

Active Recombinant Rat Crp protein, His-tagged

Cat. No. Crp-231R **Lot. No.** (See product label)

SPECIFICATION

Product Overview Recombinant Rat Crp(His20-Ser230) fused with His tag at C-terminal was expressed in NS0.

Species Rat

Source Mammalian Cells

ProteinLength 20-230 a.a.

Description

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 Fc gamma RI and Fc gamma 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-alpha. In human and rabbits, CRP is an important acute-phase

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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.

Predicted N Terminal His20

Form Lyophilized from a 0.2 µm filtered solution in Tris, NaCl and CaCl₂.

Bio-activity Measured by its binding ability in a functional ELISA. When Recombinant Rat C-Reactive Protein/CRP is present at 1 µg/mL, the concentration of Recombinant Human Fc gamma RIIA/CD32a that produces 50% of the optimal binding response is 0.5-3 µg/mL.

Molecular Mass Predicted Molecular Mass: 24 (monomer) kDa
SDS-PAGE: 25-38 kDa, reducing conditions

Endotoxin <0.1 EU per 1 µg of the protein by the LAL method.

Purity >90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.
12 months from date of receipt, -20 to -70 centigrade as supplied.
1 month, 2 to 8 centigrade under sterile conditions after reconstitution.
3 months, -20 to -70 centigrade under sterile conditions after reconstitution.

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Reconstitution Reconstitute at 200 µg/mL in sterile, deionized water.

GENE INFORMATION

Gene Name Crp C-reactive protein, pentraxin-related [*Rattus norvegicus*]

Official Symbol Crp

Synonyms CRP; C-reactive protein, pentraxin-related; C-reactive protein; C-reactive protein, petaxin related; C-reactive protein member of the pentraxin family; C-reactive protein, member of the pentraxin family; Aa1249; Ac1262; Ab1-341; Ab2-196; Ac1-114; Ac2-069; Ba2-693;

Gene ID 25419

mRNA Refseq NM_017096

Protein Refseq NP_058792

UniProt ID P48199

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