



media *release*

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NEW RESEARCH CONFIRMS STRANGLES BLOOD TEST ACCURACY

New research conducted by the Animal Health Trust (AHT) has confirmed that its Strangles blood test is significantly more accurate for measuring a horse's immune response to the causative bacteria, *Streptococcus equi*, when compared to another test available on the market.

The research, detailed in a recently published paper titled: 'Combining two serological assays optimises sensitivity and specificity for the identification of *Streptococcus equi. subsp equi* exposure' compared the effectiveness of the SeM-based blood test marketed by IDvet, with the blood test developed by the AHT.

Both blood tests aim to detect anti-*Streptococcus equi* antibodies in order to assist with the identification of apparently healthy, yet persistently infected carriers of Strangles. Further tests are required to confirm that the horse is infectious; however the immune response test is an important first stage in the detection and treatment of Strangles. If infected horses are identified quickly and efficiently, then the spread of outbreaks can be limited, and in some cases, prevented.

Dr Andrew Waller, Head of Bacteriology at the AHT, said: "The AHT's blood test for Strangles enables vets to be more confident in identifying horses that may be infected with *Streptococcus equi*.

"Seropositive horses that are subsequently confirmed as infected with *Streptococcus equi* can be treated, the infection eradicated and future outbreaks prevented. Although these are new results, we have been using this blood test in the UK since 2008 and know that it works – it really does lower the risk of Strangles reoccurring."

The research, conducted by Robinson, C., et al. used 89 positive samples from UK outbreaks where the horses had been confirmed as infected with *Streptococcus equi*, and compared them with 129 negative samples from Icelandic resident horses. As there have been no horse imports in Iceland for 1,000 years the horse population in Iceland is free from Strangles, providing an ideal sample set.

Results showed that the AHT test was 93.3% sensitive and 99.3% specific, whilst the IDvet test was 89.9% sensitive and 77.0% specific. Therefore, although the IDvet test identified correctly nine out of ten genuine positive horses from the UK sample, almost one in four Icelandic horses would have tested positive using this test. Such a high false positive rate means vets would perform needless follow up tests on 23% of negative horses, leading to unnecessary disruption and higher vets bills for horse owners.

Strangles remains the most frequently diagnosed, infectious disease in horses worldwide, with over 600 outbreaks identified each year in the UK alone. The AHT has been researching ways to combat Strangles since 1990.

In 2008, the AHT launched the first blood test to detect anti-*Streptococcus equi* antibodies in blood serum within 48 hours. The launch of this test was made possible due to substantial research undertaken by the AHT and Wellcome Trust Sanger Institute, to successfully sequence the *Streptococcus equi* genome. This led to the development of a robust assay with both high sensitivity and specificity, which accurately measures horses' immune response to the disease.

The AHT is currently developing an effective vaccine against the disease, which when used alongside the blood test can differentiate infected from vaccinated animals (so-called DIVA). The AHT is also working to make its blood test available in laboratories outside of the UK, in order to help vets and horse owners around the world to combat Strangles more efficiently.

The AHT is grateful to a number of charitable trusts and funding bodies who have made this progress possible. The Horse Trust has provided vital support for several aspects of the AHT's Strangles research, through funding for the genome sequence of *Streptococcus equi* and significant follow up funding to enable development of the blood test, based on the genome sequencing results.

Jeanette Allen, Chief Executive of the Horse Trust, said: "The Horse Trust has been proud to support the highly important Strangles research work carried out by the team at the Animal Health Trust. Strangles is a major welfare concern in the UK and we are delighted that the genome sequence project has paved the way for the development of this highly effective blood test.

"We believe the blood test will significantly improve the ability of vets to control Strangles and will have real impact on equine welfare. We encourage all practitioners to familiarise themselves with this test and to incorporate it into their disease management plans."

The full research paper 'Combining two serological assays optimises sensitivity and specificity for the identification of *Streptococcus equi subsp. equi* exposure' by Robinson,C., et al is published in The Veterinary Journal and is available at: www.sciencedirect.com/science/article/pii/S1090023313000567.

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For further information, please contact:

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Please credit all images to the Animal Health Trust.

Additional notes:

- The Animal Health Trust is an independent charity, employing over 200 scientists, vets and support workers. It aims to improve the health and welfare of horses, dogs and cats through research. It also provides specialist referral services and continuous education to vets
- In 2007, the AHT and The British Horse Society ran a joint campaign 'Breaking the Strangles Hold' which raised a quarter of a million pounds within two years, towards the launch of the blood test and a safe and effective vaccine.