



stablelab

zoetis







- Stablelab was developed by an Irish start-up company
- Zoetis recognized the importance of this stall-side test
- Perfect fit in Equine Continuum of Care
- Exclusive license agreement

# Diagnostic Tool Supporting Continuum of Care

## Predict

Routine screening protocol

- Pre-competition
- Surgery
- Shipping
- Neonates

Patients with an elevated risk of respiratory and other acute infections

Compliments equine diagnostic line

## Detect

Establish baseline levels at initial examination

Serial monitoring over the course of treatment to monitor response<sup>3</sup>

Allows for treatment modification if SAA levels remain unchanged or elevate over time

## Treat

Before clinical symptoms start: normal = 0µg/ml

Most instances of infectious or inflammatory disease >50µg/ml<sup>1</sup>

Differentiates inflammation vs. infection in respiratory conditions<sup>2</sup>

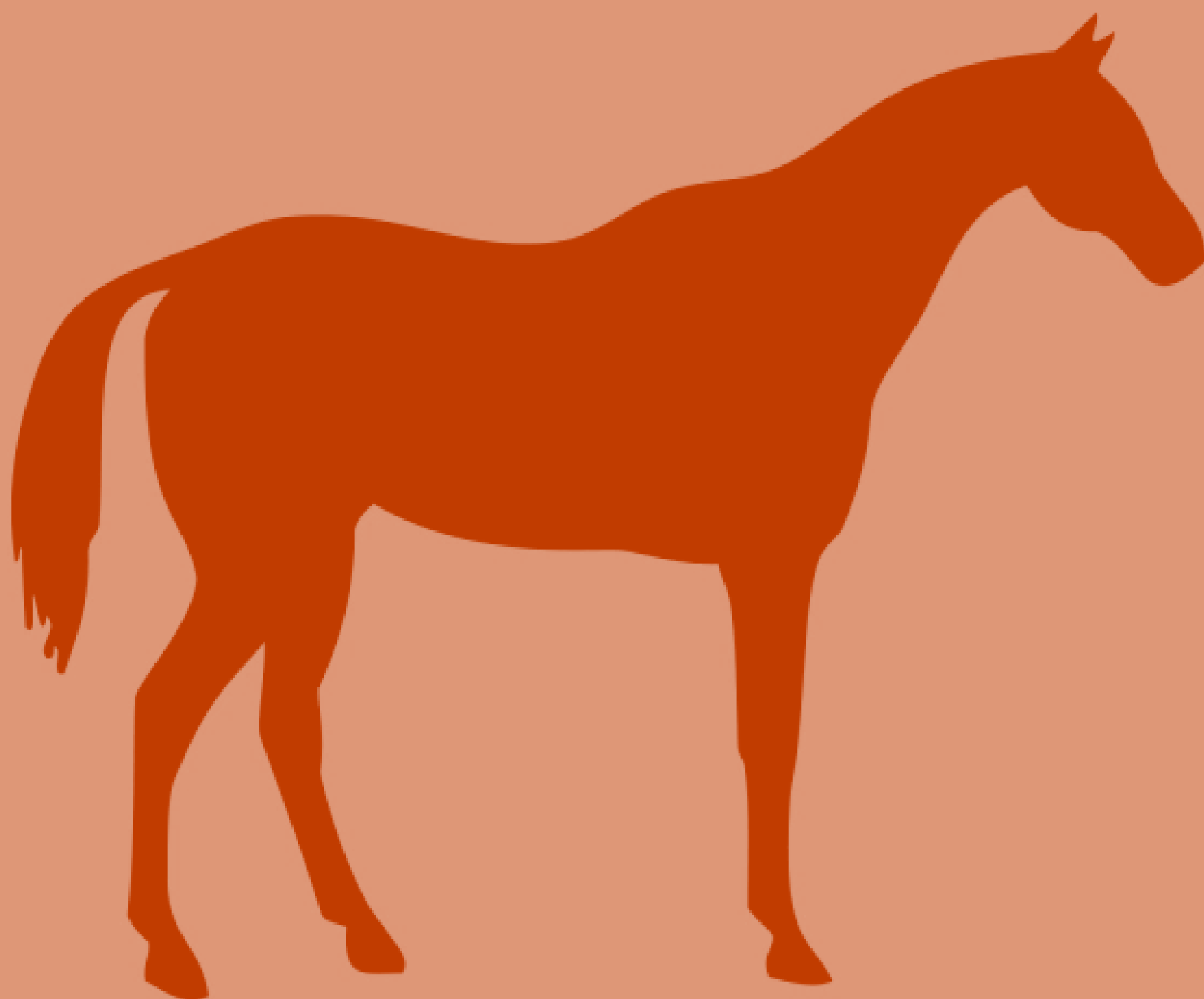
# What is Serum Amyloid A?





- SAA is an acute phase response protein
- Measurement of SAA is a reliable biomarker in horses for inflammation caused by infection
- SAA can be used to distinguish infectious from non-infectious inflammation<sup>2,3</sup>





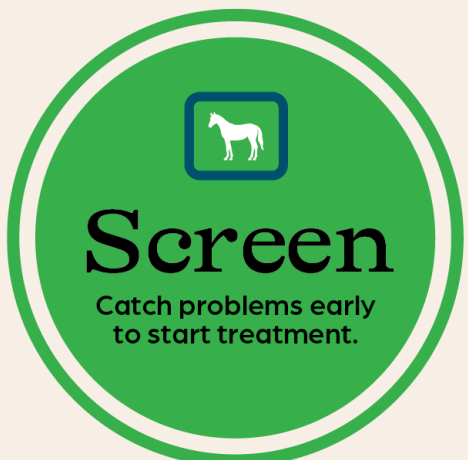
# Decision Making on the Spot



**Detect** infection by measuring SAA



**Monitor** response to treatment



**Screen** before it is truly a problem



Detect

## Infection by Measuring SAA

- $SAA\ 0\mu g/ml$  = Normal or non-infection<sup>2,4</sup>
- $SAA\ >50\mu g/ml$  = Infection<sup>1,2,4</sup>
- $SAA\ \text{Between } 0-50\mu g/ml \rightarrow \text{Retest 24 hours}^{2,4}$
- Stablelab detects SAA with  $>95\%$  accuracy<sup>5</sup>



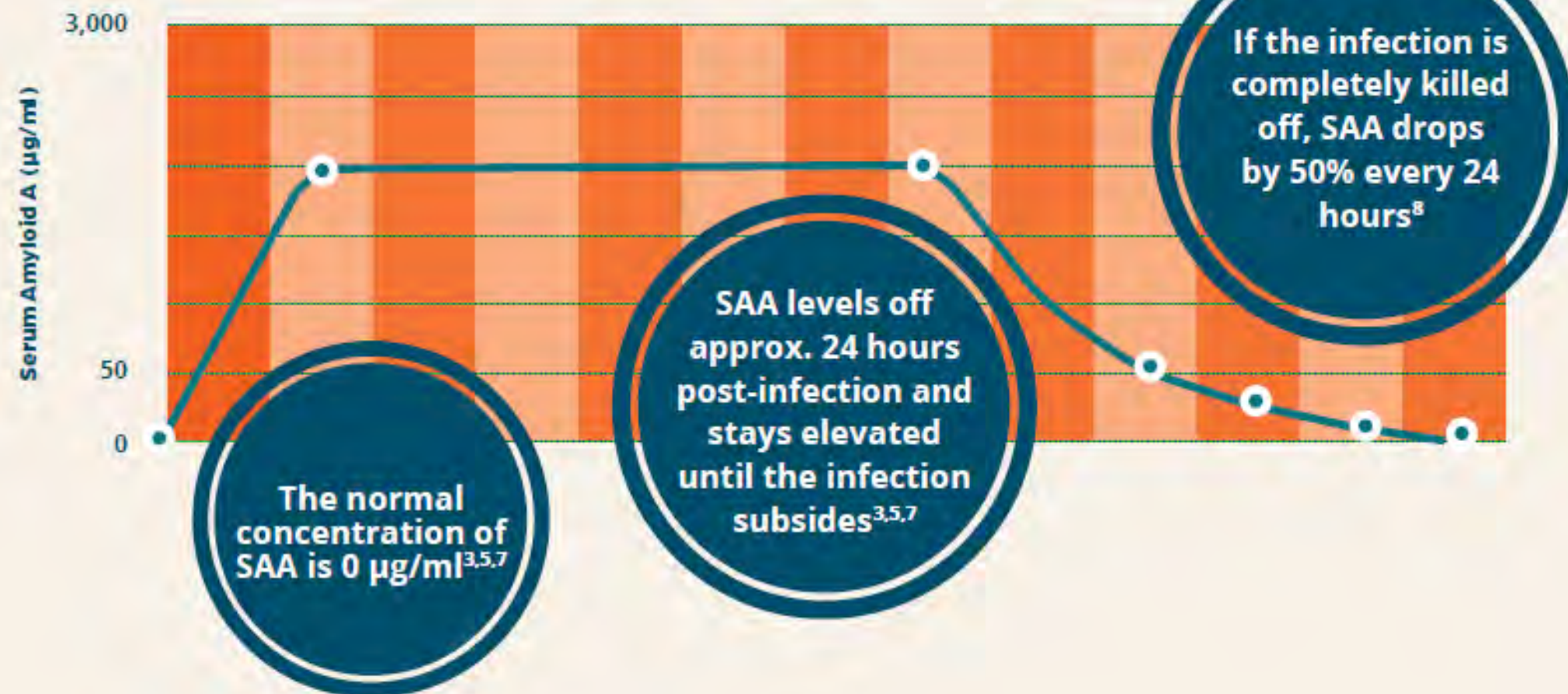


# Monitor Response to Treatment

**SAA is a biomarker produced in response to infection**

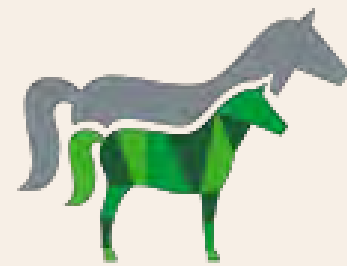
It can indicate the severity of an infection and how the body is coping with it.<sup>3</sup>

**Even if you know it's an infection, quantify it.**



**The KEY to interpretation is understanding the typical SAA response curve**

# Screen



Newborn  
Foal



Shipping

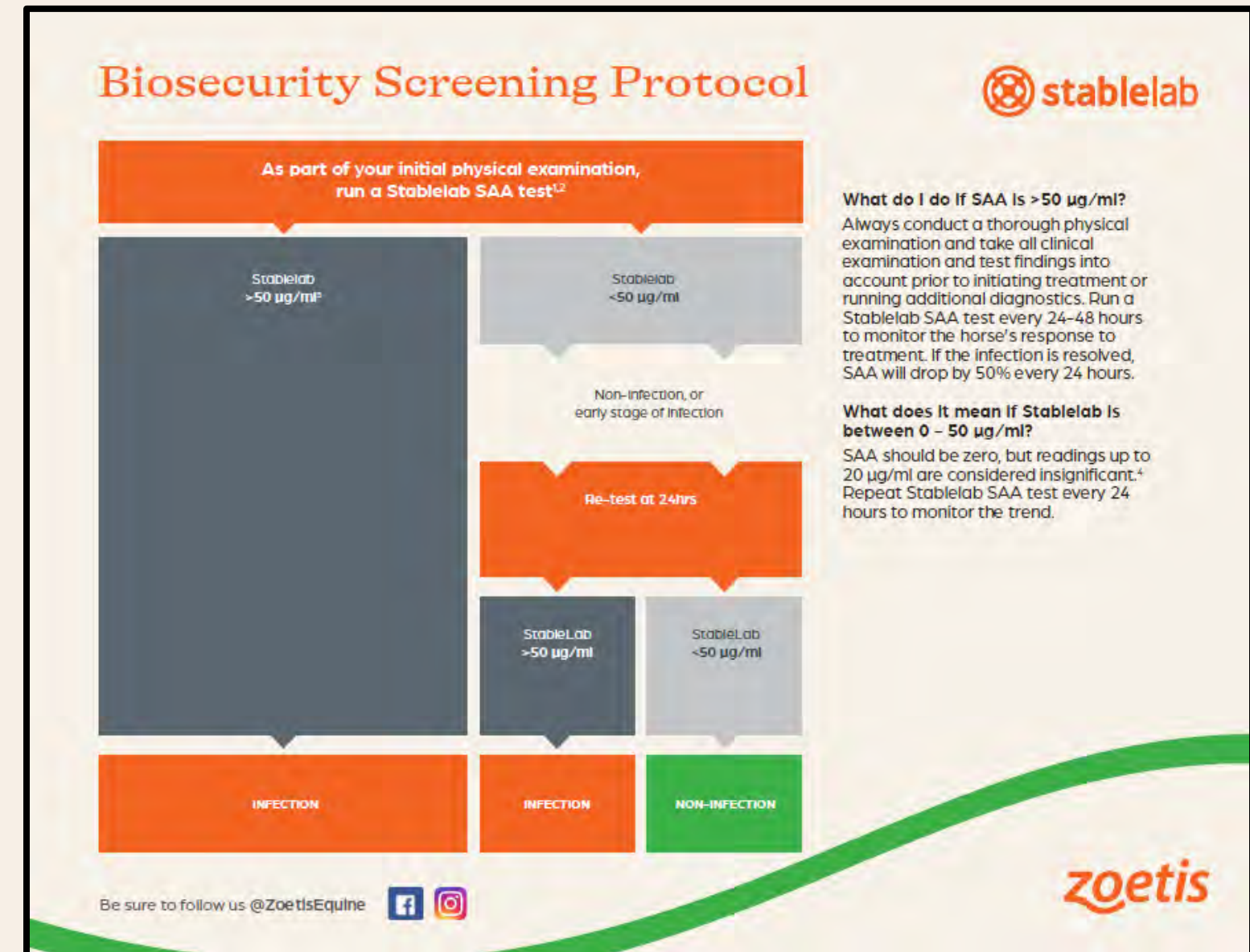


Before  
Competition



Surgery

for a problem, before it becomes one



Use Stablelab as a routine protocol for screening, particularly in situations that present an elevated risk of respiratory and other acute infections.<sup>2-4,6</sup>





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Quantify your intuition

# Primary & Ambulatory Care

- Keep Stablelab on your truck & use at the farm
- When you reach for antibiotics:
  - First test with Stablelab
  - Quantify the infection, then
  - Monitor response to treatment over time

**Do you see any of these cases?**

Respiratory disease

Cellulitis

Fever of unknown origin

Diarrhea

Shipping fever

Peritonitis

Joint sepsis/flare

ADR

EIPH

Poor performance

General infections

Strangles

# Referral Hospital

- Part of your minimum database at the time of admission
- Screen for subclinical infection prior to surgery
- Monitor the response to treatment over the course of hospitalization and after discharge

**Do you see any of these cases?**

Critical care

Infectious diseases

Preoperative screen

Postoperative follow up

Respiratory Disease

NICU

Diarrhea

Strangles

Colic

Fever of unknown origin

General infections

ADR



# Reproduction

- Pregnancy, parturition and the early neonatal period are high risk life stages for the horse
- Use Stablelab to identify problems before they become an issue

**Do you see any of these cases**

Newborn foal exam

Maladjusted foal

Premature foal

Ascending placentitis

Pneumonia

Rhodococcus equi

Rotavirus

Postpartum metritis

Diarrhea

Strangles

General infections

Umbilical infection

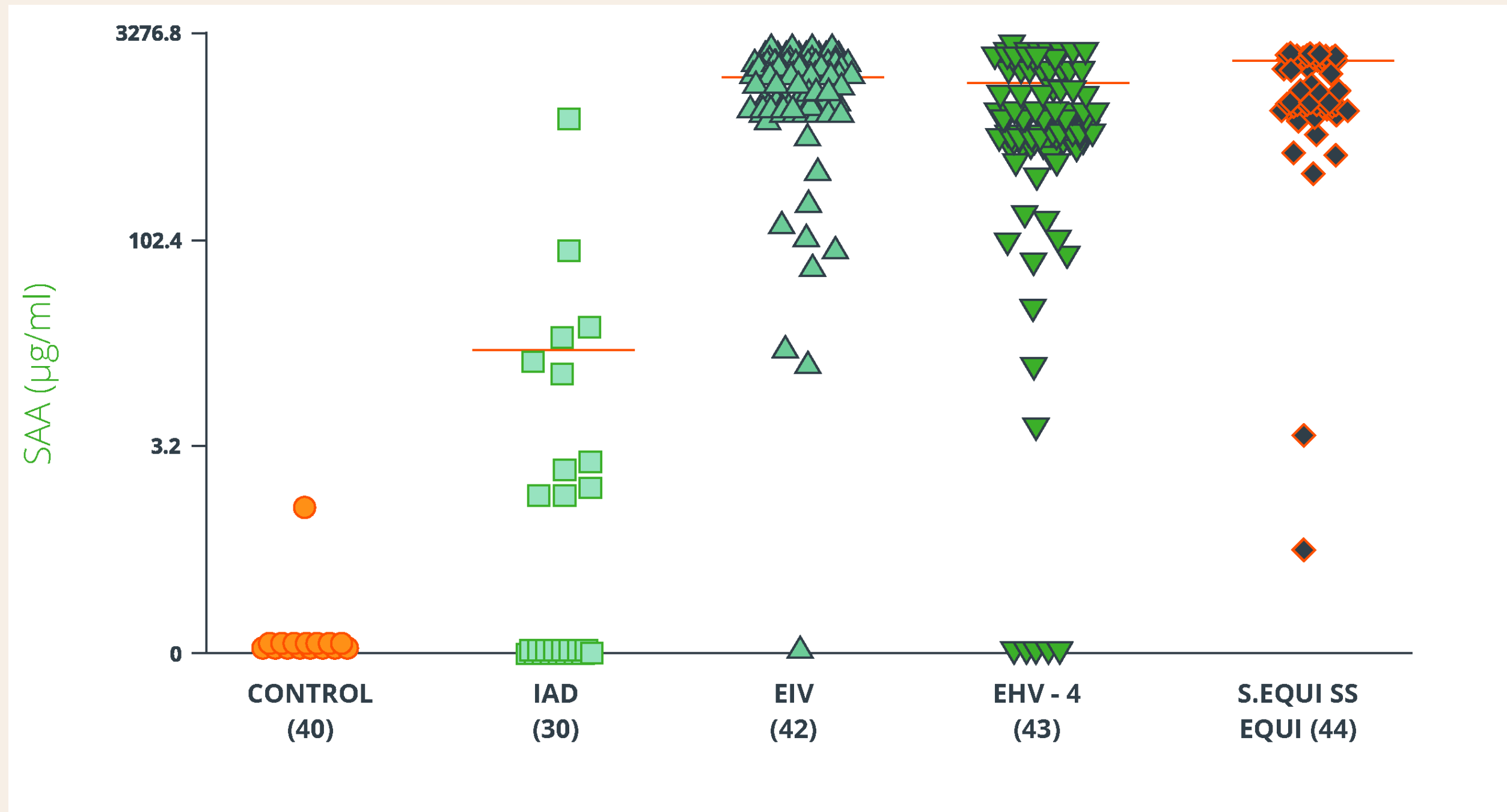


The background of the image is a solid orange color. Overlaid on this background is a repeating pattern of a geometric design. The design consists of a circle with four internal lines that intersect at the center, creating a four-pointed star or cross shape. These circles are arranged in a uniform grid across the entire image. In the center of the image, the words "Research Studies" are written in a white, sans-serif font.

# Research Studies



# Comparison of Serum Amyloid A in Horses With Infectious and Non-infectious Respiratory Diseases<sup>2</sup>



## TAKE HOME MESSAGE

- At 52 $\mu\text{g/ml}$ , SAA distinguished infectious from non-infectious respiratory diseases



# Assessment of Serum Amyloid A Testing of Horses and its Clinical Application in a Specialized Equine Practice<sup>3</sup>

- SAA may be more useful as a prognostic indicator of normal vs. abnormal than are traditional blood markers
- The short half-life of SAA and acute response make it the ideal parameter for serial monitoring over the course of treatment
- Measurement of SAA should be considered a primary diagnostic tool

	Accuracy
SAA	75%
WBC	59%
Fibrinogen	62%
A:G	60%

# Early Inflammation in Horses Following Long-Distance Transportation by Air<sup>6</sup>

	SAA >35 µg/ml	Rectal Temp >101.0°F
Sensitivity	97.1%	2.9%
Specificity	97.2%	100.0%

## TAKE HOME MESSAGES

- At 24h post-arrival: SAA was a more reliable indicator for inflammation caused by infection than monitoring rectal temperature
- SAA was >30 times more sensitive than the thermometer at detecting infection

# Serum and Synovial Fluid Serum Amyloid A Response in Equine Models of Synovitis and Septic Arthritis<sup>7</sup>

	Time	0hr	12hr	24hr	36hr	48hr
Septic Arthritis	Serum SAA (µg/ml)	0	0	115	663	410
	Synovial SAA (µg/ml)	0	0	0	135	75
Synovitis	Serum SAA (µg/ml)	0	0	0	0	0
	Synovial SAA (µg/ml)	0	0	0	0	0

## TAKE HOME MESSAGES

- Serum and synovial fluid SAA remained normal in synovitis and significantly increased in septic arthritis
- Serum SAA increased more rapidly than synovial fluid SAA
- Serum and synovial fluid SAA may be useful adjuncts in diagnosing septic arthritis in horses



# Summary





SAA >50µg/ml distinguishes infectious from non-infectious inflammation<sup>2</sup>



SAA is an ideal parameter for serial monitoring over the course of treatment<sup>3</sup>



SAA is >30 times more sensitive than a thermometer in detecting infection<sup>6</sup>



**Incorporate Stablelab  
into your clinical exam  
and daily routine**





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# References

1. Nolen-Walston, R. How to Interpret Serum Amyloid A Concentrations. AAEP Proceedings 2015 130-137.
2. Viner, Mazan, Bedenice et al. Comparison of Serum Amyloid A in Horses with Infectious and Noninfectious Respiratory Diseases. J of Eq Vet Sci 49 2017 11-13.
3. Belgrave, R. et al. Assessment of serum amyloid A testing of horses and its clinical application in a specialized equine practice. J Am Vet Med Assoc 2013;243:113–119.
4. Jacobsen, Stine. Review of Equine Acute- Phase Proteins. AAEP Proceedings 2007 Vol 53 230-235.
5. Reader Validation Report. Data on File, Zoetis Services LLC, 2019.
6. Oertly, M. et al. Early Inflammation in Horses Following Long-Distance Transportation by Air. AAEP Proceedings, Vol 62. Pages 460-61. 2017.
7. Ludwig, Wiese, Graham et al. Serum and Synovial Fluid Serum Amyloid A Response in Equine Models of Synovitis and Septic Arthritis. Vet Surg 2016 Oct;45(7):859-867.

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