Lampiran B
PROSES PEMBUATAN SEDIAAN OBAT HEWAN

Nama Obat Hewan	:	NOBIVAC® Feline 1-HCPCh+FeLV
Produsen/Importir	:	Merck Animal Health/ PT INTERVET INDONESIA

Nama Obat Hewan: NOBIVAC® Feline 1-HCPCh+FeLV **Nama Produsen /Importir:** Merck Animal Health / PT Intervet Indonesia	**LAMPIRAN B** **Proses Pembuatan Sediaan Obat Hewan**	**Lembar Ke:** 1

METODE DAN PROSEDUR PEMBUATAN

Seluruh rangkaian prosedur pembuatan produk ini dilakukan sesuai dengan *Good Manufacturing Practice* (GMP). Rangkaian prosedur pembuatan mulai dari persiapan antigen hingga produk jadi digambarkan dalam diagram alir di bawah.

Huruf besar mengindikasikan antigen atau tahapan dengan kode sebagai berikut:

Produksi *Clean Cell*:
A. Produksi *Clean Cell* FKCU atau CK-65

Produksi Antigen:
B. Feline Rhinotracheitis Virus (FVR)
C. Feline Calicivirus (FCV)
D. Feline Panleukopenia (FPL)
E. *Chlamydia psittaci* (FPn)
F. Feline Leukemia Virus (FeLV)

Produksi Vaksin:
G. Produk akhir - Nobivac® Feline 1-HCPCh
H. Produk akhir - Nobivac® FeLV

Seluruh tahapan produksi dilakukan sesuai metode terstandar untuk menghasilkan produk akhir yang steril, aman dan berkualitas. Pemindahan produk ruahan dilakukan secara steril di bawah *laminar air flow* pada ruangan bersih.

Diagram Alir Metode Pembuatan dan Prosedur Kontrol Kualitas

Tahap A: Produksi FKCU dan CK-65 clean cell

No. Tahap	Tahap Produksi	Uji Kontrol	Hasil Diketahui Sebelum Tahapan
A01	Sel diaktifkan kembali dari penyimpanan N_2 cair		
A02	Sel di-*resuspended* pada kultur media dan dibiakkan di dalam kultur yang sesuai		
A03	Sel disubkultur secara teratur sampai mencukupi untuk produksi antigen		
A04	Pasase dan pembiakkan pada densitas sesuai		

Tahap B: Produksi antigen FVR

No. Tahap	Tahap Produksi	Uji Kontrol	Hasil Diketahui Sebelum Tahapan
B01	Sel FKCU di-*suspended* pada media pertumbuhan dan diinkubasi		
B02	Inokulasi dengan *seed* virus FVR dan diinkubasi		
B03	Antigen dipanen ketika CPE optimal		
B04	Antigen disimpan pada -40°C atau lebih dingin		
B05		Sterilitas	G01
B06		Titer	G01

Nama Obat Hewan: NOBIVAC® Feline 1-HCPCh+FeLV **Nama Produsen /Importir:** Merck Animal Health / PT Intervet Indonesia	**LAMPIRAN B** **Proses Pembuatan Sediaan Obat Hewan**	**Lembar Ke:** 2

Tahap C: Produksi antigen FCV

No. Tahap	Tahap Produksi	Uji Kontrol	Hasil Diketahui Sebelum Tahapan
C01	Sel FKCU di-*suspended* pada media pertumbuhan dan diinkubasi		
C02	Inokulasi dengan *seed* virus FCV dan diinkubasi		
C03	Antigen dipanen ketika CPE optimal		
C04	Antigen disimpan pada -20^{0}C atau lebih dingin		
C05		Sterilitas	G01
C06		Titer	G01

Tahap D: Produksi antigen FPL

No. Tahap	Tahap Produksi	Uji Kontrol	Hasil Diketahui Sebelum Tahapan
D01	Sel FKCU di-*suspended* pada media pertumbuhan, dicampur dengan virus FPL dan diinkubasi		
D02	Antigen dan sel dipanen ketika granulasi sel dan/atau CPE optimum		
D03	Antigen disimpan pada -20^{0}C atau lebih dingin		
D04		Sterilitas	G01
D05		Titer	G01

Tahap E: Produksi antigen FPn

No. Tahap	Tahap Produksi	Uji Kontrol	Hasil Diketahui Sebelum Tahapan
E01	Sel CK-65 di-*suspended* pada media pertumbuhan dan diinkubasi		
E02	Inokulasi dengan *seed* FPn dan diinkubasi		
E03	Antigen dpanen ketika infeksi sel dan/atau CPE optimal		
E04	Stabilisator ditambahkan dan dicampurkan		
E05	Antigen disimpan pada -40^{0}C atau lebih dingin		
E06		Sterilitas	G01
E07		Titer	G01

Nama Obat Hewan: NOBIVAC® Feline 1-HCPCh+FeLV **Nama Produsen /Importir:** Merck Animal Health / PT Intervet Indonesia	**LAMPIRAN B** **Proses Pembuatan Sediaan Obat Hewan**	**Lembar Ke:** 3

Tahap F: Produksi antigen FeLV

No. Tahap	Tahap Produksi	Uji Kontrol	Hasil Diketahui Sebelum Tahapan
F01	Sel NCE-F161 (*persistently infected Feline Cell Line Culture*) di-*suspended* pada media pertumbuhan dan diinkubasi		
F02	Panen, pasase, dan *scale-ups* untuk *multiple virus fluid harvest*		
F03	Inaktivasi langsung atau simpan pada -20°C atau lebih dingin		
F04		Sterilitas	H01
F05	Tambahan formalin untuk inaktivasi jika tidak dilakukan pada tahap F03 dan aduk		
F06	Pertahankan pada 2-7°C ketika presipitasi cairan virus dengan PEG dan larutan sodium chloride		
F07	Konsentrasikan dengan sentrifugasi, kemudian homogenkan		
F08	Antigen disimpan pada 2-7°C		
F09		Sterilitas	H01
F10		Inaktivasi	H01

Tahap G: Pembuatan Produk Akhir Nobivac Feline 1-HCPCh

No. Tahap	Tahap Produksi	Uji Kontrol	Hasil Diketahui Sebelum Tahapan
G01	Campurkan antigen FVR, FCV, FPL, dan FPn bersama diluen dan stabilisator		
G02	Pengisian		
G03	Proses kering-beku, penutupan, penyegelan		
G04	Antigen disimpan pada 2-7°C		
G05		QC produk akhir	
G06		Sterilitas	G10
G07		Mycoplasma	G10
G08		Keamanan	G10
G09		Titrasi virus	G10
G10	Pelepasan produk akhir	Identitas	G10
G11	Pengiriman		

Nama Obat Hewan: NOBIVAC® Feline 1-HCPCh+FeLV **Nama Produsen /Importir:** Merck Animal Health / PT Intervet Indonesia	**LAMPIRAN B** **Proses Pembuatan Sediaan Obat Hewan**	**Lembar Ke:** 4

Tahap H: Pembuatan Produk Akhir Nobivac FeLV

No. Tahap	Tahap Produksi	Uji Kontrol	Hasil Diketahui Sebelum Tahapan
H01	Campurkan antigen FeLV, diluen, adjuvant dan pengawet		
H02	⇩	Potensi	H03
H03	Pengisian, penutupan dan penyegelan		
	⇩		
H04	Antigen disimpan pada 2-7^{0}C		
H05		QC produk akhir	
H06		Sterilitas	H09
H07	⇩	Mycoplasma	H09
		Keamanan	H09
H08		*Viricidal*	H09
H09	Pelepasan produk akhir		
	⇩		
H10	Pengiriman		

Pemeriksaan dan Kontrol Kualitas pada Proses Produksi

Kode:	B05, C05, D04, E06, F04, F09
Nama Pengujian :	Sterilitas pada *in-process liquid materials*
Waktu/Frekuensi :	Setiap *batch* pada *in-process material*
Fungsi :	Untuk membuktikan tidak adanya bakteri dan fungi pada material selain produk akhir
Keterangan :	Inokulasikan tidak kurang dari 10 ml produk ke dalam media yang sesuai. Inkubasikan pada 30-35^{0}C selama 14 hari untuk deteksi kontaminasi bakteri, dan pada 20-25^{0}C selama 14 hari untuk deteksi kontaminasi fungi. Tidak ada pertumbuhan terlihat.
Kode:	B06, C06
Nama Pengujian :	Titrasi antigen FVR dan FCV untuk *in-process material*
Waktu/Frekuensi :	Setiap *batch* pada *in-process material*
Fungsi :	Untuk membuktikan potensi antigen pada *in-process material*
Keterangan :	Pengenceran virus dilakukan pada media, diinokulasikan ke dalam sel CrFK dan *overlay medium* dtambahkan, kontrol positif dan negatif dipertahankan. Setelah inkubasi, jumlah *plaque forming unit* (PFU) dikalkulasi.
Kode:	D05
Nama Pengujian :	Titrasi antigen FPL untuk *in-process material*
Waktu/Frekuensi :	Setiap *batch* pada *in-process material*
Fungsi :	Untuk membuktikan potensi antigen pada *in-process material*
Keterangan :	Pengenceran virus dilakukan pada media, inokulasikan ke dalam sel-sel CrFK dan diikubasikan. Kontrol positif dan negatif dipertahankan. Hitung setiap titer *end-point* dengan teknik FA menggunakan metode *Spearman-Karber*

Kode:	E07
Nama Pengujian :	Titrasi antigen *Chlamydia psittaci* untuk *in-process material*
Waktu/Frekuensi :	Setiap *batch* pada *in-process material*
Fungsi :	Untuk membuktikan potensi antigen pada *in-process material*
Keterangan :	Pengenceran antigen dilakukan pada media, diinokulasikan pada sel-sel SAH-DK dan diinkubasikan. Kontrol positif dan negatif dipertahankan. Hitung titer *end-point* dengan teknik FA menggunakan metode *Spearman-Karber*
Kode:	F10
Nama Pengujian :	Uji inaktivasi antigen *FeLV*
Waktu/Frekuensi :	Setiap *batch* pada *post-inactivation material*
Fungsi :	Untuk memeriksa inaktivasi virus sempurna
Keterangan :	Inokulasikan material uji ke dalam sel-sel monolayer CRFK dan inkubasikan delama 4-7 hari. Sub-kultur dan inkubasikan lagi selama 5-7 hari. Pertahankan kontrol positif dan negatif. Tidak terdapat fluorensensi khas FeLV setelah observasi

Prosedur Pelemahan dan Inaktivasi

Feline Rhinotracheitis Virus
Virus dilemahkan dengan sedikitnya 97 pasase pada *Feline Kidney Cell Cultures* primer. *Master Seed Virus* dipanen pada pasase ke-97 pada 14 Mei 1973. Satu vial di-*thawing* dan dikemas kembali pada 10 Oktober 1997. *Master seed* baru dipersiapkan satu pasase dari vial yang dikemas ulang tersebut. *Master Seed* tersebut diencerkan 1:100 dan dikemas kembali pada 21 November 1997 untuk menurunkan titer dan memungkinkan netralisasi untuk pengujian agen asing. Pada 21 Mei 1998, APHIS mengesahkan *Master Seed Virus* tersebut.

Feline Calicivirus
Virus dilemahkan dengan melakukan pasase sedikitnya sebanyak 33 kali pada *Primary Feline Kidney Cell Culture*. *Master seed* dipanen pada 3 Mei 1978 pada pasase ke-33. *Master seed* yang baru dipersiapkan satu pasase dari stok awal tersebut dan dipindahkan ke Schering-Plough Animal Health pada 9 Juli 1997 yang kemudian diencerkan 1:1000 dan dikemas ulang pada 23 Oktober 1998, untuk menurunkan titer dan memungkinkan netralisasi untuk pengujian agen asing. Pada 2 Juli 1999, APHIS APHIS mengesahkan *Master Seed Virus* tersebut.

Feline Panleukopenia
Virus dilemahkan dengan cara mengadaptasikan pada *Feline Kidney Tissue Culture* melalui propagasi dan atenuasi. *Master seed* dipersiapkan satu pasase dari stok awal dan dipindahkan ke Schering-Plough Animal Health pada 3 Juli 1997. Pada 21 Mei 1998, APHIS mengesahkan *Master Seed Virus* tersebut.

Chlamydia psittaci
Isolat *C. psittaci* dilemahkan dengan melakukan pasase pada *chicken embryo* sebanyak minimal 29 pasase. Produksi pasase *C. psittaci* ditumbuhkan pada CK-65 *Canine Cell Line*. *Master seed* pasase *Chlamydia* dipanen pada 14 Februari 1978. *Master Seed* baru dipersiapkan satu pasase dari stok awal dan dipindahkan ke Schering-Plough Animal Health pada 17 April 1997. APHIS mengesahkan *Master Seed* tersebut pada 20 Maret 1998.

Feline Leukemia Virus
Virus secara rutin dipropagasi pada kultur sel dan digunakan untuk menghasilkan *chronically infected cell line* NCE-F161. Virus dan kultur sel diterima pada pasase ke-49. *Cell line* mengalami pasase tambahan 8 kali dan dipersiapkan sebagai *Master Seed Virus* (MCS/MSV) pada pasase ke-57. APHIS mengesahkan *Master Seed* tersebut pada 20 Maret 1998. Feline leukemia virus diinaktivasi dengan menambahkan formalin.

II.B. METHOD OF PREPARATION OF THE FINISHED PRODUCT

II.B.0. INTRODUCTION

Initially, the production procedure is shown in tabulated form, where aspects of production, in-process controls and final product testing are presented in sequence of alphanumeric steps.

The capital in each step indicates the antigen or phase for which the step is applicable. The following codes have been used:

Clean cell production
A. FKCU or CK-65 clean cell production

Antigen production
B. Feline Rhinotracheitis Virus (FVR) antigen production
C. Feline Calicivirus (FCV) antigen production
D. Feline Panleukopenia (FPL) antigen production
E. *Chlamydia psittaci* (FPn) antigen production
F. Feline Leukemia Virus (FeLV) antigen production

Vaccine production
G. Final product – Nobivac Feline 1-HCPCh
H. Final product – Nobivac FeLV

A detailed description of control tests are presented in the sections II.D. "Control tests during production" and II.E. "Control tests on the finished product".

All steps on the production procedure are performed according to methods adequate to obtain a sterile, safe and potent product. When applicable, sterile equipment and materials are used. Transfer of bulk products is performed under sterile conditions under laminar air flow or in a clean room.

II.B.1. FLOW CHART OF THE METHOD OF PREPARATION AND QUALITY CONTROL PROCEDURE

Table 1. Steps of FKCU and CK-65 clean cell production

Step no.	Production step	Control tests	Results known before step
A01	Cells revived from liquid nitrogen storage.		
A02	Cells resuspended in tissue culture medium and seeded into appropriate culture equipment.		
A03	The cells are subcultured at regular intervals until sufficient cells are generated for antigen production.		
A04	Passage and seed at appropriate density.		

Table 2. Steps of FVR antigen production

Step no.	Production step	Control tests	Results known before step
B01	FKCU cells are suspended in growth medium and incubated.		
B02	Inoculation with FVR seed virus and incubation.		
B03	Antigen harvested when cytopathic effect (CPE) at optimum.		
B04	The antigen is stored frozen at -40°C or colder.		
B05		Sterility	G01
B06		Titre	G01

Table 3. Steps of FCV antigen production

Step no.	Production step	Control tests	Results known before step
C01	FKCU cells are suspended in growth medium and incubated.		
C02	Inoculation with FCV seed virus and incubation.		
C03	Antigen harvested when cytopathic effect (CPE) at optimum.		
C04	The antigen is stored frozen at -20°C or colder.		
C05		Sterility	G01
C06		Titre	G01

Table 4. Steps of FPL antigen production

Step no.	Production step	Control tests	Results known before step
D01	FKCU cells are suspended in growth medium, mixed with the FPL virus and incubated.		
D02	Antigen and cells harvested when granulation of the cells and / or cytopathic effect (CPE) at optimum.		
D03	The antigen is stored frozen at -20°C or colder.		
D04		Sterility	G01
D05		Titre	G01

Table 5. Steps of FPn antigen production

Step no.	Production step	Control tests	Results known before step
E01	CK-65 cells are suspended in growth medium and incubated.		
E02	Inoculation with FPn seed virus and incubation.		
E03	Antigen harvested when infection of the cells and / or cytopathic effect (CPE) at optimum.		
E04	Stabilizer added and mixed.		
E05	The antigen is stored frozen at -40°C or colder.		
E06		Sterility	G01
E07		Titre	G01

Table 6. Steps of FeLV antigen production

Step no.	Production step	Control tests	Results known before step
F01	NCE-F161 cells (persistently infected Feline Cell Line Culture) are suspended in growth medium and incubated.		
F02	Harvests, passages, and scale-ups for multiple virus fluid harvests.		
F03	Inactivate immediately or store at -20°C or colder.		
F04		Sterility	H01
F05	Add formalin to inactivate when not done at step F03 and mix.		
F06	Maintain at 2-7°C while precipitating viral fluids with Polyethylene Glycol (PEG) and Sodium Chloride solution.		
F07	Concentrate by centrifugation, then homogenize.		
F08	The antigen is stored at 2-7°C.		
F09		Sterility	H01
F10		Inactivation	H01

Table 7. Steps of preparation of finished product Nobivac Feline 1-HCPCh

Step no.	Production step	Control tests	Results known before step
G01	Mixing together of FVR, FCV, FPL and FPn antigens, diluent, and stabilizers.		
G02	Filling		
G03	Freeze-drying, closing, sealing (may store prior to sealing)		
G04	Store at 2-7°C		
		Quality control of final product	
G05		- Sterility	G10
G06		- Mycoplasma	G10
G07		- Safety	G10
G08		- Virus titration	G10
G09		- Identity	G10
G10	Release of final product		
G11	Shipment		

Table 8. Steps of preparation of finished product Nobivac FeLV

Step no.	Production step	Control tests	Results known before step
H01	Mixing together FeLV antigen, diluent, adjuvant and preservatives.		
H02		Potency	H03
H03	Filling, closing, sealing.		
H04	Store at 2-7°C		
		Quality control of final product	
H05		- Sterility	H09
H06		- Mycoplasma (tested pre-inactivation)	H09
H07		- Safety	H09
H08		- Viricidal	H09
H09	Release of final product		
H10	Shipment		

II.D.2. INFORMATION ON EACH CONTROL STAGE

Code: **B05, C05, D04, E06, F04, F09**
Title: ***Sterility of in-process liquid materials***
Timing/Freq.: Each batch of in-process material
Function: To demonstrate absence of viable bacteria and fungi in materials other than final container product.
Description: Inoculate no less than 10ml of product into appropriate media. Incubate at 30-35°C for 14 days for detection of bacterial contamination, and at 20-25°C for 14 days for detection of fungal contamination. No growth should be observed.

Code: **B06, C06**
Title: ***Titration FVR and FCV antigen for in-process material***
Timing/Freq.: Each batch of in-process material
Function: To demonstrate the potency of the antigen for in-process material.
Description: Dilutions of virus are made in media, inoculated onto CrFK cells and an overlay medium added. Positive and negative controls are maintained. After incubation, the number of plaque forming units (PFU) are counted and calculated.

Code: **D05**
Title: ***Titration of FPL antigen for in-process material***
Timing/Freq.: Each batch of in-process material
Function: To demonstrate the potency of the antigen for in-process material.
Description: Dilutions of virus are made in media, inoculated onto CrFK cells and incubated. Positive and negative controls are maintained. Calculate end-point titre by FA technique by method of Spearman-Karber.

Code: **E07**
Title: ***Titration of Chlamydia psittaci antigen for in-process material***
Timing/Freq.: Each batch of in-process material
Function: To demonstrate the potency of the antigen for in-process material.
Description: Dilutions of virus are made in media, inoculated onto SAH-DK cells and incubated. Positive and negative controls are maintained. Calculate end-point titre by FA technique by method of Spearman-Karber.

Code: **F10**
Title: ***Inactivation test for FeLV antigen***
Timing/Freq.: Each batch of post-inactivation material
Function: To check for complete viral inactivation
Description: Inoculate test material onto CRFK cell monolayer and incubate for 4-7 days. Subculture and incubate for additional 5-7 days. Maintain positive and negative controls. No typical fluorescence for FeLV should be observed.

II.C.2. STARTING MATERIALS NOT IN A PHARMACOPOEIA

II.C.2.1. STARTING MATERIALS OF BIOLOGICAL ORIGIN

II.C.2.1.1. Feline Rhinotracheitis Virus

Source
Feline Rhinotracheitis Virus was isolated from a kitten with upper respiratory disease on March 20, 1961.

Passage history
The single strain of Feline Rhinotracheitis Virus had been passed through a minimum of 97 passages of primary Feline Kidney Cell Cultures at Solvay Animal Health.

Preparation of the master seed
The Master Seed Virus was harvested May 14, 1973 at the 97th pass. Schering-Plough Animal Health received the Solvay master seed on April 17, 1997. One vial was thawed and revialed on October 10, 1997. A new master seed was prepared one passage from the revialed Solvay master seed at Schering-Plough Animal Health on November 17, 1997. This master seed was diluted 1:100 and revialed on November 21, 1997, to lower the titre and allow neutralization for extraneous agents testing. APHIS approval for the Master Seed Virus was May 21, 1998.

Controls and tests carried out on the Master Seed lot
All 9CFR testing required was performed by Schering-Plough Animal Health on the master seed.

PURITY
Sterility: The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.27
Mycoplasma: The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.28

SAFETY
Mouse: The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.33(a)
Cat: The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.39(a)

POTENCY
The Master Seed lot was titred in tissue culture.

IDENTITY
The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.300(c)(2)

EXTRANEOUS AGENTS
The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.43 and 9CFR 113.55

Storage conditions
The master seed lot is stored at -50°C or colder.

II.C.2.1.2. Feline Calicivirus

Source
Feline Calicivirus was isolated at Solvay Animal Health, Inc., on June 21, 1965, from the throat of an infected cat.

Passage history
The single strain of Feline Calicivirus had been passed through a minimum of 33 passages in Primary Feline Kidney Cell Cultures.

Preparation of the master seed
The Solvay Animal Health master seed virus was harvested May 3, 1978 at the 33rd pass. A new master seed was prepared one passage from the original and transferred to Schering-Plough Animal Health on July 9, 1997. This master seed was diluted 1:1000 and revialed on October 23, 1998, to lower the titre and allow neutralization for extraneous agents testing. APHIS approval for the Master Seed Virus was July 2, 1999.

Controls and tests carried out on the Master Seed lot
All 9CFR testing required was performed by Schering-Plough Animal Health on the master seed.

PURITY
Sterility: The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.27
Mycoplasma: The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.28

SAFETY
Mouse: The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.33(a)
Cat: The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.39(a)

POTENCY
The Master Seed lot was titred in tissue culture.

IDENTITY
The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.300(c)(2)

EXTRANEOUS AGENTS
The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.43 and 9CFR 113.55

Storage conditions
The master seed lot is stored at -50°C or colder.

II.C.2.1.3. Feline Panleukopenia Virus

Source
The Feline Panleukopenia Virus Strain was received by Philips Roxane, Inc., in 1958, from Dr. J. F. Crawley, Connaught Laboratories.

Passage history
The virus adapted to Feline Kidney Tissue Culture through propagation and attenuation at Philips Roxane, Inc. and supplied to Solvay Animal Health on July 28, 1971.

Preparation of the master seed
A new master seed was prepared one passage from the original and transferred to Schering-Plough Animal Health on July 3, 1997. APHIS approval for the Master Seed Virus was May 21, 1998.

Controls and tests carried out on the Master Seed lot
All 9CFR testing required was performed by Schering-Plough Animal Health on the master seed.

PURITY
Sterility: The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.27
Mycoplasma: The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.28

SAFETY
Mouse: The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.33(a)
Cat: The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.39(a)

POTENCY
The Master Seed lot was titred in tissue culture.

IDENTITY
The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.300(c)(1)

EXTRANEOUS AGENTS
The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.43 and 9CFR 113.55

Storage conditions
The master seed lot is stored at -50°C or colder.

II.C.2.1.4. *Chlamydia psittaci*

Source
The *Chlamydia psittaci* isolate is identified as the Baker Strain.

Passage history
The *Chlamydia psittaci* isolate has been passaged a minimum of 29 passages in chicken embryos.
(The Production *Chlamydia psittaci* passage is grown in the CK-65 Canine Cell Line).

Preparation of the master seed
The Solvay Animal Health master seed *Chlamydia* passage was harvested February 14, 1978, ground and vialed March 2, 1978. A new master seed was prepared one passage from the original and transferred to Schering-Plough Animal Health on April 17, 1997. APHIS approval for the Master Seed Virus was March 20, 1998.

Controls and tests carried out on the Master Seed lot
All 9CFR testing required was performed by Schering-Plough Animal Health on the master seed.

PURITY
Sterility: The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.27
Mycoplasma: The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.28
Salmonella: The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.30

SAFETY
Mouse: The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.33(a)
Cat: The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.39(a)

POTENCY
The Master Seed lot was titred in eggs.

IDENTITY
The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.300(c)(1)

EXTRANEOUS AGENTS
Lymphoid Leukosis: The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.31
The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.55
Hemagglutinating viruses: The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.34
Chicken Embryo inoculation test: The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.37

Storage conditions
The master seed lot is stored at -50°C or colder.

II.C.2.1.5. Feline Leukemia Virus

Source
The microorganism is the Rickard Isolate (R-) of Feline Leukemia Virus. The virus is propagated as a persistently-infected Feline Cell Line Culture (NCE-F161). The virus was originally isolated from the tissues of a leukemic cat.

Passage history
The virus was routinely propagated in cell cultures and was employed to generate the chronically infected cell line NCE-F161. The virus and cell culture were received at Syntex, Inc. (USA) at Passage 49, at Cornell University on August 29, 1983.

Preparation of the master seed
The cell line was passed an additional 8 passages by Syntex, Inc. and designated Master Cell Stock/Master Seed Virus (MCS/MSV) at passage 57. Solvay animal health acquired the MCS/MSV at passage 57 on June 6, 1985. Schering-Plough Animal Health acquired the vials of MCS/MSV on April 17, 1997. APHIS approval for the MCS/MSV was March 20, 1998.

Controls and tests carried out on the Master Seed lot
All 9CFR testing required was performed by Schering-Plough Animal Health on the master seed.

PURITY
Sterility: The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.27
Mycoplasma: The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.28

IDENTITY
The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.300(c)(1)

EXTRANEOUS AGENTS
The Master Seed lot satisfies the Code of Federal Regulations test 9CFR 113.52 and 9CFR 113.55

Storage conditions
The master seed lot is stored in liquid nitrogen.