

WHY SHOULD YOU USE VANGUARD® DAPP?

Key Vaccine Benefits

1

Effective in the presence of maternal antibodies (MA), **delivering early protection**

2

Causes rapid onset of immunity; therefore, **narrows the window of susceptibility**¹

3

Effective against **CPV-2c**, giving protection against the predominant circulating strain²

HIGH TITER

High-titer vaccines contain a higher number of virus particles per dose³



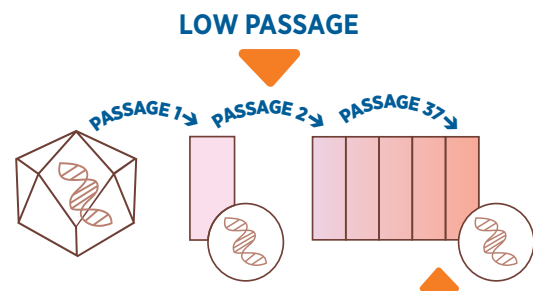
Canine parvovirus (CPV) particles per dose

- Parvovirus is a significant threat for puppies²
- CPV-specific MA titers may interfere with an active immune response, resulting in a **“window of susceptibility”**¹



LOW PASSAGE

Passaging is the process of culturing and harvesting successive generations of viruses with gradual loss of pathogenicity/virulence¹



Low-passage CPV is more immunogenic than higher-passage CPV¹

- At low passage levels, the virus replicates well in tissue culture and in the dog, but is no longer pathogenic—an effective vaccine¹
- At higher passage levels, the remaining virus population may be so well adapted to the tissue culture environment that they fail to replicate or immunize well in dogs¹
- Vaccine parvovirus replication in the dog is essential in stimulating protective antibody production^{1,2}

Do you know the CPV particles per dose of other vaccines?

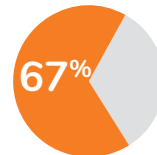
Vanguard DAPP—over 10,000,000 CPV particles per dose.*

High-titer, Low-passage Parvo Antigen

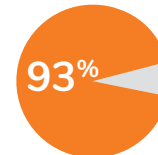
- Reduce the “window of susceptibility” that has been the major cause of CPV vaccination failure
- The high-titer, low-passage vaccine virus in Vanguard Plus CPV is highly immunogenic and capable of stimulating active immunity in the presence of maternal antibodies (MA)

In a 60-puppy study of (30) Vanguard Plus parvo vaccinates, all puppies seroconverted within 21 days of a third vaccination at 12 weeks of age.⁴

Seroconversion of puppies following vaccination with Vanguard Canine Parvo



**1st
vaccination**
(6 weeks of age)



**2nd
vaccination**
(9 weeks of age)



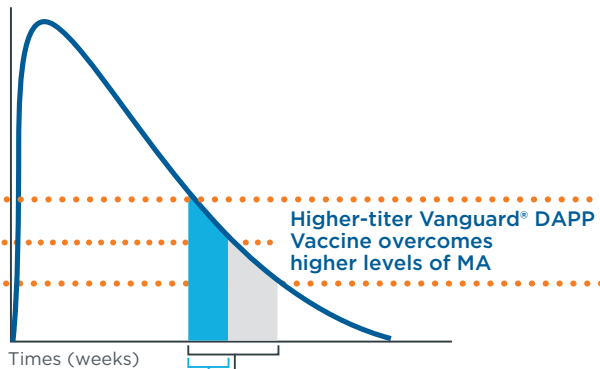
**3rd
vaccination**
(12 weeks of age)

The effect of Maternal Antibodies²

Levels of MA in puppies

MA below this level will not protect the puppy

Above this level, MA will interfere with vaccination



Reduced window of susceptibility with Vanguard® DAPP

Window of susceptibility

*Zoetis minimum release titer. ¹4-fold increase in titer.



References: 1. Hoare CM, DeBouck P, Wiseman A. Immunogenicity of a low-passage, high-titer modified live canine parvovirus vaccine in pups with maternally derived antibodies. *Vaccine*. 1997;15(3):273-275. 2. Wilson S, Illambas J, Siedek E, et al. Vaccination of dogs with canine parvovirus type 2b (CPV-2b) induces neutralising antibody responses to CPV-2a and CPV-2c. *Vaccine*. 2014;32(42):5420-5424. 3. Burtonboy S, Charlier P, Hertoghs J, Lobmann M, Wiseman A, Woods S. Performance of high titer attenuated canine parvovirus vaccine in pups with maternally derived antibody. *Veterinary Record*. 1991;128:377-381. 4. Coyne MJ. Seroconversion of puppies to canine parvovirus and canine distemper virus: A comparison of two combination vaccines. *J Am Anim Hosp Assoc*. 2000;36:137-142.



PETCARE IMMUNIZATION SUPPORT GUARANTEE

- Zoetis will cover reasonable diagnostic and treatment costs (up to \$5,000) if a pet vaccinated with one of our vaccines contracts the corresponding disease
- See Petcare ISG handout for additional details

Veterinary Medical Information and Product Support (VMIPS)

- Our team of veterinarians, veterinary technicians, technical service specialists, and outcomes researchers has extensive experience and product knowledge and is available to assist you at **888-Zoetis1**