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The Titer: Measuring is knowing that your dog or cat is protected

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Dogs and cats, like humans, are susceptible to certain diseases transmitted by viruses and bacteria. To protect against these invaders, the body has a number of defense mechanisms. The first barriers are the skin and mucous membranes that are found in the airways and intestines. Saliva and stomach acids also ensure that certain pathogens are cleaned up. In addition, there are the white blood cells that move through the body and attack intruders that have penetrated the first barriers.

Finally, the body has an immune system that focuses on specific pathogens. The parvovirus is an example of this. The body's immune system is subdivided into cellular and humoral defenses. In the case of cellular defenses, viruses and certain bacteria that have already penetrated into the dog's cells are rendered harmless. The humoral defense takes place in the blood and body fluids. An important part of titer testing is the presence of different types of antibodies. The most important for titer determination being the IgG antibodies.

In dogs, we can measure these IgG antibodies in the blood for the following diseases: Infectious Canine Hepatitis, Parvo and Distemper. For cats, we measure antibodies for Feline Panleukopenia, Herpes and Calici.

What does such titer determination exactly mean?

The titer of antibodies in blood is the dilution of the blood, whereby these antibodies are still detectable. The blood is diluted and if antibodies are still detected at the highest dilution, this is a high titer. If antibodies are detected at low dilution, this is a low titer.

What is important to know is that the height of the titers is not important, but only the presence of the antibodies. There is no point in vaccinating a dog that still has antibodies that have developed after a previous vaccination. The titers will not be increased. In such a case, we are talking about unnecessary and / or superfluous vaccination.

There are a number of options for determining titers. This can be done in a laboratory by using virus neutralization or a hemagglutination inhibition test. Also available is test that vets can perform themselves. This is VacciCheck and is accepted by WSAVA as reliable, with a good predictive value.

VacciCheck

VacciCheck is an in-clinic ELISA-titer test that measures the antibodies in the above-mentioned diseases.

ELISA is the abbreviation for Enzyme-linked ImmunoSorbent Assay. It is a test (assay) in which an antibody reacts (immuno) to an antigen (for example parvovirus) that is bound to a plastic surface

(sorbent). To make this reaction measurable, an enzyme (enzyme-linked) is used to generate a color reaction.

The great advantage of this test is that only one drop of blood is needed, and that the result is known after 23 minutes. It is not harmful to the animal and less painful than a vaccination. The result is shown on a white plastic strip with a maximum of 4 gray dots, the upper of which is the positive reference dot. It always gives the same value regardless of the color (3). Then follow the dots for the diseases on which are tested. If the dots are the same color or darker than this reference dot, this means that the titers are positive. A shade lighter than the reference dot is weak positive, the rest is negative. The values range from 0 to 6. Zero and one is negative, two is weak positive, three and four is positive, five and six is high positive.

A different titer can therefore be measured for each disease and, depending on the titer height it would be necessary or not, to vaccinate.

As we obviously want to ensure that our animals do not get sick and can not infect other animals, we will vaccinate at a score of 0 and 1.

Dog:

If the titers for Hepatitis are negative, then we have no choice other than giving the dog the complete cocktail (DHP). The vaccine against hepatitis is not available separately.

If the titers for Parvo are too low, then we vaccinate the dog with a separate Parvo (P) vaccine.

If the titers for Distemper are too low, then we vaccinate the dog with a cocktail of Distemper and Parvo (DP). In some countries, the Distemper vaccine is not available separately (e.g. Belgium and The Netherlands).

Cat:

If the titers for Panleukopenia are negative, our only choice is to give the cat the full cocktail (Panleukopenia, Calici and Herpes). The vaccine against Panleukopenia is not separately available.

If the titers for Calici and Herpes are too low, then we vaccinate the cat with a cocktail of Calici and Herpes.

It would be wonderful if the vaccine producers were to market individual vaccines. The demand for Testing antibody titers (or titer determinations) is increasing at an amazing rate. The vaccine producers could respond perfectly to this, ensuring that dogs and cats are not superfluously vaccinated.

Titer determination makes sense in many aspects, the most important of all, listed below.

When breeding dogs and cats, it would be wise to have titer determination well before the pregnancy to see if the bitch or female cat has antibodies. If positive, then chances are that the pups and kittens will receive these antibodies via the colostrum and are maternally protected. If the bitch or cat has no antibodies, she can still be vaccinated before the pregnancy

- Titer determination is highly recommended for pups and kittens, so determining the right time for effective vaccination.
- Already vaccinated dogs and cats can also benefit. From 3 to 4 weeks after each vaccination, a titer determination can be made to see if the vaccination has actually been effective. Even if the package leaflet of a vaccine indicates that it has been registered for 3 years, one still does not

know, without titer determination, if the vaccination has ensured that your dog or cat is protected. In addition, there are also animals who do not respond to a vaccination in any case. This is known as “non-responders”.

- In the vaccination schedule for all dogs and cats to see if a (re) vaccination is needed.
- Dogs and cats with an unknown vaccination status such as animals from abroad, animals that are found, and go to a shelter etc., would certainly benefit from VacciCheck testing. Titer testing of pups and kittens would be good for the general pet population. For example, there are often doubts if puppies and kittens coming from Eastern European puppy or kitten farms have been correctly vaccinated. In this case titer testing gives us a clear answer. It is the same case with pups and kittens with false vaccine labels which are brought into Belgium and the Netherlands. Distemper and Parvo are prevalent in Eastern Europe and pose a serious threat to our pet population.
- VacciCheck, as a titer test, will determine whether dogs and cats have been in contact with a particular disease and have perhaps contracted it.
- For dogs and cats who have had adverse effects at a previous vaccination, for example, an allergic reaction.
- Sick animals, and / or animals on medication, that suppresses the immune system, would do well with titer testing. Most medication package leaflets suggest that sick animals may not be vaccinated.
- Titer testing on older pets is valuable.

It is important that the veterinarian officially states the titration in the European passport of the dog or cat. The values per disease must be stated, as well as the date of titering and the date when a titer determination must be made again. In many cases, the strip is stuck in the passport as proof.

In short, the titer determination is the ultimate means of testing as to whether your pet is protected against infectious and fatal diseases, determining the right time for vaccinating and / or avoiding unnecessary vaccinations.

There are numerous occasions where our pet animals come together - at shows, competitions, animal events, dog schools or dog parks, and we would not want our pet to develop any illness, so unnecessary, so easy to prevent.

The vaccine label in a cat and dog passport, says nothing about the degree of protection.

Measuring is knowing! We do want to know that our pets are protected.



Hans van Brussel

As an animal lover with a previous career in the petfood industry, Hans has, since 2015, been an active, dedicated and passionate product specialist for NML Health. NML Health is a Dutch company that focuses on natural animal healthcare. For the last 2 years he has been intensively focused on VacciCheck, which has resulted in titer testing being accepted everywhere in the Netherlands and Belgium. This also includes dogs and cats at boarding kennels and also includes dogs that will attend dog training schools, or participate in dog shows and/or competitions. Hans educates, trains and supports veterinarians and veterinary assistants. He teaches them all the ins and out of VacciCheck in order for them to perform and interpret the test correctly. In addition, he gives a lot of lectures on this subject and also writes articles for magazines.

<http://www.biogal.co.il/blog/the-titer-measuring-is-knowing-that-your-dog-or-cat-is-protected>