WHO International Standard  
Streptokinase and Streptodornase  
NIBSC code: 62/007  
Instructions for use (Version 4.0, Dated 26/03/2008)

1. INTENDED USE  
The International Standard for Streptokinase and Streptodornase was established by the WHO Expert Committee on Biological Standardisation in 1964. Due to short supply of the International Standard we are only able to supply one ampoule for each request until a new standard is established.

2. CAUTION  
This preparation is not for administration to humans or animals in the human food chain.

The preparation contains material of human origin, and either the final product or the source materials, from which it is derived, have been tested and found negative for HBsAg, anti-HIV and HCV RNA. 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  
2400 International Units of Streptodornase per ampoule.

4. CONTENTS  
Country of origin of biological material: United Kingdom.
A single batch of medium purity streptokinase and streptodornase (Lot No. 48035154) was generously supplied by the Lederle Division of American Cyanamid Co and filled into ampoules at the National Institute for Medical Research, London. The maximum difference in the weight of contents of ampoules sampled during filling was found to be ±1%.

5. STORAGE  
Unopened ampoules should be stored in the dark at or below -20ºC. Please note: because of the inherent stability of lyophilized material, NIBSC may ship these materials at ambient temperature.

6. DIRECTIONS FOR OPENING  
Tap the ampoule gently to collect the material at the bottom (labelled) end. Ensure ampoule is scored all round at the narrow part of the neck, with a diamond or tungsten carbide tipped glass knife file or other suitable implement before attempting to open. Place the ampoule in the ampoule opener, positioning the score at position ‘A’, shown in the diagram below. Surround the ampoule with cloth or layers of tissue paper. Grip the ampoule and holder in the hand and squeeze at point ‘B’. The ampoule will snap open. Take care to avoid cuts and projectile glass fragments that enter eyes. Take care that no material is lost from the ampoule and that no glass falls into the ampoule.

7. USE OF MATERIAL  
No attempt should be made to weigh out any portion of the freeze-dried material prior to reconstitution.

8. STABILITY  
Reference materials are held at NIBSC within assured, temperature-controlled storage facilities. 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  

10. ACKNOWLEDGEMENTS  
Acknowledgements are made to the suppliers of the material used for the standard and to all the participants in the collaborative study.

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/standardsisation/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  

<table>
<thead>
<tr>
<th>Physical and Chemical properties</th>
<th>Toxicological properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical appearance: Freeze dried powder</td>
<td>Corrosive: No</td>
</tr>
<tr>
<td>Stable: Yes</td>
<td>Oxidising: No</td>
</tr>
<tr>
<td>Hygroscopic: No</td>
<td>Irritant: No</td>
</tr>
<tr>
<td>Flammable: No</td>
<td>Handling: See caution, Section 2</td>
</tr>
<tr>
<td>Other (specify): Contains material of human origin</td>
<td></td>
</tr>
</tbody>
</table>

Effects of inhalation: Not established, avoid inhalation  
Effects of ingestion: Not established, avoid ingestion  
Effects of skin absorption: Not established, avoid contact with skin

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![Side view of ampoule opening device containing an ampoule positioned ready to open. ‘A’ is the score mark and ‘B’ the point of applied pressure.](image-url)
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 ampoule contents should be taken up with absorbent material wetted with an appropriate disinfectant. Rinse area with an appropriate disinfectant followed by water. Absorbent materials used to treat spillage should be treated as biological 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](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>
<tbody>
<tr>
<td>* 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.</td>
<td></td>
</tr>
<tr>
<td>Net weight:</td>
<td>10mg</td>
</tr>
<tr>
<td>Toxicity Statement:</td>
<td>Toxicity not assessed</td>
</tr>
<tr>
<td>Veterinary certificate or other statement if applicable.</td>
<td>Attached: No</td>
</tr>
</tbody>
</table>

17. **CERTIFICATE OF ANALYSIS**

NIBSC does not provide a Certificate of Analysis for WHO Biological Reference Materials because they are internationally recognised primary reference materials fully described in the instructions for use. The reference materials are established according to the WHO Recommendations for the preparation, characterization and establishment of international and other biological reference standards [http://www.who.int/bloodproducts/publications/TRS932Annex2_Inter Biologicalstandardsrev2004.pdf](http://www.who.int/bloodproducts/publications/TRS932Annex2_Inter Biologicalstandardsrev2004.pdf) (revised 2004). They are officially endorsed by the WHO Expert Committee on Biological Standardization (ECBS) based on the report of the international collaborative study which established their suitability for the intended use.