

QUICKVET® EQUINE FIBRINOGEN TEST

THE FIRST IN-CLINIC AND BARN-SIDE FIBRINOGEN TEST AVAILABLE

- **Results when and where you need them** - In-clinic & barn-side use
- **Ease of use** - Five easy and fast steps to get a result
- **Fast and convenient** - Test time less than 15 min.
- **Accurate reliable results** - Test precision comparable to laboratory results
- **State-of-the-art** - Capillary driven micro fluidic technology



QuickVet® test cartridge

Each QuickVet® cartridge, representing state-of-the-art technology, has a label stating what kind of test the cartridge performs, a sample well for adding the diluted plasma, several micro channels and two optical detection windows.

DIAGNOSE INFLAMMATION IMMEDIATELY

The QuickVet® Equine Fibrinogen Test allows the veterinarian to determine the concentration of fibrinogen, an acute phase protein that is widely used as an inflammation marker in horses, directly in the clinic or at the barn.

Elevated levels of fibrinogen in horses indicate a degree of systemic inflammatory response. Increase in fibrinogen concentration is related to the magnitude of inflammation and often occurs before clinical evidence of disease. Low levels of fibrinogen may indicate a potential bleeding and/or liver problem. Quick and accurate diagnosis is essential for successful outcome of treatment.

HOW TO PERFORM A TEST

Five simple and fast steps are all you need to perform a QuickVet® Equine Fibrinogen Test in the clinic or barn-side: **Collect a blood sample › spin down to plasma › dilute plasma in pre-filled vial › add sample to cartridge › read result.**

Total test time is less than 15 minutes. The actual time depends on the sample and ambient temperature where testing. Test results obtained under normal operating conditions have an accuracy comparable with a veterinary diagnostic laboratory. Results are reported as g/L or mg/dl.

ADD SAMPLE . READ RESULT

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FIBRINOGEN

Fibrinogen plasma concentration normally increases within 24 to 48 hours in response to inflammation. Fibrinogen is therefore considered one of the acute-phase proteins. When measured in citrated plasma, a level above the normal range of 2.0 – 4.0 g/L indicates a systemic inflammatory response. Age and breed have to be taken into consideration when evaluating the fibrinogen level (Lacerda et al. 2006). New born foals normally have 40 % less plasma fibrinogen reaching normal level 4 – 7 days after birth (Barton et al., 1995) meaning, that normal fibrinogen range in newborn foals is lower compared to older foals and adult horses.

Detection of low levels of fibrinogen can indicate a systemic activation of the clotting system, with consumption of clotting factors faster than synthesis. Excessive clotting factor consumption is known as Disseminated Intravascular Coagulation (DIC). In the context of acute critical illness such as sepsis or trauma, DIC can be difficult to diagnose, but a strong clue is detection of low fibrinogen and concomitant observation of prolonged clotting time (PT and aPTT). Liver problems can also result in decreased levels of fibrinogen.

The usefulness of fibrinogen as a marker of inflammation, trauma and various types of infections have been reported in a number of scientific papers as shown in the table below:

General inflammatory response	Surgical trauma	Bacterial infection	Viral and parasite infection	Aseptic arthritis
Fibrinogen normally increases within 24 to 48 hours from a normal level of 2 to 4 g/L and may exceed 10 g/L on day 4 to 7 post-infection. It is not uncommon in the horse to have increased plasma fibrinogen levels as the sole indicator of inflammation.	Levels of serum amyloid A (SAA), fibrinogen and Iron reflected the intensity of the surgical trauma, whereas WBC count did not. Fibrinogen levels in horses are elevated post castration and following colic surgery.	Plasma fibrinogen concentration can be used to predict the time course of a bacterial infection. (<i>Escherichia coli endotoxin</i>). Fibrinogen is an effective screening tool to diagnose <i>Rhodococcus</i> Equi infection in foals. Fibrinogen concentration enables a more precise diagnosis of the severity of inflammation than that based simply on clinical conditions in respiratory diseases particularly bacterial pneumonia (<i>R.equi</i>).	Horses infected with equine influenza and herpes virus 2 showed elevated fibrinogen levels on day 3 post infection. Parasitized (<i>Strongylus Vulgaris</i>) ponies had significantly greater fibrinogen concentrations compared with the control ponies at day 9, 14, 21 and 45 post-infection.	Experimentally induced aseptically inflammation showed maximum concentration of fibrinogen 3 – 6 days post-injection.
<i>S. Jacobsen et al. 2009</i> <i>S. Jacobsen 2007</i> <i>Pusterla et al. 2006</i> <i>Allen and Kold 1988</i>	<i>S. Jacobsen et al. 2009</i> <i>Allen and Kold 1988</i> <i>Feige K et al., 2003</i>	<i>Burrows 1981</i> <i>Heidmann et al. 2006</i> <i>Takizawa and Hobo 2006</i>	<i>Heidmann et al. 2006</i> <i>Sutton et al. 1997 / 98</i> <i>Hubert et al. 2004</i>	<i>Hubert et al. 2004</i> <i>Hultén et al. 2002</i>

THE QUICKVET® EQUINE FIBRINOGEN TEST

Each QuickVet® Test cartridge is labeled with the test type and individually packaged in a sealed pouch with a desiccant. A disposable pipette and a prefilled vial with diluents are supplied with each cartridge.

- For use with the QuickVet® Analyzer
- Practical one time use only cartridge
- No cleaning or regular maintenance required
- Results in less than 15 min. in-clinic or at barn-side
- Analyzer is portable and runs on 12 V car outlet



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