRP are non-glycosylated proteins, and the units are non-covalently linked to form the pentamer. In contrast, rat CRP is a glycoprotein and contains a covalently linked dimer in the pentamer. 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, the 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 RIIa on phagocytes and activates phagocytotic responses. In addition to phagocytosis, CRP also induces the production of hydrogen peroxide and inflammatory cytokines, such as IL-1, IL-6 and TNF-α. In human and rabbits, CRP is an important acute-phase protein that plays a role in the first line of host innate defense. The level of plasma CRP at basal conditions in human and rabbits is very low, and can increase 1,000-fold within 24-48 hours in response to infection, inflammation or tissue damage. In rats, CRP exists at a high level at basal conditions and only increases about 2-fold in response to injury. CRP is not a typical acute-phase protein in rat and is a minor component in response to injury. In mice, CRP is expressed at very low levels and is not an acute phase reactant. Serum amyloid P component (SAP), another pentraxin, is an acute phase serum protein in mice.

PRODUCT SPECIFIC NOTICES

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