



**Influenza Reagent**  
**Influenza Virus Infectious NYMC X-393**  
**(A/West Virginia/30/2022) (H1N1)**  
**NIBSC code: 23/152**  
**Instructions for use**  
**(Version 1.0, Dated 21/07/2023)**

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**1. INTENDED USE**

Reagent 23/152 was prepared from NYMC X-393 (H1N1), a reassortant of A/West Virginia/30/2022 (H1N1) and X-157 (H3N2), which was processed in 250µl volumes as liquid stock. The derivation and known passage history of 23/152 are 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 chicken eggs.

**5. STORAGE**

Store in the dark at -70°C or below.

**6. DIRECTIONS FOR OPENING**

Vials have a screw cap; an internal stopper may also be present. The cap should be removed by turning anti-clockwise. Care should be taken to prevent loss of the contents. Please note: If a stopper is present on removal of the cap, the stopper should remain in the vial or be removed with the cap.

**7. USE OF MATERIAL**

Ready to use

**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;

National Institute for Biological Standards and Control,  
Potters Bar, Hertfordshire, EN6 3QG. T +44 (0)1707 641000, [nibsc.org](http://nibsc.org)  
WHO International Laboratory for Biological Standards,  
UK Official Medicines Control Laboratory

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

<b>Physical and Chemical properties</b>	
Physical appearance: Clear liquid	Corrosive: No
Stable: Yes	Oxidising: No
Hygroscopic: No	Irritant: No
Flammable: No	Handling: See caution, Section 2
Other (specify): Live influenza virus	
<b>Toxicological properties</b>	
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
<b>Suggested First Aid</b>	
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.
<b>Action on Spillage and Method of Disposal</b>	
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 if applicable.</b>
<b>Attached:</b> No

Passage history of NYMC X-393 (H1N1)

Cumulative number of passages	Passage numbers at each stage	Lot	Laboratory
E3	E3	3030726621	CDC, USA
E14	E3/E11	E#6551	NYMC, USA
E15	E3/E11/E1	47630*	MHRA, UK

\* The HA titre of this virus using 0.7% turkey red blood cells is 1024. The infectious titre is unknown.

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.

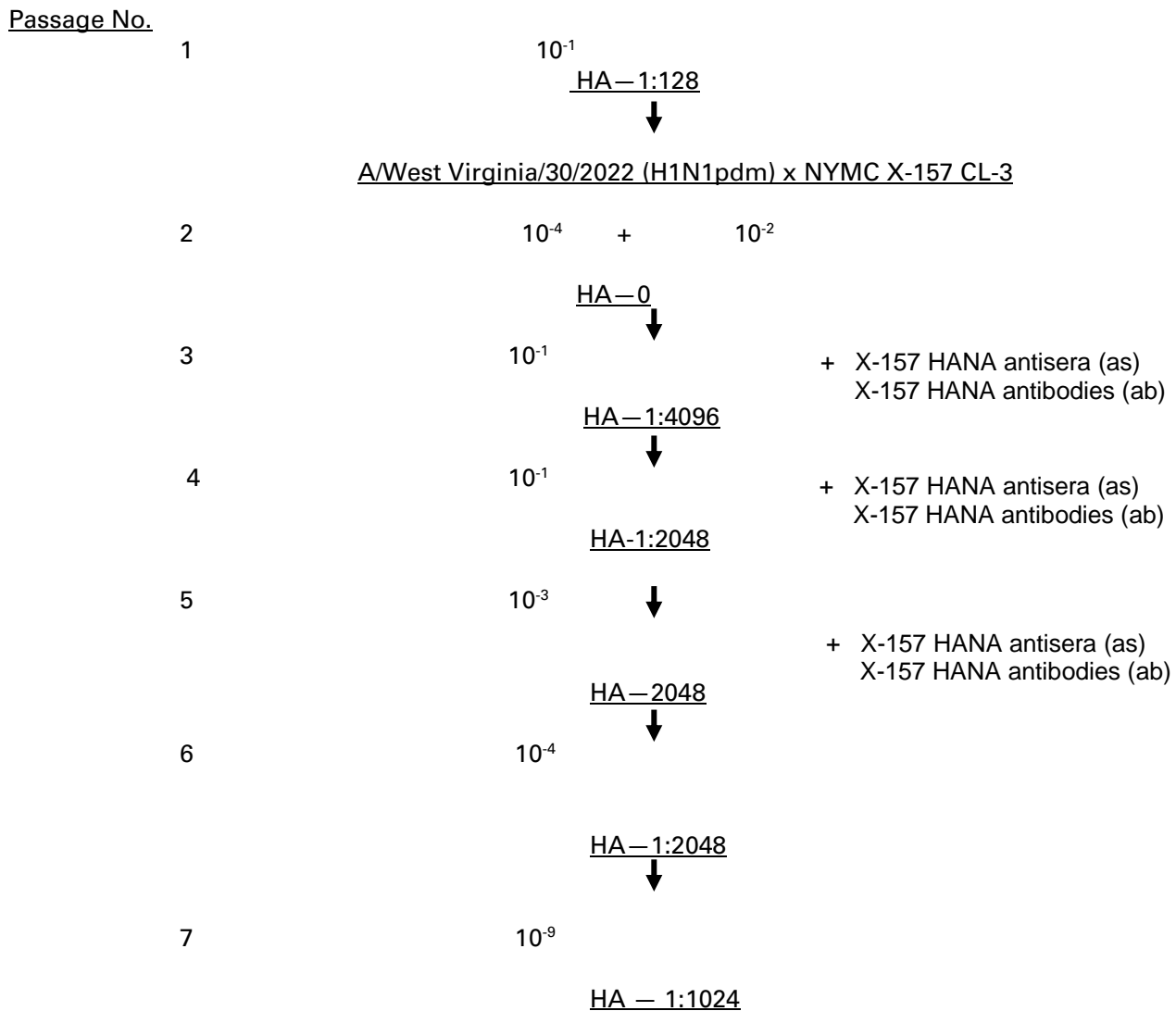
The HA and NA sequence of this virus are available at GISAID with the accession number EPI\_ISL\_17980706.

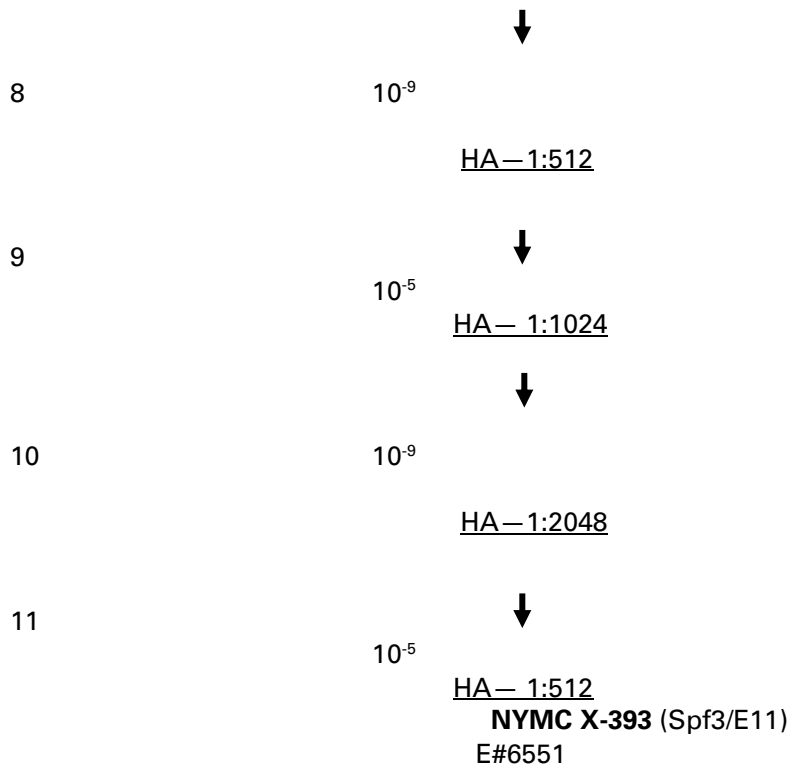


**Derivation of NYMC X-393  
A/West Virginia/30/2022 (H1N1pdm) with NYMC X-157 CL-3  
High Yield A H1N1pdm Reassortant (5:3)  
with A/PR/8/34 M, PB1, PA, NS and NP genes and  
A/West Virginia/30/2022 PB2, HA and NA genes**

Exper. # 4896 I  
A/West Virginia/30/2022, H1N1pdm  
CDC 3030726621  
Spf 3  
HA: 256

**Passages at New York Medical College**





**HA Yield by UPLC Analysis ( $\mu\text{g HA/ml allantoic fluid}$ )**

wt (wild type)	X-393	Fold Increase
3.1	3.5	1.1

PB2, HA and NA genes were identified as A/West Virginia/30/2022 by RT-PCR/RFLP gene analysis. The M, PB1, PA, NS and NP genes were identified as A/PR/8/34 by RT-PCR/RFLP analysis.

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.

All titers performed with chicken red blood cells.