Medicines & Healthcare products Regulatory Agency

NIBSC Confidence in Biological Medicines

Influenza Reagent
Influenza Virus infectious NIB-74
NIBSC code: 13/200
Instructions for use
(Version 1.0, Dated 06/01/2014)

1. INTENDED USE

Reagent 13/200 is prepared from NIB-74 (A/Christchurch/16/2010 (H1N1) x NYMC X-157 (H3N2)) which was processed for freeze drying in 250 µl volumes as described by Campbel, PJ, Journal of Biological Standardisation, 1974, 2, 249-267. The passage history of NIB-74 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 freeze dried allantoic fluid from embryonated SPF premium hen's eggs.

5. STORAGE

Store in the dark at -20^{0}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

DIN ampoules have an 'easy-open' coloured stress point, where the narrow ampoule stem joins the wider ampoule body. Various types of ampoule breaker are available commercially. To open the ampoule, tap the ampoule gently to collect material at the bottom (labelled) end and follow manufactures instructions provided with the ampoule breaker.

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^{-3} to 10^{-5}) should be made in a suitable medium for initial cutivation.

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
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
Ordering standards from NIBSC:
http://www.nibsc.org/products/ordering.aspx
NIBSC Terms & Conditions:
http://www.nibsc.org/terms_and_conditions.aspx

12. CUSTOMER FEEDBACK

Customers are encouraged to provide feedback on the suitability or use of the material provided or other aspects of our service. Please send any comments to enquiries@nibsc.org

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 a 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.
Unless expressly stated otherwise by NIBSC, NIBSC's Standard Terms and Conditions for the Supply of Materials (available at http://www.nibsc.org/About_Us/Terms_and_Conditions.aspx or upon

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request by the Recipient) ("Conditions") apply to the exclusion of all other terms and are hereby incorporated into this document by reference. The Recipient's attention is drawn in particular to the provisions of clause 11 of the Conditions.

16. INFORMATION FOR CUSTOMS USE ONLY

Country of origin for customs purposes*: 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.
Net weight: NA
Toxicity Statement: Non-toxic
Veterinary certificate or other statement if applicable**.** **Attached:** No

Passage history of NIB-74

Passage	Lot	Laboratory
E – E4		NIBSC, Hertfordshire, UK
E5	32890	NIBSC, Hertfordshire, 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 NIB-74

A/Christchurch/16/2010 (H1N1)-like High Growth Reassortant

Strain: A/Christchurch/16/2010 (H1N1)
Received from WHO Melbourne # SL/1007239-1, E2
Passage undertaken at NIBSC #32740, E3

Mixed Infection A/Christchurch/16/2010(10^{-2}) x NYMC X-157 (10^{-4})
HA Titre: 640

↓

1st passage: Inoculum 10^{-3}
HA Titre: 320

↓

1st Antiserum passage: Inoculum 10^{-3} with X-157 antiserum
HA Titre: 640

↓

2nd Antiserum passage: Inoculum 10^{-6} with X-157 antiserum
HA Titre: 640

↓

4th passage: Inoculum 10^{-7}
HA Titre: 1920

↓

5th passage: Inoculum 10^{-5}
HA Titre: 640
Lot: 32890

Total number of passages since mixed infection=E5.
SPF premium eggs were used for all passages.
RT-PCR/RFLP analysis indicates that NIB-74 has HA and NA from A/Christchurch/16/2010 and M, NP, PB2, PA and NS genes from NYMC X-157 (i.e. A/PR/8/34). At this time PB1 gene is undetermined.

The HA sequence of NIB-74 is identical to that of the parental virus, A/Christchurch/16/2010.[1]

[1]Sequence data provided by WHO influenza collaborating centre, NIMR, Mill Hill, London NW7, UK

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Antigenic analysis of pandemic influenza A(H1N1) viruses (05/10/2010)[1]

Viruses	Passage	Post infection ferret antisera					
Reference virus		A/Cal/ 4/09	A/Cal/ 7/09	A/Eng/ 195/09	A/Auk/ 3/09	A/Lviv/ N6/09	A/HK/ 2212/10
A/California/4/2009	M1E3	**2560**	5120	5120	5120	2560	2560
A/California/7/2009	E7	2560	**2560**	5120	5120	5120	2560
A/England/195/2009	M4	640	640	**640**	1280	640	640
A/Auckland/3/2009	ExE4	2560	2560	2560	**5120**	2560	2560
A/Lviv/N6/2009	M4Siat1	320	1280	320	320	**1280**	320
A/HK/2212/2010	M4	1280	2560	2560	2560	2560	**2560**
Test virus							
NIB-74	E5	2560	1280	5120	5120	5120	2560

[1] Data received from WHO Influenza Collaborating Centre, NIMR, Mill Hill, London NW7, UK

Based on this data the analysis from the WHO influenza collaborating centre is that NIB-74 is A/California/7/2009-like