

CRP (HD2-4): sc-32286

BACKGROUND

Pentraxins, which include C-reactive protein (CRP) and serum Amyloid P component (SAP), are prototypic acute phase proteins. CRP and SAP are produced by liver epithelial cells and are characterized by a cyclic pentameric structure and calcium-dependent ligand binding. IL-6 is the major inducer of human CRP gene, and IL-1 and steroids can enhance this induction. Testosterone is required for the expression of CRP transgene *in vivo*, whereas Testosterone is not required for expression of the SAP gene. During the acute-phase response, cytokine C5a acts with IL-6 and/or IL-1 β to promote upregulation of the CRP and SAP genes. Both Stat3 and C/EBP are involved in mouse SAP gene expression, but only Stat3 is involved in mouse CRP gene expression. SAP binds to a variety of molecules, including autoantigens and chromatin. Both CRP and SAP also bind to Fc γ R and opsonize particles for phagocytosis by human polymorphonuclear leukocytes. Opsonization of zymosan by CRP is mediated through Fc γ RI, while Fc γ RII and Fc γ RIII are receptors for SAP. Therefore, CRP and SAP play critical roles in the host defense system.

REFERENCES

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- Jensen, L.E., et al. 1997. Acute phase proteins in salmonids: evolutionary analyses and acute phase response. *J. Immunol.* 158: 384-392.
- Szalai, A.J., et al. 1998. Testosterone and IL-6 requirements for human C-reactive protein gene expression in transgenic mice. *J. Immunol.* 160: 5294-5299.
- Szalai, A.J., et al. 2000. Complement-dependent acute-phase expression of C-reactive protein and serum Amyloid P component. *J. Immunol.* 165: 1030-1035.
- Ochrietor, J.D., et al. 2000. Role of Stat3 and C/EBP in cytokine-dependent expression of the mouse serum Amyloid P component (SAP) and C-reactive protein (CRP) genes. *Cytokine* 12: 888-899.
- Bharadwaj, D., et al. 2001. Serum Amyloid P component binds to Fc γ R and opsonizes particles for phagocytosis. *J. Immunol.* 166: 6735-6741.

CHROMOSOMAL LOCATION

Genetic locus: CRP (human) mapping to 1q23.2.

SOURCE

CRP (HD2-4) is a mouse monoclonal antibody raised against human C reactive protein.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

CRP (HD2-4) is recommended for detection of CRP of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for CRP siRNA (h): sc-40815, CRP shRNA Plasmid (h): sc-40815-SH and CRP shRNA (h) Lentiviral Particles: sc-40815-V.

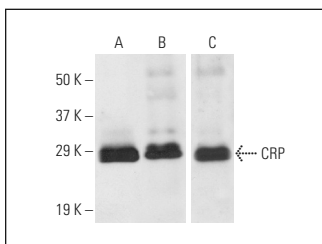
Molecular Weight of CRP monomer: 24-30 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Caki-1 cell lysate: sc-2224 or Jurkat whole cell lysate: sc-2204.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Western blot analysis of human recombinant CRP immunoprecipitated with CRP (HD2-4): sc-32286 and detected with CRP (N-14): sc-18304 (A), CRP (H-90): sc-30047 (B) and CRP (C-13): sc-18306 (C).

SELECT PRODUCT CITATIONS

- Ding, Q., et al. 2006. Insulin-like growth factor I interfaces with brain-derived neurotrophic factor-mediated synaptic plasticity to modulate aspects of exercise-induced cognitive function. *Neuroscience* 140: 823-833.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.