

Did you know?

Gauging response to treatment is no longer wait and see

CRP CANINE

Detect, gauge & monitor inflammatory disease



Clinical Lab Report *example*

Canine Specific
C-Reactive Protein (CRP)

TEST NAME	RESULT	UNITS	FLAG	REFERENCE INTERVAL
c-CRP canine specific c-reactive protein	1.5	mg/L		Optimum ≤ 1.3 Normal: ≤ 3.9 Low Inflamm (L): 4 - 9.9 Mod Inflamm (M): 10 - 39.9 High Inflamm (H): ≥ 40
	0 5 10 15 20 25 30 35 40 45 > 50			Low Moderate High

Interpretation

Flag Interpretation
Low to Moderate: inflammatory diseases such as cancer, IBD, heart, kidney disease
High: diseases that cause severe inflammatory response such as cancer, IBD, infection, and autoimmune conditions such as IMHA. Infection and autoimmune disorders such as IMHA often trigger CRP levels in excess of 30 mg/dL.

General Comments
CRPcanine measures canine-specific C-reactive protein (c-CRP), a major acute phase protein, produced mainly in the liver as a response to inflammation and the release of cytokines. Serum CRP has been shown to be an effective measure of general inflammation. The concentration of CRP correlates to both the severity and duration of the inflammatory stimuli.

Acute phase proteins constitute a group of proteins (e.g., CRP, haptoglobin, serum amyloid A) which are part of the innate host defense system. Their blood concentration changes rapidly in response to any tissue damaging causes such as infection, immune-mediated disorders, neoplasia, trauma, and others. CRP is produced "de novo" with no storage reserves (i.e., low risk of false release). CRP decreases rapidly when inflammatory stimulation is no longer present thus making it very effective in therapeutic monitoring.

CRP measurements may be useful for:
Preventative Care Health Screen: The high sensitivity and low specificity of the acute phase response allows for potential detection of subclinical or pre-clinical inflammatory disorders. An elevated CRP indicates the presence, but not the cause, of an inflammatory disease state.

Peri-operative Monitoring: CRP levels are expected to increase post-operatively, with the magnitude of increase related to the intensity of the surgical trauma. Normalization of CRP within 1-2 weeks post-operatively has been suggested as being more effective in monitoring post-surgical progress than WBC counts.

Monitoring Disease Progression/Response to Treatment: CRP has been shown to be an effective marker for disease activity and response to therapy in canine inflammatory bowel disease, pancreatitis, and immune-mediated polyarthritis. CRP was also shown to be potentially more useful than a WBC count

Tech: RR



**Canine CRP is also available as part of the Tkanine cancer panel and INCaSe wellness panel. The report shown here is for canine C-Reactive Protein as a standalone test.*



VDI Your Specialty Reference Lab

Canine Inflammatory Disease

Clinical Background

Chronic inflammation is both associated with, and the root-cause of disease. Left unchecked, chronic inflammation can lead to disease advancement and even death.

CRPCANINE is a blood test that detects systemic inflammation in response to infection, tissue damage, neoplasia, and trauma. The test is used to confirm the presence of inflammatory disease, detect hidden disorders, monitor the effectiveness of treatment, and assure complication-free recovery.

Test Information:

Sample Type: Serum >1mL

Interferences: Gross lipemia
Gross hemolysis

Stability: 4°C: 4 hours
-20°C: 1 month

Reference Ranges:

c-CRP(mg/L):
Optimum: ≤1.9
Normal: ≤3.9
Low: 4.0 – 9.9
Moderate: 10 – 39.9
High: ≥40

Interpretative Information:

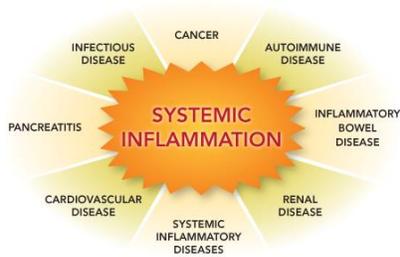
↑ Cancer
Heart Disease
Kidney Disease
Autoimmune diseases
Infection
Other Inflammatory Disease

↓ Liver Disease
Intravascular Hemolysis



Role of inflammation

Acute defends, chronic kills

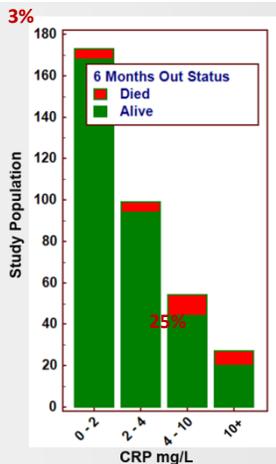


Acute Inflammation

Acute (short-term) inflammation is a vital life-sustaining function. The cascade of events that occurs is needed to initiate a defense against invading organisms and to repair tissue damage that occurs from trauma, infection, and disease.

When inflammation becomes chronic

While acute inflammation is normally tightly controlled and part of the healing process, chronic (long-term) inflammation leads to the production of free radicals and other destructive agents, creating an environment that propagates disease.



CRP and Serious Disease

In a large study group of 360 dogs followed for up to one year, incidence of serious disease was followed.

CRP is very sensitive to a wide range of inflammatory disease such as heart disease, kidney disease, and autoimmune disorders. Within the study, if you only looked at death as an endpoint of serious disease, those with increasingly elevated CRP had a higher mortality rate, up to 25%, compared to only 3% with low CRP.

Therapeutic Monitoring

Rapid responding CRP allows for near “real-time” monitoring

- Treatment independent; unbiased by therapy
- Effectiveness/infectiveness indicated in 2-3 days
- Detect relapse during tapering of immunosuppressive therapy

Response to Therapy

Postoperatively, CRP levels will indicate quickly whether recovery is normal or an infection has set in. CRP is highly responsive in monitoring antibiotic treatment vs the traditional white count (WBC).

