

Frequently Asked Questions

SERUM AMYLOID A



stablelab

What is SAA and where is it made/produced?

Serum Amyloid A (SAA) is a non-specific biomarker produced by the body, predominantly in the liver, in response to an infection. SAA forms as part of the acute phase inflammatory response. It can indicate the severity of the infection and how the body is coping with it.¹

Why does the body produce SAA?

We still do not know why the body produces SAA. It may be part of the body's attack on infection or it may simply be a signaling protein.

What is the half-life of SAA?

The half-life of SAA is estimated to be 24 hours. This means it reduces by 50% every 24 hours once production stops.²

Does SAA distinguish viral and bacterial infections?

The levels of SAA are not distinguishable between a viral and a bacterial infection. Some studies have demonstrated that SAA elevates significantly higher in bacterial infections. However, there is no known cut-off value that can be used to distinguish between viral and bacterial infections.³

How quickly does SAA elevate with acute inflammation?

SAA production begins almost immediately and can be detected in peripheral blood within 6-12 hours, depending on the severity of the infection.⁴

Does SAA elevate with non-infectious inflammation?

When inflammation is caused by a non-infectious cause, SAA is not normally produced at all. However, in some non-infectious cases, a small amount of SAA may be produced.

While exceptions may occur, the known cut-off value for distinguishing between infectious and non-infectious inflammatory conditions is 50 µg/ml*.³

Infection:



SAA

> 50

µg/ml

Can I use SAA to distinguish infectious and non-infectious inflammation?

Yes. SAA is a reliable measure of inflammation caused by infection. It can be used to distinguish between infectious and non-infectious inflammation.^{3,5}

Can I diagnose the type of infection based on the SAA number?

No. SAA is a non-specific biomarker of infectious inflammation. While a veterinarian may recognize patterns and trends of elevation within certain diseases, SAA itself cannot be used as a stand-alone indicator to diagnose specific disease types.

Will SAA go up in trauma?

SAA is not typically affected by trauma provided there is no infectious component. However, certain surgeries, such as castrations and colic surgery, may cause a transient rise in SAA.⁶

Are SAA levels affected if the horse has been recently vaccinated?

Yes. Vaccinations typically cause SAA to elevate for 3 to 4 days.⁶

What blood tube do I need to use?

Stablelab was designed to be used stall-side during your clinical examination. Fresh whole blood, direct from the syringe is the most common blood sample type, but the use of stored blood (EDTA, Lithium heparin or sodium citrate) is also acceptable.

How long is blood good for use?

We recommend running the Stablelab SAA test within 12 hours of sample collection.⁷

References:

- ¹ Jacobsen, Stine. Review of equine Acute-Phase proteins. *AAEP Proceedings* vol 53 2007. Pages 230 - 235.
- ² Ludwig, E. et al. Serum and Synovial fluid Serum Amyloid A Response in Equine Models for synovitis and Septic Arthritis. *Veterinary Surgery* 00 2016. Pages 1-9.
- ³ Viner, M et al. Comparison of Serum Amyloid A in horses with Infectious and noninfectious respiratory diseases. *Journal of Equine Veterinary Science*. 2017 (49) 11-13.
- ⁴ Jacobsen, S and Anderson, P. Tutorial article: Acute phase protein Serum Amyloid A (SAA) as a marker for inflammation in the horses. *Equine vet Educ*. 2007 19(1) 38-46.
- ⁵ Belgrave, R. et al. Assessment of Serum Amyloid A testing of horses and its clinical application in a specialized equine practice. *JAVMA*, Vol 243 no 1, July 1, 2013. Pages 113-119.
- ⁶ Nolen-Walston, R. How to interpret Serum Amyloid A concentrations. *AAEP Proceedings* 2015 130-137.
- ⁷ Dong-Wen Wu et al. How long can we store blood samples: A systemic review and meta-analysis. *EBioMedicine*. 24(2017) 277-287.

*Stablelab Patent US 10,288,537