



**Influenza Reagent  
Influenza virus Infectious X-349A (H1N1)  
NIBSC code: 20/238  
Instructions for use  
(Version 2.0, Dated 11/11/2020)**

**1. INTENDED USE**

Reagent 20/236 is prepared from X-349A (A/Indiana/02/2020) (H1N1) x A/PR/8/34 which was processed for freeze drying in 250µl volumes as described by Campbell, PJ, Journal of Biological Standardisation, 1974, 2,249-267. The derivation and known passage history of X-349A is attached.

**2. CAUTION**

**This preparation is not for administration to humans or animals in the human food chain**

The material is not of human or bovine origin. As with all materials of biological origin, this preparation should be regarded as potentially hazardous to health. It should be used and discarded according to your own laboratory's safety procedures. Such safety procedures should include the wearing of protective gloves and avoiding the generation of aerosols. Care should be exercised in opening ampoules or vials, to avoid cuts.

**3. UNITAGE**

No unitage is assigned to this material

**4. CONTENTS**

Country of origin of biological material: United Kingdom.  
Each ampoule contains 250µl (nominal) of infectious influenza virus as allantoic fluid from SPF embryonated hen's eggs.

**5. STORAGE**

Store in the dark at -20°C or below

**Please note: because of the inherent stability of lyophilized material, NIBSC may ship these materials at ambient temperature.**

**6. DIRECTIONS FOR OPENING**

Vials have a 'flip-up' circular cap. Either on the cap or the collar of the vial, there is an indication of the point at which to lever off the cap. This exposes an area of the stopper through which reconstitution and withdrawal of the preparation can be made using a hypodermic needle and syringe. If use of a pipette is preferred, then fully remove the metal collar using, for example, forceps, taking care to avoid cuts by wearing appropriate gloves. Remove the stopper for access. Care should be taken to prevent loss of the contents.

**7. USE OF MATERIAL**

Reconstitute the contents of one ampoule of reagent with 250µl of sterile distilled water. Leave for a minimum of 5 minutes before use to allow for complete solution of freeze-dried material. A range of dilutions (e.g. 10<sup>-3</sup> to 10<sup>-6</sup>) should be made in a suitable medium for initial cultivation.

**8. STABILITY**

Reference Materials should be stored on receipt as indicated on the label.

NIBSC follows the policy of WHO with respect to its reference materials.

**9. REFERENCES**

NA

**10. ACKNOWLEDGEMENTS**

NA

**11. FURTHER INFORMATION**

Further information can be obtained as follows:

This material: [enquiries@nibsc.org](mailto:enquiries@nibsc.org)

WHO Biological Standards:

<http://www.who.int/biologicals/en/>

JCTLM Higher order reference materials:

<http://www.bipm.org/en/committees/jc/jctlm/>

Derivation of International Units:

[http://www.nibsc.org/standardisation/international\\_standards.aspx](http://www.nibsc.org/standardisation/international_standards.aspx)

Ordering standards from NIBSC:

<http://www.nibsc.org/products/ordering.aspx>

NIBSC Terms & Conditions:

[http://www.nibsc.org/terms\\_and\\_conditions.aspx](http://www.nibsc.org/terms_and_conditions.aspx)

**12. CUSTOMER FEEDBACK**

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**13. CITATION**

In all publications, including data sheets, in which this material is referenced, it is important that the preparation's title, its status, the NIBSC code number, and the name and address of NIBSC are cited and cited correctly.

**14. MATERIAL SAFETY SHEET**

Classification in accordance with Directive 2000/54/EC, Regulation (EC) No 1272/2008: Not applicable or not classified

Physical and Chemical properties	
Physical appearance: white powder	Corrosive: No
Stable: Yes	Oxidising: No
Hygroscopic: No	Irritant: No
Flammable: No	Handling: See caution, Section 2
Other (specify):	Live influenza virus
Toxicological properties	
Effects of inhalation:	Likelihood of influenza virus infection
Effects of ingestion:	Not established, avoid ingestion
Effects of skin absorption:	Not established, avoid contact with skin
Suggested First Aid	
Inhalation:	Seek medical advice
Ingestion:	Seek medical advice
Contact with eyes:	Wash with copious amounts of water. Seek medical advice
Contact with skin:	Wash thoroughly with water.
Action on Spillage and Method of Disposal	
Spillage of contents should be taken up with absorbent material wetted with an appropriate virucidal agent. Rinse area with an appropriate virucidal agent followed by water. Absorbent materials used to treat spillage should be treated as biologically hazardous waste.	

**15. LIABILITY AND LOSS**

In the event that this document is translated into another language, the English language version shall prevail in the event of any inconsistencies between the documents.



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**16. INFORMATION FOR CUSTOMS USE ONLY**

<b>Country of origin for customs purposes*:</b> United Kingdom * Defined as the country where the goods have been produced and/or sufficiently processed to be classed as originating from the country of supply, for example a change of state such as freeze-drying.
<b>Net weight:</b> 0.25g per ampoule
<b>Toxicity Statement:</b> Non-toxic
<b>Veterinary certificate or other statement</b> if applicable.
<b>Attached:</b> No

Passage history of X-349A (H1N1)

Cumulative number of passages	Passage numbers at each stage	Lot	Laboratory
E1-E3	E3	Unknown	Unknown
E4-E14	E3/E11	E#6451	NYMC, USA
E15	E3/E11/E1	45730	NIBSC, UK

Sterility: No visible contamination was detected in a variety of media (tryptose soya broth, thioglycolate broth, Sabouraud's broth and blood agar plates) after 14 days incubation.



**Derivation of NYMC X-349A**  
**A/Indiana/02/2020 (H1N1pdm) with NYMC X-157CL-3**  
**High Yield A H1N1(H1pdm 09) Reassortant (6:2)**  
**with A/PR/8/34 M, NS, PB1, PB2, PA, and NP genes and**  
**A/Indiana/02/2020 HA and NA genes**

Exper. # 4861III  
 A/Indiana/02/2020 (H1N1pdm 09)  
 CDC ID#3026055186  
 01/29/20 E3 (4/17/20)  
 HA – 64

**Passages at New York Medical College**

<u>Passage No.</u>			
1	$10^{-2}$		
		<u>HA—1:256</u>	
		▼	
		<u>A/Indiana/02/2020 (H1N1pdm 09) x NYMC X-157CL-3</u>	
2	$10^{-3}$	+	$10^{-3}$
		<u>HA— 16</u>	
		▼	
3	$10^{-1}$		+ X-157 HANA antisera (as) X-157 HANA antibodies (ab)
		<u>HA—1:32</u>	
		▼	
4	$10^{-1}$		+ X-157 HANA antisera (as) X-157 HANA antibodies (ab)
		<u>HA-1:64</u>	
		▼	
5	$10^{-3}$		+ X-157 HANA antisera (as) X-157 HANA antibodies (ab)
		<u>HA—1:128</u>	
		▼	
6	$10^{-4}$		



		<u>HA—1:256</u> ▼
7	$10^{-7}$	
		<u>HA -1:1024</u> ▼
8	$10^{-8}$	
		<u>HA—1:1024</u> ▼
9	$10^{-8}$	
		<u>HA—1:512</u> ▼
10	$10^{-8}$	
		<u>HA—1:1024</u> ▼
11	$10^{-5}$	<u>HA— 1:1536 (1024-2048)</u> <b>NYMC X-349A (E3/E11)</b> E#6451 NYMC Archive

HA and NA genes were identified as A/Indiana/02/2020 by RT-PCR. M, PB1, PB2, PA, NS and NP were identified as A/PR/8/34 by RT-PCR. Final RT-PCR/RFLP pending

SPF eggs were used for all reassortant passages.

Virus seed was shown to be sterile. Sterility testing was performed by streaking the sample on blood agar plates and incubating for 48 hours at 37 °C.