Influenza Reagent
Influenza Virus Infectious NIB-134 (A/Catalonia/NSVH16152065/2022) (H1N1)
NIBSC code: 23/126
Instructions for use
(Version 1.0, Dated 26/04/2023)

1. INTENDED USE
Reagent 23/126 is prepared from NIB-134 (H1N1), a reassortant of A/Catalonia/NSVH16152065/2022 (H1N1) and NYMC X-157 (H3N2), which was processed in 250μl volumes as liquid stock. The derivation and known passage history of NIB-134 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 hen’s eggs.

5. STORAGE
Store in the dark at -70°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 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; 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

<table>
<thead>
<tr>
<th>Physical and Chemical properties</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical appearance:</td>
<td>Clear liquid</td>
</tr>
<tr>
<td>Corrosive:</td>
<td>No</td>
</tr>
<tr>
<td>Stable:</td>
<td>Yes</td>
</tr>
<tr>
<td>Oxidising:</td>
<td>No</td>
</tr>
<tr>
<td>Hygroscopic:</td>
<td>No</td>
</tr>
<tr>
<td>Irritant:</td>
<td>No</td>
</tr>
<tr>
<td>Flammable:</td>
<td>No</td>
</tr>
<tr>
<td>Handling:</td>
<td>See caution, Section 2</td>
</tr>
<tr>
<td>Other (specify):</td>
<td>Live influenza virus</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicological properties</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Effects of inhalation:</td>
<td>Likelihood of influenza virus infection</td>
</tr>
<tr>
<td>Effects of ingestion:</td>
<td>Not established, avoid ingestion</td>
</tr>
<tr>
<td>Effects of skin absorption:</td>
<td>Not established, avoid contact with skin</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Suggested First Aid</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation:</td>
<td>Seek medical advice</td>
</tr>
<tr>
<td>Ingestion:</td>
<td>Seek medical advice</td>
</tr>
<tr>
<td>Contact with eyes:</td>
<td>Wash with copious amounts of water. Seek medical advice</td>
</tr>
<tr>
<td>Contact with skin:</td>
<td>Wash thoroughly with water.</td>
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</tbody>
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WHO International Laboratory for Biological Standards,
UK Official Medicines Control Laboratory
**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. 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 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**

<table>
<thead>
<tr>
<th>Country of origin for customs purposes*</th>
<th>United Kingdom</th>
</tr>
</thead>
</table>
* 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.

<table>
<thead>
<tr>
<th>Net weight</th>
<th>0.25g per ampoule</th>
</tr>
</thead>
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<table>
<thead>
<tr>
<th>Toxicity Statement</th>
<th>Non-toxic</th>
</tr>
</thead>
</table>

| Veterinary certificate or other statement if applicable | Attached | No |
|----------------------------------------------------------|----------|

**Passage history NIB-133 (H1N1)**

<table>
<thead>
<tr>
<th>Cumulative number of passages</th>
<th>Passage numbers at each stage</th>
<th>Lot</th>
<th>Laboratory</th>
</tr>
</thead>
<tbody>
<tr>
<td>E3</td>
<td>E3</td>
<td>unknown</td>
<td>The Francis Crick Institute, UK</td>
</tr>
<tr>
<td>E13</td>
<td>E3/E10</td>
<td>47460</td>
<td>MHRA, UK</td>
</tr>
</tbody>
</table>

* The HA titre of this virus using 0.7% turkey red blood cells is 512. 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 sequences of this virus are available at GISAID with the accession number EPI_ISL_17520669.
Derivation of NIB-134 (H1N1)

- Strain: A/Catalonia/NSVH161512065/2022
- Received from the Crick Institute London: E3, 18/01/2023.
- Passages undertaken at NIBSC: none.
- Genetic analysis 6:2

Mixed Infection: A/Catalonia/NSVH161512065/2022 (10^{-2}) x NYMC X-157 (10^{-4})
HA Titre: 1024

1st Antiserum passage: Inoculum 10^{-3} with NYMC X-157 antiserum
HA Titre: 256

2nd Antiserum passage: Inoculum 10^{-2} with NYMC X-157 antiserum
HA Titre: 2048

3rd passage: Inoculum 10^{-9}
HA Titre: 1024

4th passage: Inoculum 10^{-8}
HA Titre: 2048

5th passage: Inoculum 10^{-9}
HA Titre: 1024

6th passage: Inoculum 10^{-9}
HA Titre: 2048

7th passage: Inoculum 10^{-9}
HA Titre: 2048

8th passage: Inoculum 10^{-9}
HA Titre: 2048

Final amplification: Inoculum 10^{-7}
HA Titre: 512
Lot: 47460

Total number of passages since mixed infection= E10
SPF eggs were used for all passages.