Animal and Plant Health Inspection Service, USDA § 113.316

Canine Parainfluenza Vaccine.

Canine Parainfluenza Vaccine shall be prepared from virus-bearing cell culture fluids. Only Master Seed which has been established as pure, safe, and through the fifth passage from the Master Seed Virus.

(a) The Master Seed Virus shall meet the applicable general requirements prescribed in §113.300.

(b) The Master Seed Virus shall be tested for chlamydial agents as prescribed in §113.43.

(c) Each lot of Master Seed Virus used for vaccine production shall be tested for immunogenicity. The selected virus dose from the lot of Master Seed Virus shall be established as follows:

(1) Thirty feline rhinotracheitis susceptible cats shall be used as test animals (20 vaccinates and 10 controls). Throat swabs shall be collected from each cat and individually tested on susceptible cell cultures for the presence of feline rhinotracheitis virus. Blood samples shall be drawn and individual serum samples tested. The cats shall be considered suitable for use if all swabs are negative for virus isolation and if all serums are negative for feline rhinotracheitis virus antibody at the 1:2 final dilution in a 50 percent plaque reduction test or other SN test of equal sensitivity.

(2) A geometric mean titer of the dried vaccine produced from the highest passage of the Master Seed Virus shall be established before the immunogenicity test is conducted. The 20 cats used as vaccinates shall be administered a predetermined quantity of vaccine virus by the method to be recommended on the label and the remaining 10 cats shall be held as controls. To confirm the dosage calculations, five replicate virus titrations shall be conducted on a sample of the vaccine virus dilution used. If two doses are used, five replicate confirming titrations shall be conducted on each dose.

(3) Twenty-one or more days after the final dose of vaccine, the vaccinates and controls shall each be challenged intranasally with a minimum of 100,000 TCID₅₀ or plaque forming units of virulent feline rhinotracheitis virus furnished or approved by Animal and Plant Health Inspection Service and observed each day for 14 days post-challenge. The rectal temperature of each animal shall be taken and the presence of respiratory or other clinical signs of feline rhinotracheitis noted and recorded each day.

(i) If less than 8 of 10 controls show clinical signs of feline rhinotracheitis infection other than fever, the test is inconclusive and may be repeated.

(ii) If a significant difference in clinical signs cannot be demonstrated between vaccinates and controls using a scoring system approved by Veterinary Services and prescribed in the Outline of Production, the Master Seed Virus is unsatisfactory.

(4) An Outline of Production change shall be made before authority for use of a new lot of Master Seed Virus shall be granted by Animal and Plant Health Inspection Service.

(d) Test requirements for release. Each serial and subserial shall meet the requirements prescribed in §113.300 and in this paragraph. Final container samples of completed product shall be tested. Any serial or subserial found unsatisfactory by a prescribed test shall not be released.

(1) Safety test. The mouse safety test prescribed in §113.33(a) and the cat safety test prescribed in §113.39(b) shall be conducted.

(2) Virus titer requirements. Final container samples of completed product shall be tested for virus titer using the titration method used in paragraph (c)(2) of this section. To be eligible for release, each serial and each subserial shall have a virus titer sufficiently greater than the titer of vaccine virus used in the immunogenicity test prescribed in paragraph (c) of this section to assure that when tested at any time within the expiration period, each serial and subserial shall have a virus titer of 10⁸⁵ greater than that used in the immunogenicity test but not less than 10²⁵ TCID₅₀ or plaque forming units per dose.

immunogenic shall be used for preparing seeds for vaccine production. All
serials of vaccine shall be prepared from the first through the fifth passage
from the Master Seed.

(a) The Master Seed shall meet the applicable general requirements pre-
scribed in §113.300 and the requirements in this section.

(b) Each lot of Master Seed shall be tested for immunogenicity. The se-
lected virus dose shall be established as follows:

1. Twenty-five canine parainfluenza susceptible dogs (20 vaccinates and 5
controls) shall be used as test animals. Nasal swabs shall be collected from
each dog on the day the first dose of vaccine is administered and individ-
ually tested on susceptible cell cultures for the presence of canine
parainfluenza virus. Blood samples shall also be drawn and individual
serum samples tested for neutralizing antibody. Dogs shall be considered sus-
ceptible if all swabs are negative for virus isolation and if all serums are
negative for canine parainfluenza antibody at a 1:2 final dilution in a con-
stant virus-varying serum neutralization test using 50 to 300 TCID50 of ca-
nine parainfluenza virus.

2. A geometric mean titer of vaccine produced at the highest passage from
the Master Seed shall be established before the immunogenicity test is con-
ducted. The 20 dogs used as vaccinates shall be administered a predetermined
quantity of vaccine virus. Five replicate virus titrations shall be con-
ducted on a sample of the vaccine virus dilution used to confirm the dosage ad-
mnistered. If two doses are used, five replicate confirming titrations shall be
conducted on each dose.

3. Three to 4 weeks after the final
dose of vaccine, all dogs shall be bled for serum antibodies and nasal swabs
shall be collected for canine parainfluenza virus isolation. On the same
day, all vaccinates and controls
shall be challenged with canine
parainfluenza virus furnished or ap-
proved by Animal and Plant Health In-
pection Service.

4. The rectal temperature of each
dog shall be taken and the presence of respiratory or other clinical signs of
canine parainfluenza virus infection
noted and recorded each day for 14 con-
secutive days postchallenge. Nasal
swabs shall be collected from each dog
each day for at least 10 consecutive
days postchallenge. Individual swabs
shall be tested for virus isolation by
culture in canine parainfluenza virus
susceptible cells for at least 7 days. Re-
results shall be evaluated according to
the following criteria:

(i) If five of five controls have not re-
mained seronegative at a final serum
dilution of 1:2 during the prechallenge
period, the test is inconclusive and
may be repeated.

(ii) If more than one vaccinate shows
febrile response, respiratory or other
clinical signs of canine parainfluenza
virus infection; or, if less than 19 of 20
vaccinates show serum neutralization
titers of 1:4 or greater; or, if there is
not a significant reduction in virus iso-
lolation rate in vaccinates when com-
pared with controls, the Master Seed is
unsatisfactory.

5. An Outline of Production change
shall be made before authority for use
of a new lot of Master Seed shall be
granted by Animal and Plant Health
Inspection Service.

(c) Test requirements for release. Each
serial and subserial shall meet the ap-
plicable general requirements pre-
scribed in §113.300 and the require-
ments in this paragraph. Any serial or
subserial found unsatisfactory by a
prescribed test shall not be released.

1. Virus titer requirements. Final con-
tainer samples of completed product
shall be tested for virus titer using the
titration method used in paragraph
(b)(2) of this section. To be eligible for
release, each serial and each subserial
shall have a virus titer sufficiently
greater than the titer of vaccine virus
used in the immunogenicity test pre-
scribed in paragraph (b) of this section
to assure that, when tested at any time
within the expiration period, each se-
rial and subserial shall have a virus
titer at least \(10^{2.5}\) greater than that
used in the immunogenicity test but
not less than \(10^{2.5}\) TCID50 per dose.

2. [Reserved]