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Product Information

Monoclonal Anti-C-Reactive Protein
Clone CRP-8
produced in mouse, ascites fluid

Catalog Number **C1688**

Synonym: Anti-CRP

Product Description
Monoclonal Anti-C-Reactive Protein (mouse IgG1 isotype) is derived from the CRP-8 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with purified human C-reactive protein. The isotype is determined by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-C-Reactive Protein recognizes an epitope located on the 24 kDa subunit of denatured and reduced CRP in an immunoblotting technique. It does not cross react with human serum amyloid P component (SAP), human haptoglobin, human α-1-acid glycoprotein and human IgG, nor with CRP from *Limulus*. The product displays its reactivity against CRP (native and denatured-reduced) in ELISA, dot-blot and immunoblotting.

C-Reactive Protein is a major acute phase reactant synthesized primarily in the liver hepatocytes[1]. It is a pentraxin (cyclic pentameric protein) compound of five identical nonglycosylated subunits of 206 amino acids each (24 kDa), that are bound noncovalently to form the physiologic CRP molecule (117.5 kDa). CRP was discovered on the basis of its Ca^{++} ion-dependent binding to the C-polysaccharide of pneumococcal cell wall that occurs via the Ca^{++}-dependent site for phosphorylcholine (PC), on each of the subunits of CRP. The CRP molecule has a striking homology with Serum Amyloid P Component (SAP), and regions of sequence homology with the nucleoplasmin/B23 family of proteins.[2] The precise biological function of CRP is not known. CRP mediates activities associated with preimmune nonspecific host resistance. It is opsonic, an initiator of the classical complement cascade and an activator of monocytes/macrophages.[3] Cleavage of CRP by neutrophil-derived proteases leads to the production of peptides that have immunomodulating actions. CRP also binds to several nuclear components including chromatin, histones and snRNP, suggesting that it may play a role as a scavenger during cell necrosis. In addition, CRP binds, through the Ca^{++}-dependent PC-binding site, to many other body components including phospholipids, lecithin, sphingomyelin, a variety of monophosphate esters, low density lipoprotein,[4] fibronectin and to the basement membrane protein laminin. CRP binding to polycations has also been demonstrated, but this binding does not appear to occur through the PC-binding site on CRP. In humans, normal blood levels of CRP are less than 200 ng/ml, but rise several hundredfold during the first 6-24 hrs of an acute inflammation or after tissue injury.

Reagent
Supplied as ascites fluid with 0.1% sodium azide as a preservative.

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage
For continuous use, store at 2-8 °C. For extended storage, the solution may be frozen in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Product Profile
Indirect ELISA: a minimum titer of 1:6,000 was determined using freshly prepared human CRP at 10 μg/ml for coating.

Note: In order to obtain best results in different techniques or preparations, it is recommended that each individual user determine their optimal working dilutions by titration assay.

References

1. Gewurz, H., et al., *Adv. Int. Med.*, **27**, 345-372 (1982).
2. DuClos, T.W., et al., *J. Immunol.*, **145**, 3869-3875 (1990).
3. Tseng, Y., et al., *Hybridoma*, **7**, 185-191 (1988).
4. Nunomura, W. and Hatakeyama, M., *Hokkaido J. Med. Sci.*, **65**, 474-480 (1990).

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