

PCR Sample Collection Advice **Equine**



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Equine Faecal Multiplex PCR Panels

PCR testing of faecal samples allows evaluation for a range of infectious organisms in a single test – bacterial, protozoal and viral. For most infectious organisms included in the panel, PCR is the most rapid, sensitive and specific assay method.

The **adult equine faecal PCR panel (code AHP)** is performed on horses over 6 months of age and includes *Lawsonia intracellularis*.

The **foal equine faecal PCR panel (code FHP)** is performed on horses less than 6 months of age and includes Rotavirus and *Clostridium perfringens* Net F, very recently associated with severe enteritis in young foals in Kentucky.

Both panels include Equine Coronavirus, documented as causing outbreaks of pyrexia, enteric disease sometimes with neurological disease in America and Japan. The status of equine coronavirus infection in Australia is not known.

The PCR panel does not test for faecal parasites so a McMaster Egg count should be done separately.

The sample required for PCR testing is a fresh rectal faecal sample (5 grams) collected as early as possible in the disease course. Rectal swabs (PLASTIC white capped swab stores code 601260) can be collected from foals if a quantity of faeces cannot be achieved. Intestinal content samples from areas of affected intestines collected at surgery or post mortem examination can also be used and are likely more reliable in confirming infections particularly in adults. Pool multiple sites. Place the sample in a sterile container and refrigerate as soon as possible.

If other faecal tests are additionally required (including faecal egg count or culture), a separate faecal sample in a sterile container will need to be submitted.

Equine Strangles PCR panel – code EQU

PCR testing for Strangles is available as a standalone test.

This panel includes:

<i>Streptococcus equi</i> subsp <i>equi</i>	the cause of strangles
<i>Streptococcus equi</i> subsp <i>zooepidemicus</i>	a common nasal inhabitant.

The test can be performed on swabs or lavages.

Acute disease - The recommended best samples to confirm infection in acute disease before abscessation are nasal or nasopharyngeal swabs combined with a nasopharyngeal lavage/wash. These should be collected 24 to 48 hrs after onset of fever and detect about 94% of infected horses. Pus collected on a swab from an unopened abscess is also suitable.

Carrier horses - A series of 3 weekly nasopharyngeal swabs/washes or a single guttural pouch lavage with a single nasopharyngeal swab/wash detects about 90% of carrier horses.

Culture performed in combination with PCR may slightly increase detection rates.

Use sterile swabs with plastic shafts and use the same swab to collect material from both nasal cavities. Suitable white capped sterile swabs are available from stores code 601260. Collect blue capped bacterial culture swab if culture is required. Washes/lavages should be collected into a sterile container (10ml sterile yellow screw top centrifuge tube code 646808). All samples should be refrigerated and kept cool before submission to the laboratory.

To perform nasal washes, instil 50mls of warm sterile saline via a 50cm length of sterile soft tubing (5–6cm diameter) inserted via the ventral nasal meatus into the nasal cavity and collect washings into a sterile container as above. Samples from both nasal cavities should be pooled. A 10ml volume is preferred.

Cost (2016):

Strangles PCR:	\$80 ex GST (includes fluid and white swab)
Strangles PCR with culture:	\$90 ex GST submitted together (additional Blue swab)

Equine Respiratory PCR Panel – code RPE

Sampling should be performed as early in the disease course as possible. Increased chronicity, previous treatment and prior vaccination can reduce the detection of organisms. Latent infection of Herpes virus cannot be detected by PCR as the virus is sequestered in nerve ganglions and is not present on the epithelium.

The best samples for Equine Respiratory PCR contain large numbers of epithelial cells with minimal other material. Nasal or nasopharyngeal swabs, guttural pouch lavage or tracheal aspirations can all be used.

Use sterile swabs without wooden shafts to collect samples. White capped swabs with plastic shafts are available from stores code 601260. Use the same swab to firmly run along the nasal planum or the nasopharynx of both nasal cavities with a minimum 20secs contact time on both sides. Place wash or lavage fluids in a sterile container (10ml sterile graduated yellow screw top centrifuge tube stores code 646808). Label the container or swab and keep the samples refrigerated prior to sending to the laboratory for testing.

If swab culture is also required, please submit a separate swab in bacterial transport media (blue capped from stores). If cytology is also required for tracheal washes, please submit a separate EDTA fluid and slides.

Faecal Salmonella PCR – code SAL

Faecal salmonella PCR is also offered as a standalone test.

The sample required for PCR testing is a fresh rectal faecal sample (5 grams) collected as early as possible in the disease course. Rectal swabs (PLASTIC shaft only) can be collected from foals if a quantity of faeces cannot be achieved. Intestinal content samples from areas of affected intestines collected at surgery or post mortem examination can also be used and are likely more reliable in confirming infections particularly in adults. Pool multiple sites. Place the sample in a sterile container and refrigerate as soon as possible. White capped swabs are available from stores code 601260.

To detect shedder horses, collect 2 to 4 fresh faecal samples (5 grams) 12 to 24 hrs apart. Keep samples refrigerated until all samples are collected and submit on the one request form. Volume discounts are available for multiple tests on the same animal submitted at the same time. Speak with a veterinary pathologist at Vetnostics.

Equine Prebreeding Panel PCR - code EST

This test allows for rapid detection of or clearance from infection with ***Klebsiella pneumoniae* capsule serotypes 1, 2 and 5** ***Pseudomonas aeruginosa***.

It is often a requirement in the Thoroughbred breeding industry that mares be free of these reproductive infections before breeding. Stallions may be monitored for freedom of infection. Many *Klebsiella pneumoniae* infections can be found on the external reproductive organs of horses but only certain capsule types of *Klebsiella pneumoniae* are thought to cause venereally transmitted reproductive disease. The PCR allows identification of these capsule serotypes if present. The test can also be run on culture isolates of *Klebsiella pneumoniae*.

SAMPLES ARE

Mare	Swabs from the uterus and clitoral sinus/fossa
Stallion	Swabs from the urethra, urethral fossa and penile shaft
Bacterial isolates	<i>Klebsiella</i> isolate on blood agar culture plates.

The test can be performed on white capped swabs or blue capped bacterial transwabs available from stores.

Uterine and clitoral cultures combined with PCR cost packages are available when requested together. Check the pricelist or speak with a Veterinary Pathologist at Vetnostics.