

Serum Amyloid A (SAA)

Definition:

Acute phase protein produced in liver in response to all harmful stimuli leading to tissue injury and then released to blood stream.

Also SAA produced locally in cells of joints and in mammary glands.

Also called (Acute phase protein) (inflammatory maker of the horse) (Mozes et al 1989) (S. Jacobsen and P. H. Andersen, Denmark, 2007).

Importance:

Increasing of SAA in blood serum of the horse indicates septic (Bacterial, viral,) or a septic (neplasia, injury, surgery, trauma, toxin,).

Discover the inflammation of apparent healthy horse.

Use also for the same function in Cattles and pets (Alsemegeest et al 1994) (Sasaki et al 2003) so it may be a chance to try it as indication for tissue injury in the **Camels**.

Figure 1 shows the pathogenesis of formation of acute phase proteins.

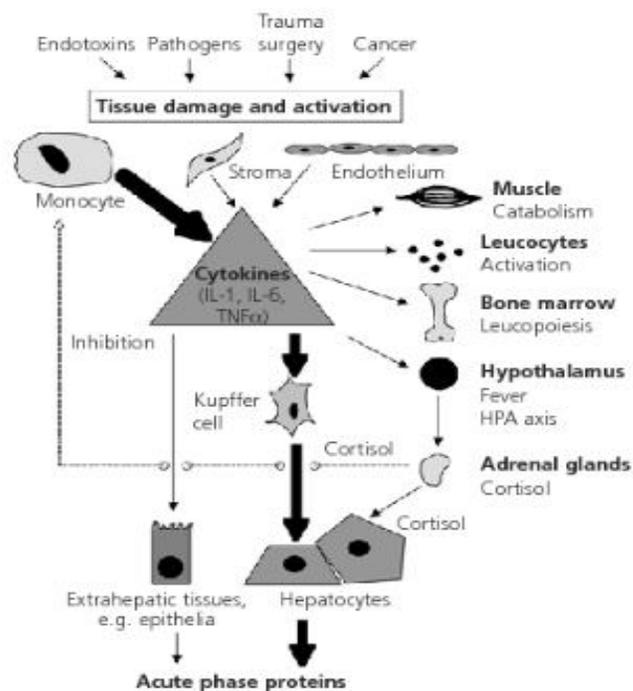


Fig 1: Overview of the acute phase response. Cytokines such as interleukin-1, interleukin-6 and tumour necrosis factor-α are released from cells - especially monocytes and macrophages - activated by aseptic and septic inflammatory stimuli. The cytokines have effects of many different cells and tissues in the body, including the liver and certain extrahepatic tissues, where they induce acute phase protein synthesis. They are also responsible for many of the clinical signs that accompany infection and inflammation.

Figure 1 (S. Jacobsen and P. H. Andersen, 2007).

Table 1: Equine acute phase proteins

Protein	Normal plasma/serum concentration	Plasma/serum concentration after tissue injury	Response time (h) after stimuli
Serum Amyloid A (up to 1000 x increase)	0 - 30 mg/L	30 - 1000 mg/L	6 - 16
Haptoglobin (2-4 x increase)	0.4 - 1.9 g/L	1.5 - 6.0 g/L	24
Fibrinogen (2-5 x increase)	1.7 - 4.2 g/L	3 - 10 g/L	24 - 36

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False results:

Pregnancy can cause false positive results because oestradiol.

After surgery.

Plasma clearance of SAA is very fast so this test suite real time of inflammation monitoring, and recovery phase so can decide to return horse to exercise.

