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Date of pooling of monovalent lots	January 14, 2011
Method of disruption	Treatment with Tween 80 and CTAB
Date of disruption	January 17, 2011
Date of sterile 0.2 µm final filtration	January 21, 2011
Volume of monovalent pooled harvest	71,131 mL
Storage conditions of monovalent pooled harvest	2 - 8°C

Tests on monovalent pooled harvest

Identity of neuraminidase (Specification: Positive for A(H1N1) strain)

Method	ELISA
Date of test	January 31, 2011
Result	Positive for A(H1N1) strain

Identity of haemagglutinin (Specification: Positive for A(H1N1) strain)

Method	SRID
Date of test	January 31, 2011
Result	Positive for A(H1N1) strain

Purity (Specification: Evidence of HA bands and absence or traces of NP and M components)

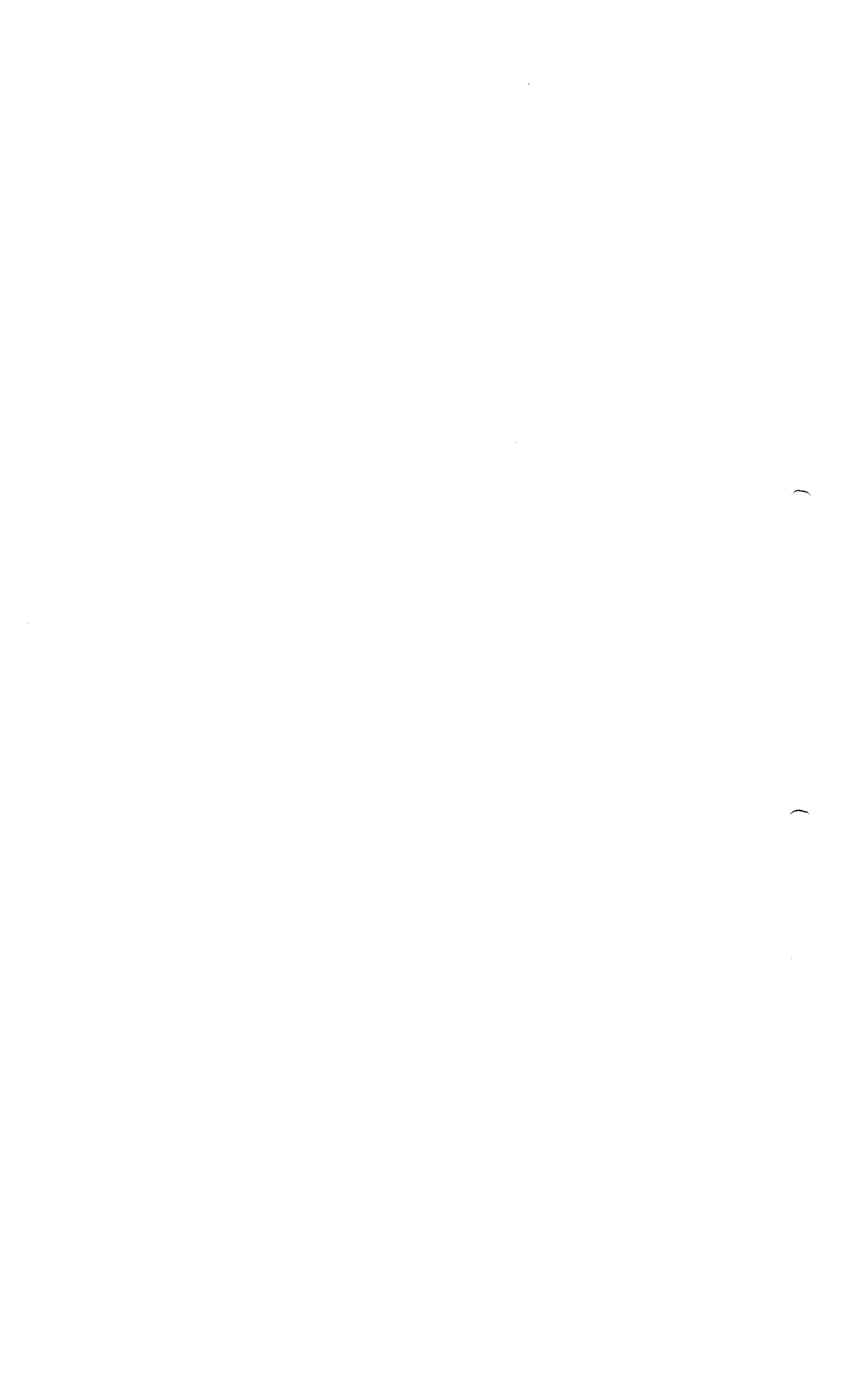
Method	SDS-PAGE, reducing conditions
Date of test	January 27, 2011
Result	Evidence of HA bands and absence or traces of NP and M components

Residual CTAB (Specification: ≤ 12 mcg/60 mcg HA)

Method	Colorimetric
Date of test	January 26, 2011
Result	< 3 mcg/60 mcg HA

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Residual barium (Specification: ≤ 1 mcg/mL)

Method	A. A. Spectrophotometry
Date of test	February 04, 2011
Result	< 1 mcg/mL

Residual sodium citrate (Specification: ≤ 1 mg/60 mcg HA)

Method	HPLC
Date of test	February 01, 2011
Result	0.01 mg/60 mcg HA

Residual Tween 80 (Specification: ≤ 300 mcg/mL)

Method	HPTLC
Date of test	January 26, 2011
Result	< 300 mcg/mL

Residual ovalbumin (Specification: Report result)

Method	ELISA
Date of test	January 28, 2011
Result	0.14 mcg/60 mcg HA

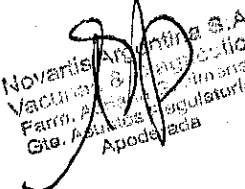
Residual formaldehyde (Specification: ≤ 1 mcg/60 mcg HA)

Method	Colorimetric
Date of test	January 26, 2011
Result	0.4 mcg/60 mcg HA

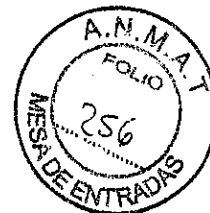
Sterility test (Specification: Sterile)

Method	Eur. Ph., membrane filtration
Media	FTM and SCDM
Volume tested	30 mL
Date of test	Jan. 21 - Feb. 04, 2011
Result	Sterile


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Test for inactivation (Specification: Absence of live virus)

Method	Hemagglutination
Date of test	January 25, 2011
Result	Absence of live virus

Endotoxin content (Specification: < 100 IU/60 mcg HA)

Method	LAL test
Date of test	January 25, 2011
Result	< 0.4IU/60 mcg HA

Haemagglutinin antigen content (Specification: Report result)

Method	SRID
Date of test	January 24, 2011
Result	276 mcg HA/mL


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**SUMMARY PROTOCOL FOR PRODUCTION AND TESTING
OF INFLUENZA VACCINE (SUB - UNIT)
NYMC X-187 MONOVALENT POOLED HARVEST**

Lot 1128/10

Summary

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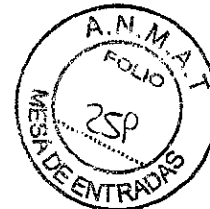
SEED VIRUS

General information on seed virus

Name and address of manufacturer	Novartis Vaccines and Diagnostics Srl Via Fiorentina, 1 - Siena (Italy)
A(H3N2) virus strain	NYMC X-187 (A/Perth/16/2009 - like virus)
Primary seed lot	E5880
Source of primary seed	New York Medical College Valhalla, New York, USA
Date of receipt of primary seed	January 28, 2010
Number of passage of primary seed on receipt	7
Comment	None
Storage conditions of primary seed	- 80 ± 10°C
Master seed lot	MS-084 dil. (10 ⁻⁷) 10 ⁻⁷
Date of manufacture of master seed	February 19, 2010
Number of passages from primary seed to master seed	3
Storage conditions of master seed	- 80 ± 10°C
Working seed lot	WS-084-01 dil. (10 ⁻⁷) 10 ⁻⁷
Date of manufacture of working seed	February 23, 2010
Number of passages from master seed to working seed	1
Added antibiotics	Kanamycin sulphate and neomycin sulphate
Storage conditions of working seed	- 80 ± 10°C


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Tests on master seed

Sterility test (Specification: Sterile)

Method	Eur. Ph., direct inoculation
Media	FTM and SCDM
Volume tested	20 mL
Date of test	Feb. 22 – Mar. 08, 2010
Result	Sterile

Tests on working seed

Sterility test (Specification: Sterile)

Method	Eur. Ph., direct inoculation
Media	FTM and SCDM
Volume tested	20 mL
Date of test	Feb. 23 – Mar. 09, 2010
Result	Sterile

Test for mycoplasma (Specification: Sterile)

Method	Eur. Ph.
Media	Basic agar / broth and modified 1699 plus agar / broth
Volume tested	8.7 mL
Date of test	Mar. 05 – Apr. 02, 2010
Result	Sterile

Infectivity titre (Specification: $\geq 10^{5.0}$ EID₅₀/mL)

Method	HA titration
Date of test	February 26, 2010
Result	$5 \times 10^{7.5}$ EID ₅₀ /mL


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Identity of neuraminidase (Specification: Positive for A(H3N2) strain)

Method ELISA
Date of test May 28, 2010
Result Positive for A(H3N2) strain

NI titre			
Antigen	Antiserum		
	[A(H1N1)] Anti-N1 NA A/California/7/2009 09/152	[A(H3N2)] Anti-N2 NA A/Perth/16/2009 09/270	[B] Anti-B NA B/Brisbane/60/2008 08/354
NYMC X-187 Working seed Lot WS-084-01 dil. (10 ⁻⁷) 10 ⁻⁷	< 10	161	21

Identity of haemagglutinin (Specification: Positive for A(H3N2) strain)

Method Haemagglutination – inhibition test
Date of test May 28, 2010
Result Positive for A(H3N2) strain

HI titre			
Antigen	Antiserum		
	[A(H3N2)] X-175C/08/246	[A(H3N2)] X-187/09/270	[B] B/Brisbane/60/2008 08/354
NYMC X-187 Working seed Lot WS-084-01 dil. (10 ⁻⁷) 10 ⁻⁷	320	2560	80

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MONOVALENT POOLED HARVEST LOT 1128/10

Production details of monovalent pooled harvest

Name and address of manufacturer	Novartis Vaccines and Diagnostics Srl Via Fiorentina, 1 - Siena (Italy)
A(H3N2) virus strain	NYMC X-187 (A/Perth/16/2009 - like virus)
Working seed lot used in manufacture	WS-084-01 dil. (10 ⁻⁷) 10 ⁻⁷
Date of inoculation:	
Monovalent lot : 395/10	December 26, 2010
Monovalent lot : 396/10	December 27, 2010
Added antibiotics	Kanamycin sulphate and neomycin sulphate
Date of harvesting:	
Monovalent lot : 355/10	December 30, 2010
Monovalent lot : 356/10	December 31, 2010
Method of inactivation	Treatment with formaldehyde
Date of inactivation:	
Monovalent lot : 355/10	December 30, 2010
Monovalent lot : 356/10	December 31, 2010
Concentration/purification procedure	Continuous zonal centrifugation in sucrose gradient, adsorption with barium sulphate and elution with sodium citrate solution


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Date of pooling of monovalent lots	January 03, 2011
Method of disruption	Treatment with Tween 80 and CTAB
Date of disruption	January 05, 2011
Date of sterile 0.2 µm final filtration	January 11, 2011
Volume of monovalent pooled harvest	62.531 mL
Storage conditions of monovalent pooled harvest	2 - 8°C

Tests on monovalent pooled harvest

Identity of neuraminidase (Specification: Positive for A(H3N2) strain)

Method	ELISA
Date of test	January 20, 2011
Result	Positive for A(H3N2) strain

Identity of haemagglutinin (Specification: Positive for A(H3N2) strain)

Method	SRID
Date of test	January 20, 2011
Result	Positive for A(H3N2) strain

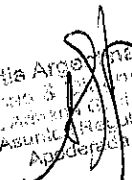
Purity (Specification: Evidence of HA bands and absence or traces of NP and M components)

Method	SDS-PAGE, reducing conditions
Date of test	January 21, 2011
Result	Evidence of HA bands and absence or traces of NP and M components

Residual CTAB (Specification: ≤ 12 mcg/60 mcg HA)

Method	Colorimetric
Date of test	January 19, 2011
Result	< 2 mcg/60 mcg HA


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Residual barium (Specification: ≤ 1 mcg/mL)

Method A. A. Spectrophotometry
Date of test January 17, 2011
Result < 1 mcg/mL

Residual sodium citrate (Specification: ≤ 1 mg/60 mcg HA)

Method HPLC
Date of test January 21, 2011
Result < 0.01 mg/60 mcg HA

Residual Tween 80 (Specification: ≤ 300 mcg/mL)

Method HPTLC
Date of test January 19, 2011
Result < 300 mcg/mL

Residual ovalbumin (Specification: Report result)

Method ELISA
Date of test January 17, 2011
Result 0.03 mcg/60 mcg HA

Residual formaldehyde (Specification: ≤ 1 mcg/60 mcg HA)

Method Colorimetric
Date of test January 17, 2011
Result 0.3 mcg/60 mcg HA

Sterility test (Specification: Sterile)

Method Eur. Ph., membrane filtration
Media FTM and SCDM
Volume tested 30 mL
Date of test Jan. 11 – Jan. 25, 2011
Result Sterile

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Test for inactivation (Specification: Absence of live virus)

Method	Hemagglutination
Date of test	January 14, 2011
Result	Absence of live virus


Endotoxin content (Specification: < 100 IU/60 mcg HA)

Method	LAL test
Date of test	January 17, 2011
Result	< 0.3 IU/60 mcg HA

Haemagglutinin antigen content (Specification: Report result)

Method	SRID
Date of test	January 17, 2011
Result	391 mcg HA/mL


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**SUMMARY PROTOCOL FOR PRODUCTION AND TESTING
OF INFLUENZA VACCINE (SUB - UNIT)
NYMC BX-35 MONOVALENT POOLED HARVEST**

Lot 1124/10

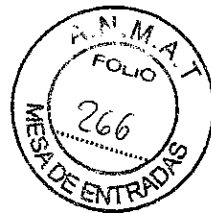
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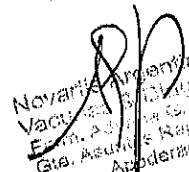
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SEED VIRUS

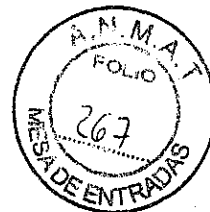
General information on seed virus

Name and address of manufacturer	Novartis Vaccines and Diagnostics Srl Via Fiorentina, 1 - Siena (Italy)
B virus strain	NYMC BX-35 (B/ Brisbane/60/2008 - like virus)
Primary seed lot	E5873
Source of primary seed	New York Medical College Valhalla, New York, USA
Date of receipt of primary seed	January 27, 2010
Number of passage of primary seed on receipt	9
Comment	None
Storage conditions of primary seed	- 80 ± 10°C
Master seed lot	MS-093 dil. (10 ⁻⁶) 10 ⁻⁵
Date of manufacture of master seed	October 01, 2010
Number of passages from primary seed to master seed	3
Storage conditions of master seed	- 80 ± 10°C
Working seed lot	WS-093-01 dil. (10 ⁻⁵) 10 ⁻⁶
Date of manufacture of working seed	October 05, 2010
Number of passages from master seed to working seed	1
Added antibiotics	Kanamycin sulphate and neomycin sulphate
Storage conditions of working seed	- 80 ± 10°C


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Tests on master seed

Sterility test (Specification: Sterile)

Method	Eur. Ph., direct inoculation
Media	FTM and SCDM
Volume tested	20 mL
Date of test	Oct. 04 – Oct.18, 2010
Result	Sterile

Tests on working seed

Sterility test (Specification: Sterile)

Method	Eur. Ph., direct inoculation
Media	FTM and SCDM
Volume tested	20 mL
Date of test	Oct. 06 – Oct.20, 2010
Result	Sterile


Test for mycoplasma (Specification: Sterile)

Method	Eur. Ph.
Media	Basic agar / broth and modified 1699 plus agar / broth
Volume tested	8.7 mL
Date of test	Oct. 11 – Nov. 08, 2010
Result	Sterile

Infectivity titre (Specification: $\geq 10^{5.0}$ EID₅₀/mL)

Method	HA titration
Date of test	October 11, 2010
Result	$5 \times 10^{8.6}$ EID ₅₀ /mL


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