

PRODUCT DATA SHEET

Human CRP ELISA Kit

Description

C-reactive protein (CRP) is a polypeptide in the pentraxin family that circulates as a 115 kDa pentamer composed of noncovalently linked highly conserved 23 kDa subunits. This homopentameric acute-phase inflammatory protein is secreted by the hepatic cells, where it plays a crucial role in connecting innate and adaptive immunity by activating the classical complement pathway and interacting with immune cells through Fcγ receptor binding.

In healthy adults, CRP levels are typically below 3 µg/mL. As an acute-phase protein, CRP concentrations in plasma change by at least 25% during inflammatory disorders. CRP levels can rise from around 1 µg/mL to over 500 µg/mL within 24–72 hours following severe tissue damage, such as trauma or progressive cancer. Recent studies indicate that CRP levels may also help identify individuals at higher risk of heart attack.

CRP is valuable for diagnostics due to being essential as both a marker and mediator in the body's inflammatory and immune responses. In biomedical research, CRP plays a significant role in aiding the studies for conditions like bacterial infections, autoimmune diseases, and chronic inflammatory diseases.

Contents

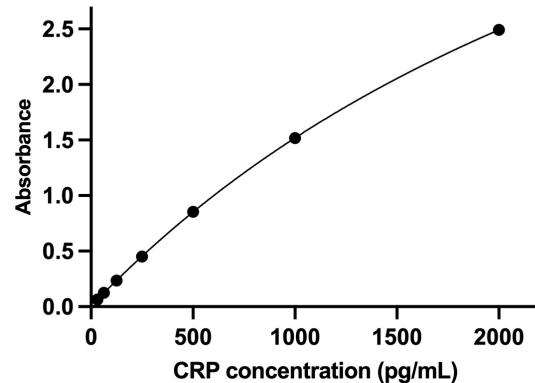
Pre-coated strip microplate (8X12)	96 wells
10X Wash Buffer	50 mL
1X Assay Diluent	50 mL
1X Detection Diluent	50 mL
Biotinylated anti-Human CRP	1 vial
Recombinant Human CRP Standard	1 vial
200X HRP-Streptavidin Conjugate	150 µL
1X One-step TMB Substrate	12 mL
1X Stop Solution	8 mL
Adhesive Plate Covers	1 count

Features

The Human CRP solid-phase sandwich ELISA is designed to quantify the target analyte “sandwiched” between a matched antibody pair. The microplate wells supplied with the kit are pre-coated with a target-specific antibody. Upon adding the samples, standards, or controls, the target is captured by the immobilized antibody and subsequently binds to the next added detector antibody.

A secondary enzyme conjugate binds the target attached detector antibody and a substrate solution reacts with the enzyme-antibody-target complex to develop a measurable

colored end-product which correlates to the concentration of target analyte present in the original sample. See manual for more information on the assay procedure.



Characteristics

Protein name	C-reactive protein
Alternate names	C Reactive Protein; C-reactive protein(1-205); C-reactive protein, pentraxin-related; CRP; pentraxin 1; PTX1
Species reactivity	Human
Assay format	Solid-phase Sandwich ELISA (quantitative)
Sample type	Serum, Plasma, Cell culture supernatant
Sample volume	100 µL
Assay length	4.5 hrs
Analytical sensitivity	<10 pg/mL
Assay range	31.2 – 2000 pg/mL
Intra-assay CV	<5%
Inter-assay CV	<6.5%
Recovery (%)	Serum: 98.9 Plasma: 90.7 Cell culture media: 93.1
Detection & Instrument	Colorimetric, Microplate Reader
UniProt ID	(Human) P02741

Validation

Each manufactured lot of this ELISA kit is quality tested for criteria such as sensitivity, specificity, precision, and lot-to-lot consistency. See manual for more information on validation.

Storage

This product should be stored at 2-8°C. Do not freeze. If stored as specified, the ELISA Plates and reagents are stable for at least 6 months.

Canada, Europe, Asia, Pacific and Africa

919 Fraser Drive, Unit 11, Burlington, ON Canada L7L 4X8
Tel: 866-344-3954 Fax: 289-204-9100
www.cytodiagnosics.com

United States, Mexico, South and Central America

5867 South Garnett Road, Tulsa, Oklahoma 74146 USA
Tel: 866-344-3954 Fax: 289-204-9100
www.cytodiagnosics-us.com

Precautions and Disclaimer

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www.cytodiagnostics.com for information regarding hazards
and safe handling procedures.