Biogal – Galed Labs. Acs. Ltd.
Kibbutz Galed, 1924000, Israel
Tel: 972-4-9898605 · Fax: 972-4-9898690
E-mail: info@biogal.co.il · Site: www.biogal.co.il

Product Information

Name of Kit: **Canine VacciCheck Antibody Test Kit**

Catalog No: 50CVV101/50CVV110

No of Tests: Standard Size: 12 samples X 3 antigens = 36 Tests
Lab Size: 120 samples X 3 antigens = 360 Tests

Intended Use: The Canine VacciCheck Antibody Test Kit is designed to determine dog serum antibody titer to Infectious Canine Hepatitis (ICH), Canine Parvovirus (CPV) and Canine Distemper Virus (CDV). The main purpose of this kit is to provide a useful tool for assessing immunity status of dogs concerning these three pathogens. As such, it can either determine the IgG titer before and following vaccination or the duration of Immunity.

Diagnostic Method: The ImmunoComb test is based on solid phase "dot"-ELISA technology. Antigens are applied to test 'spots' on the solid phase, which is a comb-shaped plastic card. (The Comb has 12 teeth-sufficient for 12 test samples.)

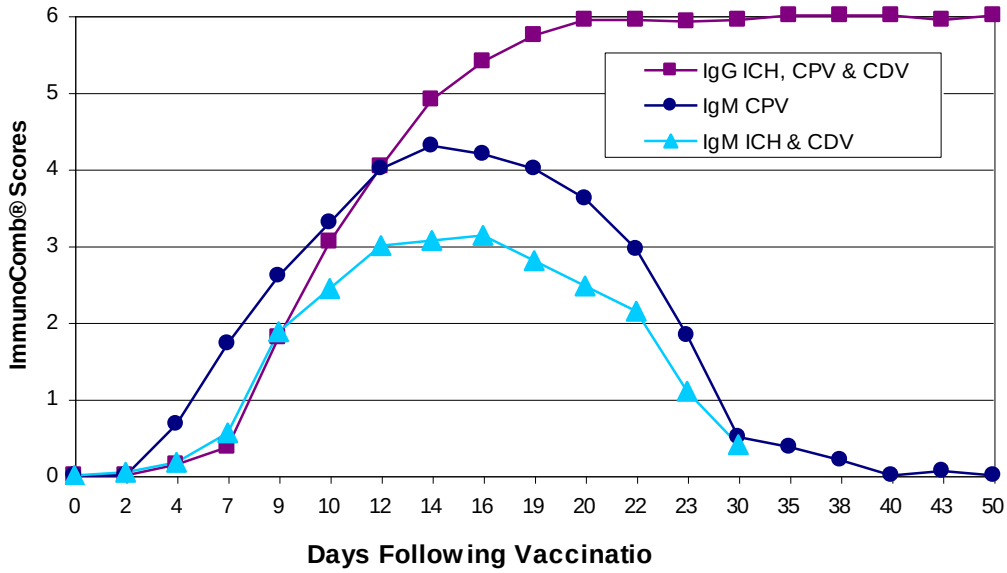
The samples to be tested are mixed with diluent in the first row of wells of a multi-chamber developing plate. The test spots on the Comb are then incubated with the sample in the developing plate. Specific IgG antibodies from the samples, if present, bind to the antigens at the test spots.

The Comb is then transferred to a well, where unbound antibodies are washed from the antigens spots. In the next step, the Comb is allowed to react with an anti-dog IgG Alkaline Phosphates conjugate, which will bind to antigen-antibody complexes at the test spots. After 2 more washes, the Comb is moved to the last well, where a color result develops via an enzymatic reaction. The intensity of the color result of test spots corresponds directly to the antibody level in the test sample.

Immunology: Serology can provide the veterinarian with information about the dog's immune status regarding previous vaccination or infection by particular disease agents. The humoral immune response is largely composed of 2 classes of antibodies, IgM and IgG. In immuno-competent dogs, IgM antibodies are initially produced in response to infection or following vaccination. IgM levels begin to decline within approximately 2 weeks and IgG

antibody levels start to rise. IgG remain elevated for months to years. Thus, high IgG titers may indicate previous vaccination or previous infection (See Fig. 1).

Fig. 1. Levels of IgG and IgM in Days Following Vaccinati



Main Application: Provides information about humoral immune response to previous vaccination (or infection) with Infectious Hepatitis, Parvovirus and Distemper virus.

Performance Data[1]:

Infectious Hepatitis (IgG):	**Specificity:**	93%	**Sensitivity:**	94%
Parvovirus (IgG):	**Specificity:**	100%	**Sensitivity:**	88%
Distemper (IgG):	**Specificity:**	92%	**Sensitivity:**	100%

Other Diagnostic Methods:

a) Hematology/ Blood chemistry – Routine hematologic tests (such as CBC) are helpful when abnormal results are present (e.g., lymphopenia), however, these tests are not specific for individual disease.
b) Antigen Detection – Immunoflourecence, Fecal antigen, PCR.
c) Other serologic methods – IFA, HI, VN.

Interpretation: The level of antibodies (i.e., antibody titer) is determined according to the intensity of the test color result. Thus, no or a trace of grey color indicates an absence of antibodies (negative). Once the test is completed a reference spot is present on each comb tooth (top spot), that is calibrated to develop a distinct grey color. A color tone that is equal or darker than the reference spot is considered a positive response. A color tone that matches with S2 is considered weak positive and a faint color tone of S1 or less is considered negative result. Please refer to Table 1.

Table 1. Interpretation of Results

ImmunoComb Score	Color Result	Interpretation
0-1	White or trace of grey	**Negative.** No detectable antibodies to ICH, CPV or CDV.
2	Faint grey	**Weak Positive.**
3 – 4	Distinct grey	**Significant Positive.**
5 – 6	Dark grey	**High Positive.**

The 2016 WSAVA Vaccination Guidelines state that the presence of any detectable IgG antibodies, following vaccination, offers protection from ICH, CPV or CDV. Read the following:
"When antibody is absent, (irrespective of the serological test used) the dog should be revaccinated unless there is a medical reason for not so doing, even though some will be protected by immunological memory."

"The presence of antibody (no matter what the titre) indicates protective immunity and immunological memory is present in that animal. Giving more frequent vaccines to animals in an attempt to increase antibody titre is a pointless exercise. It is impossible to create 'greater immunity' by attempting to increase an antibody titre."

References:

[1]Internal Performance Report: A field and experimental trial to assess the performance of the ImmunoComb Canine VacciCheck Antibody Test Kit.

AAHA. Vaccine Task Force. (2006) JAAHA, 42, 80-89.

Day et al. (2010) Guidelines for vaccination of dogs and cats. JSAP 51:1-32.

Abdelmagid OY et al. (2004). Evaluation of the efficacy and duration of immunity of a canine combination vaccine against virulent Parvovirus, Infectious Canine Hepatitis Virus and Distemper Virus experimental challenges. *Vet Ther* **5 (3)**:173-86.

Gill M et al. (2004). Three-year duration of immunity for Canine Distemper, Adenovirus, and Parvovirus after vaccination with a multivalent canine vaccine. *Intern J Appl Res Vet Med* **2(4)**: 227-234.

Noam J (1995). The practical use of a blot-ELISA test for the detection of canine Parvo- and Distemper virus antibodies in the clinic setting for evaluation of immunization status. *Student Dissertation, Kosice University, School of Veterinary Medicine, Slovakia.*

Pollock RVH & Carmichael LE (1982). Maternally derived immunity to canine Parvovirus infection: Transfer, decline, and interference with vaccination. *JAVMA* **180 (1)**: 37-42.

Thompson H (1995). A comparison of Distemper (neutralization vs. ImmunoComb®) and Parvovirus (HAI vs. IC). *University of Glasgow, UK Unpublished Correspondence.*

Tizard I & Ni Y (1998). Special reports: Use of serologic testing to assess immune status of companion animals. *JAVMA* **213 (1)**: 54-60.

Twark L & Dodds WJ (2000). Clinical use of serum Parvovirus and Distemper virus antibody titers for determining revaccination strategies in healthy dogs. *JAVMA* **217**: 1021-1024.

Waner T (2002). Response of puppies to vaccination with canine Distemper and canine Parvovirus. *27th WSAVA Congress, **October**, Granada, Spain.*

Waner T et al. (2003). Evaluation of a dot ELISA kit for measuring immunoglobin M (IgM) antibodies to canine Parvovirus and canine Distemper virus. *Vet Record* **152(19)**: 588-591.

Waner T et al. (2003). Post-vaccination evaluation of the immunization status of puppies for canine Parvo- and Distemper viruses using an in-clinic ELISA test. *Israel Journal of Veterinary Medicine* **58(4)**: 104-107.

Waner T et al. (2006*).* Application of a dot enzyme-linked immunosorbent assay for evaluation of the immune status to canine parvovirus and distemper virus in adult dogs before revaccination. *J Vet Diagn Invest* **18(3)**: 267-70.

WSAVA Vaccination Guidelines Group (January 2016), Journal of Small Animal Practice • Vol 57.