SANTA CRUZ BIOTECHNOLOGY, INC.

CRP (26D7): sc-69770

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 C5α acts with IL-6 and/or IL-1β 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

1. Alles, V.V., et al. 1994. Inducible expression of Ptx3, a new member of the pentraxin family, in human mononuclear phagocytes. Blood 84: 3483-3493.
2. Introna, M., et al. 1996. Cloning of mouse Ptx3, a new member of the pentraxin gene family expressed at extrahepatic sites. Blood 87: 1862-1872.
3. Jensen, L.E., et al. 1997. Acute phase proteins in salmonids: evolutionary analyses and acute phase response. J. Immunol. 158: 384-392.

CHROMOSOMAL LOCATION

Genetic locus: CRP (human) mapping to 1q23.2; Crp (mouse) mapping to 1 H3.

SOURCE

CRP (26D7) is a mouse monoclonal antibody raised against recombinant CRP of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, 1% glycerol and < 0.1% stabilizer protein.

APPLICATIONS

CRP (26D7) is recommended for detection of CRP of mouse, rat and human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:5000), immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution to be determined by researcher, dilution range 1:30-1:5000).

Suitable for use as control antibody for CRP siRNA (h): sc-40815, CRP siRNA (m): sc-40816, CRP shRNA Plasmid (h): sc-40815-SH, CRP shRNA Plasmid (m): sc-40816-SH, CRP shRNA (h) Lentiviral Particles: sc-40815-V and CRP shRNA (m) Lentiviral Particles: sc-40816-V.

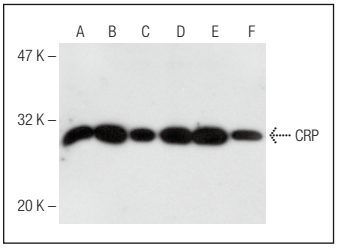
Molecular Weight of CRP monomer: 24-30 kDa.

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

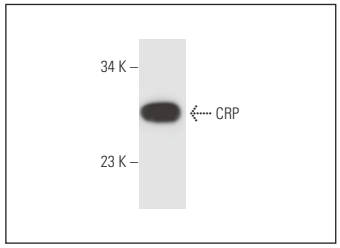
STORAGE

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

DATA



CRP (26D7): sc-69770. Western blot analysis of CRP expression in Hep G2 (**A**), Caki-1 (**B**), Jurkat (**C**), HEL 92.1.7 (**D**), MIA PaCa-2 (**E**) and AML-193 (**F**) whole cell lysates.



CRP (26D7): sc-69770. Western blot analysis of CRP expression in RBL-1 whole cell lysate

SELECT PRODUCT CITATIONS

1. Pan, T.L., et al. 2011. Prospective highlights of serum glycoproteins in spontaneous tolerance after orthotopic liver transplantation. Clin. Chim. Acta 412: 604-613.
2. Sucajtys-Szulc, E., et al. 2018. Hepatocyte nuclear factors as possible C-reactive protein transcriptional inducer in the liver and white adipose tissue of rats with experimental chronic renal failure. Mol. Cell. Biochem. 446: 11-23.
3. Racz, B., et al. 2018. A non-retinoid antagonist of retinol-binding protein 4 rescues phenotype in a model of Stargardt disease without inhibiting the visual cycle. J. Biol. Chem. 293: 11574-11588.
4. Jacenik, D., et al. 2019. G protein-coupled estrogen receptor mediates anti-inflammatory action in Crohn's disease. Sci. Rep. 9: 6749.
5. Cheng, C.Y., et al. 2020. Nrf2/HO-1 partially regulates cytoprotective effects of carbon monoxide against urban particulate matter-induced inflammatory responses in oral keratinocytes. Cytokine 133: 155185.
6. Li, J., et al. 2021. Assessing the safety of transarterial locoregional delivery of low-density lipoprotein docosahexaenoic acid nanoparticles to the rat liver. Eur. J. Pharm. Biopharm. 158: 273-283.
7. Cheng, J., et al. 2021. The role of β-carotene in colonic inflammation and intestinal barrier integrity. Front. Nutr. 8: 723480.
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RESEARCH USE

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