Human CRP Antibody Pair Set

Catalog No. E-KAB-0018 **Applications** ELISA
Synonyms PTX1, Pentraxin 1

Kit components & Storage

Title	Specifications	Storage
Human CRP Capture Antibody	1 vial, 100 μg	Store at -20℃ for one year. Avoid freeze / thaw cycles.
Human CRP Detection Antibody (Biotin)	1 vial, 50 μL	Store at -20℃ for one year. Avoid freeze / thaw cycles.

Note: Centrifuge before opening to ensure complete recovery of vial contents.

Product Information

Items		Characteristic (E-KAB-0018)	
		Human CRP Capture Antibody	Human CRP Detection Antibody (Biotin)
Immunogen Information	Immunogen	Native Protein	Native Protein
	Swissprot	P02741	
Product details	Reactivity	Human	Human
	Host	Mouse	Mouse
	Conjugation	Unconjugated	Biotin
	Concentration	0.5mg/mL	/
	Buffer	PBS with 0.04% Proclin 300, 50% glycerol, pH 7.4	PBS with 0.04% Proclin 300, 1% protective protein, 50% glycerol, pH 7.4
	Purify	Protein A	Protein A
	Specificity	Detects Human CRP in ELISAs.	

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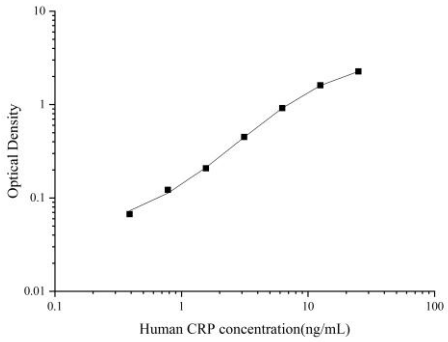
Applications

Human CRP Sandwich ELISA Assay:

	Recommended Concentration/Dilution	Reagent	Images
ELISA Capture	0.5-4μg/mL	Human CRP Capture Antibody	
ELISA Detection	1:1000-1:10000	Human CRP Detection Antibody (Biotin)	

Note: This standard curve is only for demonstration purposes. A standard curve should be generated for each assay!

Background

C-Reactive Protein (CRP),also known as Pentraxin 1,is a non-glycosylated protein in the Pentraxin family that also includes Pentraxin 2/SAP and Pentraxin 3/TSG-14. CRP functions as a sensor and activator of the innate immune response (1). In humans,it is a major acute-phase protein,its circulating concentration is dramatically elevated at the onset of inflammation (2). In mice,however,serum CRP levels increase only slightly during inflammation,and the analogous acute phase role is filled by Pentraxin 2 (3). CRP assembles non-covalently into a 110-120 kDa cyclical pentamer (4). Mature human CRP shares 71% and 64% amino acid (aa) sequence identity with mouse and rat CRP,respectively (5).

CRP binds and opsonizes apoptotic cells (6-8) as well as bacteria such as S. pneumoniae (9,10). It subsequently enhances the phagocytosis of these opsonized cells (6,8-10). CRP additionally binds several proteins in the complement cascade including C1q,C4BP,and Factor H (8,11-13). It enhances activation of the classical complement pathway and the deposition of C3b (9). In later stages of the response,CRP inhibits complement-mediated cell lysis through its binding to C4BP and Factor H (8,12). These interactions induce the upregulation of complement inhibitory proteins CD46,CD59,and CD55/DAF and inhibit assembly of the membrane attack complex (MAC) (8,14).

CRP binds to Fc gamma RI,Fc gamma RIIA,and Fc gamma RIIB on macrophages and dendritic cells (15-17),and Fc receptors are required for the phagocytosis of CRP-opsonized target cells (6,10,18). CRP binding to Fc gamma RI induces Src activation which subsequently triggers the inhibitory Fc gamma RIIb and dampens the inflammatory response (15,19). CRP additionally promotes dendritic cell maturation and humoral immunity (10). In cardiovascular disease,CRP binds to oxidized LDL,exacerbates tissue damage in coronary artery infarction,and inhibits the repair of injured vascular endothelium (7,19,20).

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