

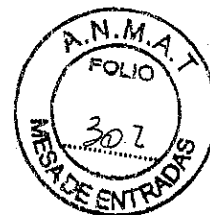
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CLIENTE 748
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**SUMMARY PROTOCOL FOR PRODUCTION AND TESTING
OF INFLUENZA VACCINE (SUB - UNIT)
NYMC X-187 MONOVALENT POOLED HARVEST**

Lot 1111/10

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

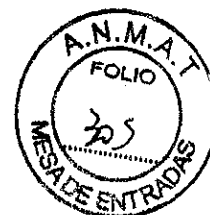
Infectivity titre (Specification: $\geq 10^{5.0}$ EID₅₀/mL)

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

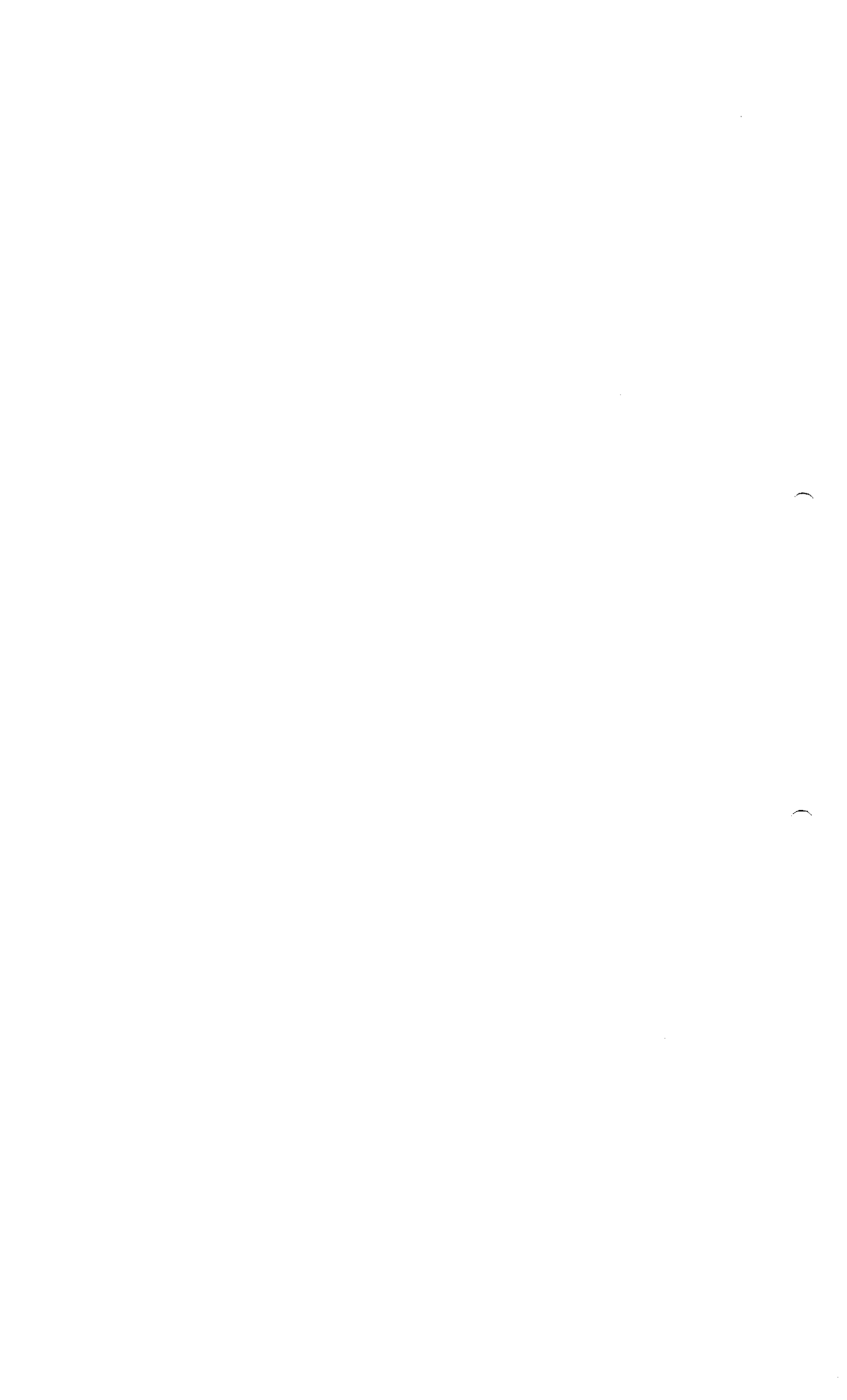
Identity of haemagglutinin (Specification: Positive for A(H3N2) strain)

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 1111/10

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 : 355/10	November 16, 2010
Monovalent lot : 356/10	November 17, 2010
Added antibiotics	Kanamycin sulphate and neomycin sulphate
Date of harvesting:	
Monovalent lot : 355/10	November 20, 2010
Monovalent lot : 356/10	November 21, 2010
Method of inactivation	Treatment with formaldehyde
Date of inactivation:	
Monovalent lot : 355/10	November 20, 2010
Monovalent lot : 356/10	November 21, 2010
Concentration/purification procedure	Continous 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	November 24, 2010
Method of disruption	Treatment with Tween 80 and CTAB
Date of disruption	November 27, 2010
Date of sterile 0.2 µm final filtration	December 02, 2010
Volume of monovalent pooled harvest	74,931 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	December 13, 2010
Result	Positive for A(H3N2) strain

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

Method	SRID
Date of test	December 16, 2010
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	December 16, 2010
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	December 16, 2010
Result	0.4 mcg/60 mcg HA

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