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Product Information (30.10.07)

Name of Kit: **ImmunoComb[®] Canine Parvo & Distemper IgG Antibody Test Kit**

Catalog No: 50CPD201/50CPD210

No of Tests: Standard Size: 12 samples X 2 antigens = 24 Tests
Lab Size: 120 samples X 2 antigens = 240 Tests

Intended Use: The ImmunoComb[®] Parvo and Distemper Test Kit is intended to evaluate the IgG antibody response to vaccination or infection by Canine Parvovirus (CPV) and Distemper Virus (CDV). A high antibody level is associated with immunity to infection (in well dogs) and is helpful for diagnosis of clinical cases.

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.)

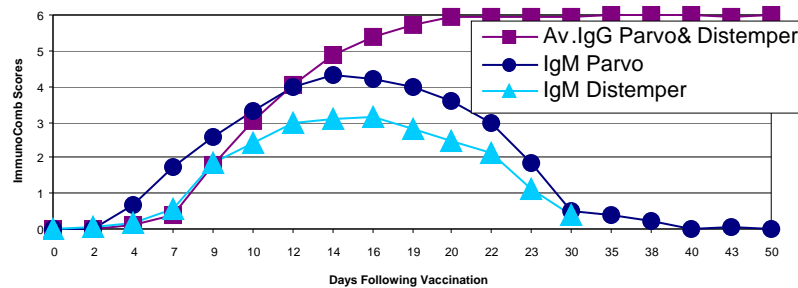
The samples to be tested are mixed with diluent in the first row of wells of a multi-chamber developing plate. The test spots on the Comb are then incubated with the sample in the developing plate. Specific IgG antibodies from the samples, if present, bind to the antigens at the test spots.

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 immunocompetent 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 recent vaccination or previous infection (Fig. 1).

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



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 antibodies (negative). A faint color result that is lighter than the positive reference spot is considered low positive. For the ImmunoComb[®] Parvo & Distemper Test Kit a reference spot is provided on each Comb tooth (top spot), which has been calibrated to develop a distinct grey color. This is the same color that is generated by a significant¹ positive result. Please refer to Table 1.

Table 1. Interpretation of Results

ImmunoComb [®] Score	Color Result	Interpretation
0	White or trace of gray	Negative. No detectable antibodies to CPV or CDV.
1 – 2	Faint gray	Low Positive. Not considered to be a protective level of antibodies to CPV or CDV.
3 – 4	Distinct gray	Significant Positive. Consistent with protective level of antibodies to CPV or CDV.
5 – 6	Dark gray	High Positive. High level of humoral immunity to CPV or CDV.

¹ 'Cut-off' positive values (S3): CPV 1:80 HI, CDV 1:80 VN.

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

Parvovirus (IgG):	Specificity: 100%	Sensitivity: 97%
Distemper (IgG):	Specificity: 100%	Sensitivity: 95%

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 – Immunofluorescence, Fecal antigen, PCR.
- c) Other serologic methods – IFA, HI, VN.

References:

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, R. V. H., & Carmichael, L. E. (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, W. J. (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., Mazar, S., Nachmias, E., Keren-Kornblatt, E. & Harrus, S. (2003). Evaluation of a dot ELISA kit for measuring immunoglobulin M (IgM) antibodies to canine Parvovirus and canine Distemper virus. *Vet Record*, **152(19)**, 588-591.

Waner, T., Noam, J. and Mazar, S. (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.