

# Bioveta NEWS

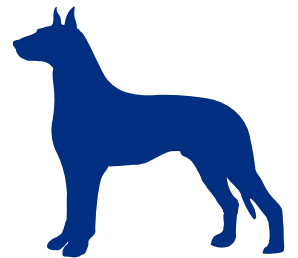
Bioveta newsletter for veterinarians

1/2015

## Biocan<sup>®</sup> NOVEL DHPPI/L4R

NEW VACCINE SERIES FOR DOGS

VACCINES OF THE FUTURE



**bioveta**





*Dear colleague,*

*It is my honour to present you a new series of vaccines for dogs that has been successfully registered already in thirteen European Union countries.*

*The vaccines have been prepared fully in line with the latest vaccinology trends and are produced using state-of-the-art technologies.*

*I am confident that the Biocan NOVEL series will fit your needs not only with its antigenic spectrum, allowing vaccination programme variability, but also with its new safety feature, plastic flip-off caps.*

*The launch of the new vaccine series will be supported by attractive promotions and training seminars.*

*We will keep you informed about all events supporting the launch of this product.*

**Ing. Libor Bittner, CSc.**

Bioveta Director  
and Chairman



**WE respect ANIMALS**

VETERINARY MEDICAMENTS PRODUCER

# Biocan<sup>®</sup>

## NOVEL



### CURRENT CPV - 2b STRAIN

- The vaccines contain current, highly immunogenic CPV - 2b.
- Vaccines containing this strain protect against CPV - 2a, CPV - 2b and CPV - 2c strains.



### FOUR LEPTOSPIRA SEROGROUPS

- The vaccines contain four highly pathogenic and most common serogroups of Leptospira: L. canicola, L. icterohaemorrhagiae, L. grippityphosa and L. bratislava.
- Protection against leptospirosis occurs as early as four weeks following basic vaccination.



### HIGHLY IMMUNOGENIC CANINE DISTEMPER STRAIN

- The CDV strain is a highly immunogenic Onderstepoort-related strain, which is globally the most widely used canine distemper strain providing excellent antibody response.



### EFFECTIVE RABIES VIRUS

- Protection against rabies occurs two weeks after single application made at an age over twelve weeks.
- The combined rabies vaccine can be used in puppies from the age of 6 weeks. Revaccination is necessary in this case.



### ONSET OF IMMUNITY

- The onset of immunity to CDV, CPV, CAV-1 and CAV-2 in seronegative individuals has been confirmed as early as three weeks following single application.



### THREE-YEAR IMMUNITY\*

- Three-year duration of immunity to CPV, CDV, CAV and rabies has been verified by challenge tests.

\*The information about three-year immunity will be included in the package leaflet in 2015.



### NO SIDE REACTIONS

- Leptospira are repeatedly filtered and purified to reach low concentrations of the resulting proteins used for Leptospira cultivation. These measures ensure that side reactions are minimal.



### BEST PRICE

among premium dog vaccines.

**VACCINE HAS BEEN SUCCESSFULLY TESTED AT VETERINARY SITES IN FRANCE,  
GERMANY AND UNITED KINGDOM**

# Biocan<sup>®</sup> **NOVEL** DHPPi/L4R

Combined vaccine against CPV, CDV, CAV - 1, CAV - 2, CPIV and four Leptospira serovars and rabies.

- To prevent mortality and clinical signs induced by canine distemper virus
- To prevent mortality and clinical signs induced by canine adenovirus type 1
- To prevent clinical signs induced by canine adenovirus type 2 and reduce virus excretion
- To prevent clinical signs and leukopenia induced by canine parvovirus and prevent canine parvovirus excretion
- To prevent clinical signs induced by canine parainfluenza (nasal and eye discharge) and reduce canine parainfluenza virus excretion
- To prevent clinical signs, infection and Leptospira interrogans serogroup Australis serovar Bratislava excretion in urine
- To prevent clinical signs, excretion in urine, and reduce infection caused by Leptospira interrogans serogroup Icterohaemorrhagiae serovar Icterohaemorrhagiae and Leptospira interrogans serogroup Canicola serovar Canicola
- To prevent clinical signs, reduce infection and excretion of Leptospira kirschneri serogroup Grippotyphosa serovar Grippotyphosa
- To prevent mortality, clinical signs and infection induced by rabies virus



VACCINE FOR PUPPIES FROM EIGHT WEEKS THAT CAN BE APPLIED AS EARLY AS SIX WEEKS OF AGE



# Biocan<sup>®</sup> **NOVEL** DHPPi/L4

Combined vaccine against CPV, CDV, CAV - 1, CAV - 2, CPiV and four *Leptospira* serovars

- To prevent mortality and clinical signs induced by canine distemper virus
- To prevent mortality and clinical signs induced by canine adenovirus type 1
- To prevent clinical signs induced by canine adenovirus type 2 and reduce virus excretion
- To prevent clinical signs and leukopenia induced by canine parvovirus and prevent canine parvovirus excretion
- To prevent clinical signs induced by canine parainfluenza virus (nasal and eye discharge) and reduce canine parainfluenza virus excretion
- **To prevent clinical signs, infection and *Leptospira interrogans* serogroup Australis serovar Bratislava excretion in urine**
- **To prevent clinical signs, excretion in urine, and reduce infection caused by *Leptospira interrogans* serogroup Icterohaemorrhagiae serovar Icterohaemorrhagiae and *Leptospira interrogans* serogroup Canicola serovar Canicola**
- **To prevent clinical signs, reduce infection and excretion of *Leptospira kirschneri* serogroup Grippotyphosa serovar Grippotyphosa**



VACCINE IS USED FOR ACTIVE IMMUNIZATION OF PUPPIES FROM SIX WEEKS OF AGE



# Biocan<sup>®</sup> **NOVEL** DHPPI

- **Combined vaccine against CPV, CDV, CAV - 1, CAV - 2 and CPiV**

- To prevent mortality and clinical signs induced by canine distemper virus
- To prevent mortality and clinical signs induced by canine adenovirus type 1
- To prevent clinical signs induced by canine adenovirus type 2 and reduce virus excretion
- To prevent clinical signs and leukopenia induced by canine parvovirus and prevent canine parvovirus excretion
- To prevent clinical signs induced by canine parainfluenza virus (nasal and eye discharge) and reduce canine parainfluenza virus excretion



VACCINE FOR EFFECTIVE AND SAFE PRIMARY VACCINATION OF PUPPIES AT SIX WEEKS OF AGE



# Biocan<sup>®</sup> **NOVEL** Pi/L4

## • Combined vaccine against four *Leptospira* serovars and canine parainfluenza

- To prevent clinical signs induced by parainfluenza virus (nasal and eye discharge) and reduce canine parainfluenza virus excretion
- To prevent clinical signs, infection and *Leptospira interrogans* serogroup Australis serovar Bratislava excretion in urine
- To prevent clinical signs, excretion in urine, and reduce infection caused by *Leptospira interrogans* serogroup Icterohaemorrhagiae serovar Icterohaemorrhagiae and *Leptospira interrogans* serogroup Canicola serovar Canicola
- To prevent clinical signs, reduce infection and excretion of *Leptospira kirschneri* serogroup Grippotyphosa serovar Grippotyphosa



VACCINE FOR ANNUAL REVACCINATION OF DOGS



## BIOCAN NOVEL VACCINATION SCHEDULES

**Optimum vaccination schedule for the Biocan NOVEL vaccine is prepared by the veterinary surgeon taking account of the health and nutritional status of the puppy, level of the breed the puppy comes from, bitch vaccination data, disease situation at the puppy's breed location, and the potential of the vaccine used**

**Biocan NOVEL vaccines now allow you to:**

- Vaccinate with the new, up-to-date and highly immunogenic CPV - 2b strain verified by challenge tests against CPV - 2a, CPV - 2b and CPV - 2c strains. The vaccination strain readily neutralizes residual maternally-derived antibodies.
- Vaccination of even six-week-old puppies also against four Leptospira (previously from 8 weeks and only three Leptospira strains). The new strain is Leptospira bratislava.
- Rabies vaccination from 6 weeks of age (important for early vaccination in special cases such as export of puppies).
- Three-year immunity after completion of basic vaccination against canine parvovirus, canine distemper, inf. laryngotracheitis, inf. hepatitis and rabies (tests have been completed and addition to the registration to extend immunity to 3 years is being prepared).

### MOST COMMONLY RECOMMENDED BIOCAN NOVEL VACCINATION SCHEDULE

7 – 9 weeks	<b>Biocan® NOVEL</b> DHPPi
10 – 12 weeks	<b>Biocan® NOVEL</b> DHPPi/L4
13 – 16 weeks	<b>Biocan® NOVEL</b> DHPPi/L4R

**The vaccination schedule above covers all main problems of puppy vaccination:**

- Starts at an early age of the puppy when it readily immunizes puppies with low maternally-derived antibody levels even after the first vaccination
- Ends after 13 weeks of age of the puppies, which ensures a good antibody response also in puppies with extremely high maternally-derived antibody levels that often adversely affect early vaccination



**Recent research results**

Long-term results of laboratories testing anti-rabies antibodies in puppies have shown that almost 10% of puppies are unable to produce anti-rabies antibodies higher than 0.5 IU/ml following single application. This may pose a problem when travelling with puppies to countries requiring proof of sufficient anti-rabies antibody level – higher than 0.5 IU/ml – before entry.

**RECOMMENDED BIOCAN NOVEL VACCINATION SCHEDULE WITH FOCUS ON REACHING ANTI-RABIES ANTIBODY LEVEL HIGHER THAN 0.5 IU/ml IN 100% OF VACCINATED DOGS**

7 – 9 weeks	<b>Biocan<sup>®</sup></b> <b>NOVEL</b> <b>DHPPi</b>
10 – 12 weeks	<b>Biocan<sup>®</sup></b> <b>NOVEL</b> <b>DHPPi/L4R</b>
13 – 16 weeks	<b>Biocan<sup>®</sup></b> <b>NOVEL</b> <b>DHPPi/L4R</b>

- The vaccination starts at an early age of the puppy when it readily immunizes puppies with low maternally-derived antibody levels mostly even after the first vaccination.
- The schedule ends after 13 weeks of age of the puppies, which ensures a good antibody response also in puppies with extremely high maternally-derived antibody levels that often adversely affect early vaccination.
- Puppies vaccinated in this way do not have any problem travelling to countries requiring protective anti-rabies antibody levels higher than 0.5 IU/ml. This schedule is also recommended in countries with a high risk of rabies infection and poor health and nutritional status of puppies (poor health and nutritional status of puppies adversely affects vaccination results and more vaccinations are needed for a good protection).



**RECOMMENDED VACCINATION SCHEDULE WITH FOCUS ON HIGH ANTI-RABIES ANTIBODIES AT AN EARLY AGE**

6 weeks	<b>Biocan<sup>®</sup></b> <b>NOVEL</b> <b>DHPPi/L4R</b>
8 – 9 weeks	<b>Biocan<sup>®</sup></b> <b>NOVEL</b> <b>DHPPi/L4R</b>
12 – 13 weeks	<b>Biocan<sup>®</sup></b> <b>NOVEL</b> <b>DHPPi/L4R</b>

- About ten days after the second vaccination, the anti-rabies antibody level is higher than 0.5 IU/ml. Puppies can be exported abroad at an early age. Following export, another vaccination after 13 weeks of age of the puppy is advisable. This vaccination ensures full protection of the puppies.

## VACCINATION SCHEDULE MODIFICATION IN DIFFERENT EPIDEMIOLOGICAL SITUATIONS

**POOR DISEASE SITUATION (CPV, CDV) –  
INFECTION IN BREEDS WITH HIGH NUMBERS  
OF BITCHES AND PUPPIES, POOR HEALTH  
AND NUTRITIONAL STATUS OF PUPPIES,  
PUPPIES FROM UNVACCINATED BITCHES**

6 weeks	<b>Biocan® NOVEL</b> DHPPi
9 to 10 weeks	<b>Biocan® NOVEL</b> DHPPi/L4
12 to 14 weeks	<b>Biocan® NOVEL</b> DHPPi/L4R
15 to 17 weeks	<b>Biocan® NOVEL</b> DHPPi/L4R

The schedule above is recommended in breeds where usual vaccination schedules are not effective enough due to unpredictably spreading diseases even at an early age of puppies, and the often associated poor health and nutritional status of puppies, and also where the status of bitch vaccination and the level of puppy protection by maternal antibodies are unknown. In such cases, the only help is an early and regular vaccination from the earliest possible age of puppies.

The schedule is also recommended for breeds with increased sensitivity to canine parvovirus (Rottweiler, Doberman, German Shepherd, Pinscher).

**VACCINATION OF PUPPIES FROM  
A REGULARLY VACCINATED MOTHER WITH  
EXPECTED HIGH MATERNALLY-DERIVED  
ANTIBODY LEVELS**

8 to 9 weeks	<b>Biocan® NOVEL</b> DHPPi
11 to 13 weeks	<b>Biocan® NOVEL</b> DHPPi/L4
14 to 16 weeks	<b>Biocan® NOVEL</b> DHPPi/L4R



## REVACCINATION

Basic vaccination of puppies is followed by annual revaccination

 **DHPPi/L4R**

**FROM 2015, THE PACKAGE LEAFLET OF BIOCAN NOVEL VACCINES WILL INCLUDE THREE-YEAR IMMUNITY AGAINST PARVOVIRUS, CANINE DISTEMPER, LARYNGOTRACHEITIS, HEPATITIS AND RABIES. THEN THE FOLLOWING REVACCINATION SCHEDULE CAN BE USED:**

### REVACCINATION SCHEDULE

First revaccination at 12 months after the basic vaccination

 **Pi/L4**

Second revaccination at 12 months after the first revaccination

 **Pi/L4**

Third revaccination at 12 months after the second revaccination

 **DHPPi/L4R**

THIS REVACCINATION SCHEDULE REPEATS EVERY THREE YEARS OF THE DOG'S LIFE

### REVACCINATION OF PREGNANT BITCHES

First revaccination at 12 months after the basic vaccination

 **DHPPi/L4R**

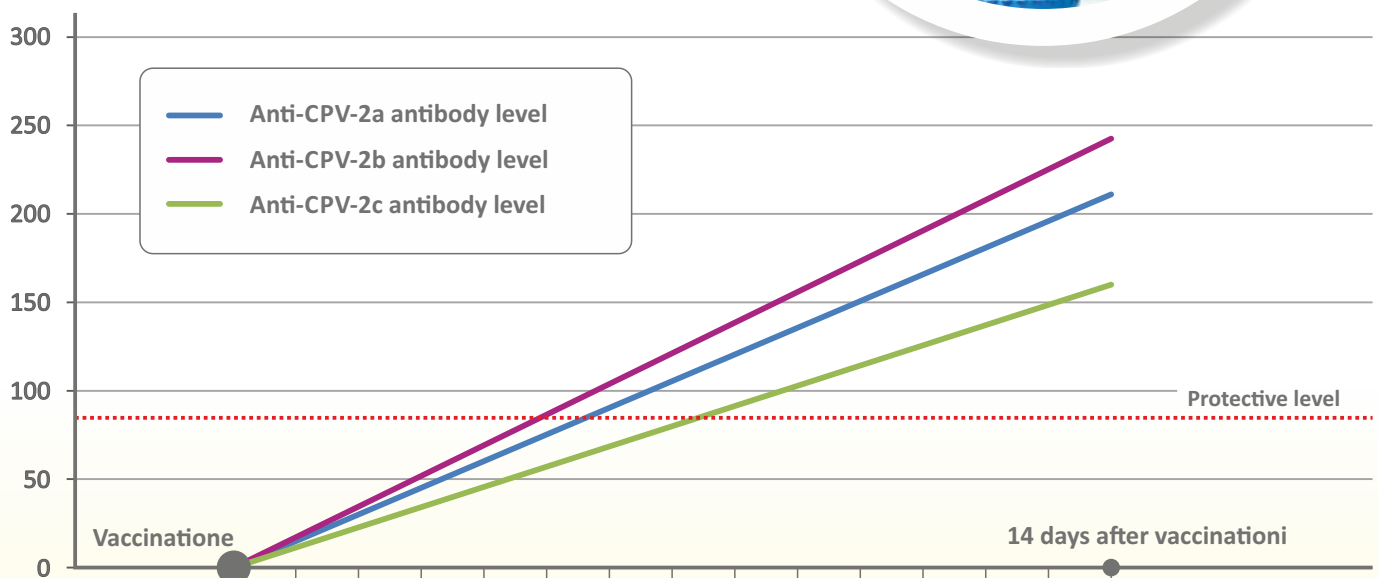
ANNUAL REVACCINATION OF BITCHES WITH BIOCAN NOVEL DHPPi /L4R IS RECOMMENDED TO ENSURE HIGH LEVELS OF COLOSTRAL ANTIBODIES AND PROTECTION OF PUPPIES TO A HIGHER AGE.



## CONFIRMATION OF BIOCAN NOVEL VACCINE EFFICACY AGAINST THREE CURRENT PARVOVIRUS CPV-2a, CPV-2b and CPV-2c STRAINS

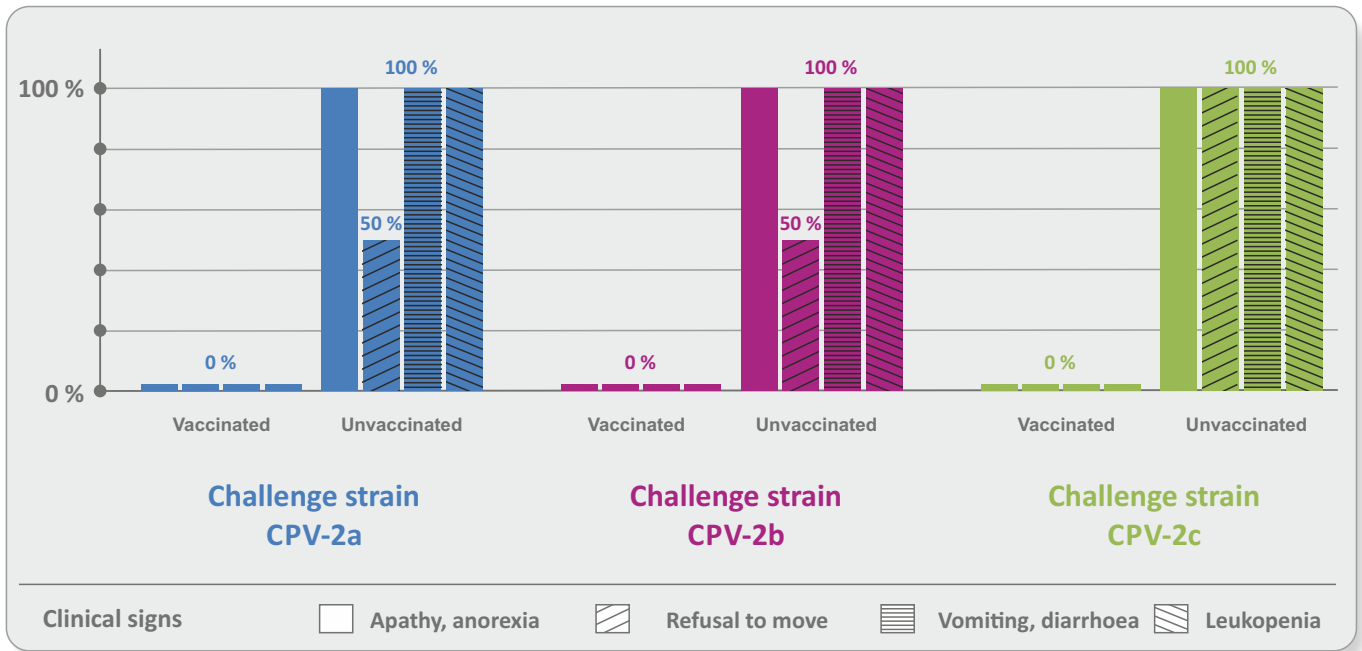
Six-week-old puppies without maternal antibodies against parvovirus received **one Biocan NOVEL vaccination dose**. 14 days later, the puppies were challenged by oronasal infection of virulent canine parvovirus CPV-2a, CPV-2b and CPV-2c strains in a comparative study under conditions defined by the European Pharmacopoeia.

The study's objective was to confirm that the **parvovirus component of the Biocan NOVEL vaccine** reliably protects against all currently occurring canine parvovirus strains.



**VIRUS-NEUTRALIZING ANTIBODIES REACHED PROTECTIVE LEVELS  
ALREADY AFTER SINGLE VACCINE APPLICATION**

**DIFFERENCES IN CLINICAL SYMPTOMS OF PARVOVIROSIS in vaccinated and unvaccinated puppies following infection with three current parvovirus CPV-2a, CPV-2b and CPV-2c strains**



**Following infection with CPV - 2a, CPV - 2b and CPV - 2c strains, the vaccinated puppies had no clinical signs of parvovirus.**



**100% immunity of puppies to currently occurring three parvovirus strains was proved**

# BIOCAN NOVEL VACCINES

## EFFECTIVE PROTECTION AGAINST FOUR KEY LEPTOSPIRA SEROVARS

What does effective protection against leptospirosis mean?

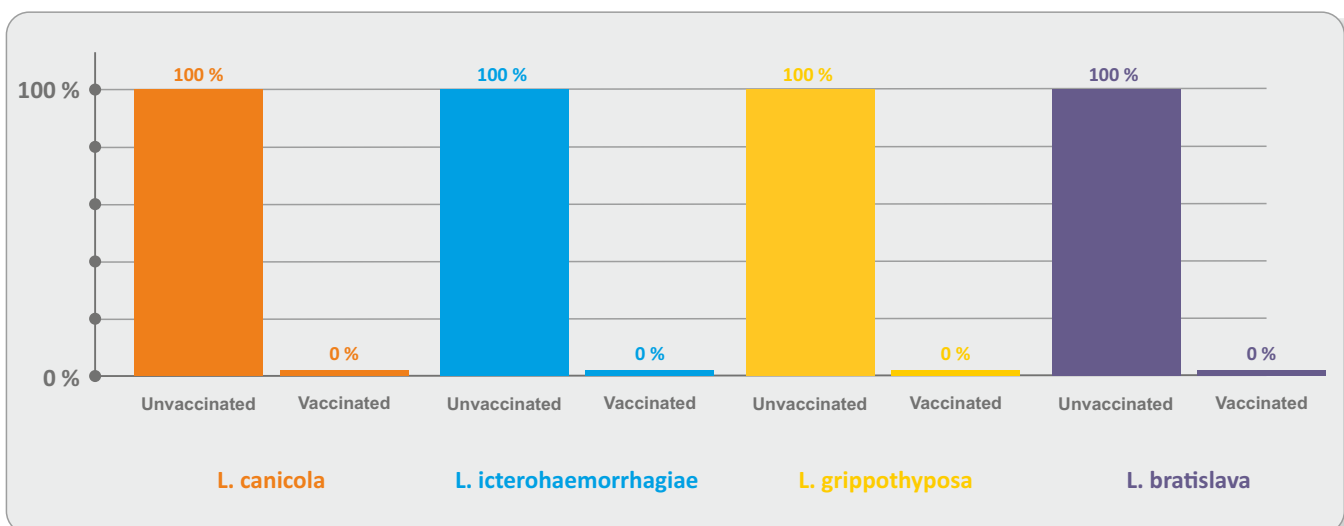
- **PREVENT DISEASE DEVELOPMENT** with severe clinical symptoms or even deaths of dogs after infection with four most common *Leptospira* serovars
- **PREVENT RENAL INFECTION AND LEPTOSPIRURIA** (excretion of *Leptospira* in urine) in order to prevent long-term excretion of highly infectious *Leptospira* in urine to the infected individual's environment (ill dog is a source of infection of humans and animals in its surroundings).



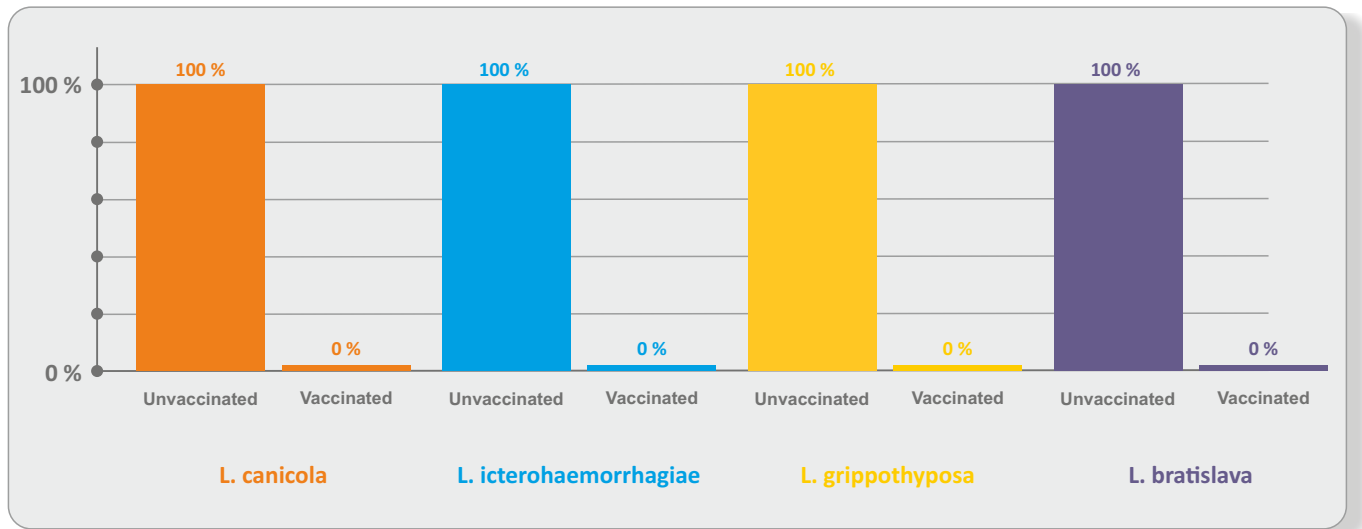
### CHALLENGE TESTS VERIFIED VACCINE EFFICACY AGAINST FOUR LEPTOSPIRA SEROVARS

- *L. canicola*,
- *L. icterohaemorrhagiae*,
- *L. grippotyphosa*,
- *L. bratislava*

### PERCENTAGE OF PUPPIES WITH POSITIVE LEPTOSPIRA ISOLATION IN URINE in the groups of vaccinated and control (unvaccinated) puppies



PERCENTAGE OF PUPPIES WITH CLINICAL SIGNS  
 in the groups of vaccinated and control (unvaccinated) puppies



None of the vaccinated puppies infected with four *Leptospira* serovars showed clinical signs of leptospirosis and excreted *Leptospira* in urine. The challenge tests verified Biocan NOVEL vaccine efficacy against four *Leptospira* serovars.

**Biocan**<sup>®</sup>  
**NOVEL**

is a series of vaccines designed to prevent infection and clinical signs caused by

**LEPTOSPIRA** serovar BRATISLAVA, CANICOLA, GRIPPOTYPHOSA and ICTEROHAEMORRHAGIAE and prevent excretion of the bacteria below in urine

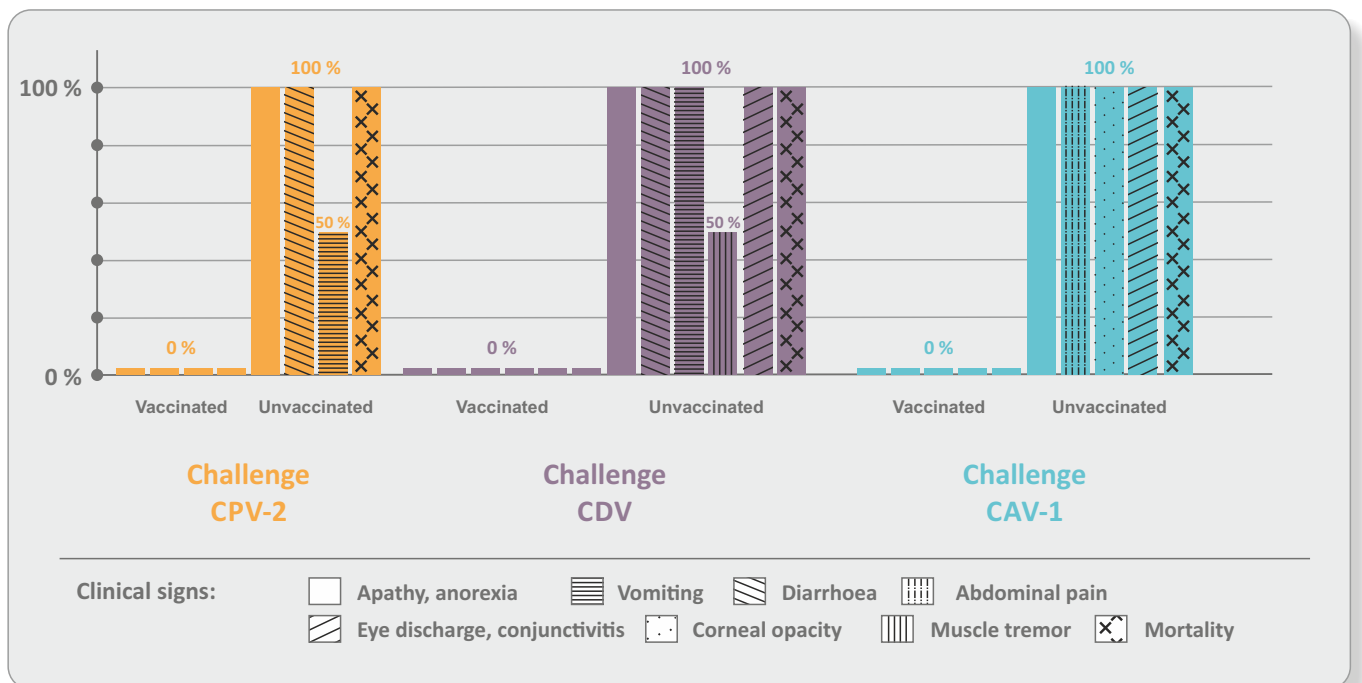
**LEPTOSPIRA** serovar BRATISLAVA, CANICOLA, GRIPPOTYPHOSA and ICTEROHAEMORRHAGIAE



## CONFIRMATION OF VACCINE EFFICACY AGAINST CPV-2, CDV AND CAV-1 IN PUPPIES WITH HIGH MATERNALLY-DERIVED ANTIBODY (MDA) LEVELS

Three studies verifying the efficacy of the Biocan NOVEL DHPPi/L4R vaccine in puppies vaccinated at the age of six weeks and revaccinated at the age of nine weeks have been conducted to confirm sufficient immunity of puppies with high anti-CDV, CPV-2 and CAV-1 maternally-derived antibody levels.

**DIAGRAM COMPARING MORBIDITY AND MORTALITY in the groups of vaccinated and unvaccinated dogs following infection with canine parvovirus, canine distemper virus and infectious hepatitis virus**




### PROTECTS PUPPIES WITH HIGH MATERNALLY-DERIVED ANTIBODY LEVELS

Study results of combined vaccine administered to six-week-old puppies with high maternally-derived antibody levels confirmed efficacy:

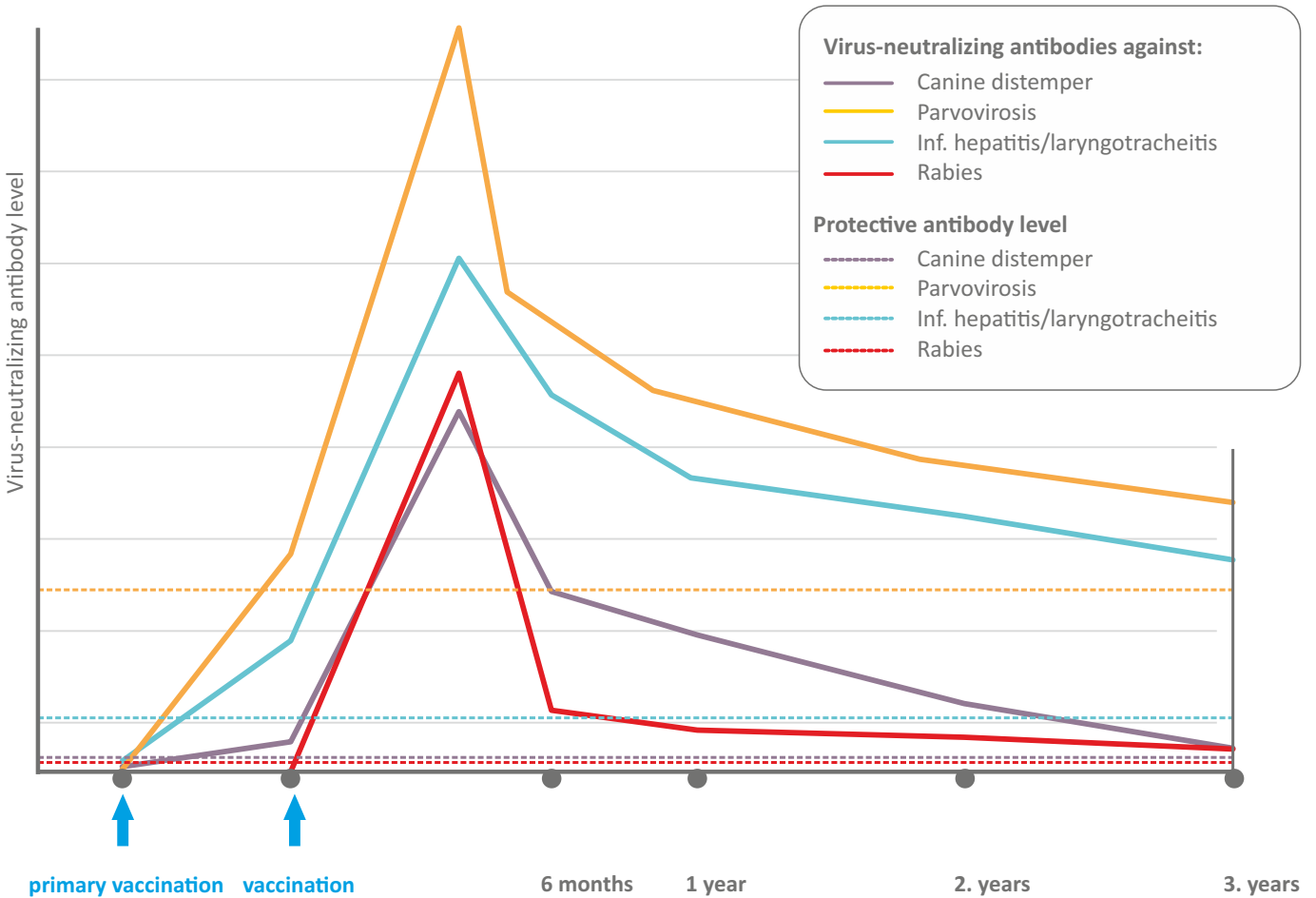
- To prevent mortality and reduce clinical signs of CAV-1
- To prevent mortality and clinical signs induced by canine distemper virus
- To prevent mortality, clinical signs, leukopenia and CPV excretion

## VACCINES OF THE BIOCAN NOVEL SERIES PROTECT FOR THREE YEARS

Diagram showing the antibody dynamics following basic Biocan NOVEL vaccination

6 weeks – primary DHPPi/L4 vaccination

9 weeks – DHPPi/L4R vaccination



# Biocan<sup>®</sup> NOVEL

## PROTECTS FOR THREE YEARS

The results proved that antibody levels against

- Canine distemper
- Parvovirus
- Infectious hepatitis
- Infectious laryngotracheitis
- Rabies

had not dropped under the protective antibody level for three years from the basic vaccination.

Protection against the antigens was successfully checked by challenge test (infection with virulent viruses) three years from the completion of basic vaccination.



# EASY AND COMFORTABLE VACCINATION RECORDING



Use in practice

Vaccines have safety features, plastic flip-off caps



Easy to remove labels for sticking on vaccination cards



Distinctive label graphics for easy overview of vaccines used





# Biocan<sup>®</sup>

## NOVEL



“Every member of the development team contributed with their knowledge, experience and commitment to bring this extensive project to a successful end.

I believe that the result of our work will be interesting for you and you appreciate its enormous benefit for your veterinary practice soon.”

**MVDr. Jiří Nezval**  
 Production, Development and Innovations  
 Director



If you look for something new for  
your veterinary practice,  
it is our vaccines

**Biocan**<sup>®</sup>  
**NOVEL**



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distributors.  
on sale from  
1 April 2015

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**WE** *respect* **ANIMALS**

VETERINARY MEDICAMENTS PRODUCER