WHO Reference Reagent

MAPREC Reference DNA 100% Polio Virus Type 1
NIBSC code: 00/410

Instructions for use
(Version 3.0, Dated 08/01/2010)

1. INTENDED USE
This control DNA for the MAPREC assay of polio virus type 1 (Sabin) is intended to be used as a validation sample for the assay. It is used to control the performance of the restriction enzymes. Dde I and Nci I, for example should digest this sample completely but assay conditions may reduce the efficiency of digestion. Conditions of restriction enzyme digestion should be optimized with this sample and monitored for consistency thereafter.

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
Preparation 00/410 is assigned a nominal value of 100% 480-A, 100% 525-C.

4. CONTENTS
Country of origin of biological material: USA.
Each DIN 58-377 ampoule contains the freeze-dried residue of cloned DNA that spans nucleotides 445-561 of type 1 poliovirus (Sabin) RNA. The DNA was prepared at a nominal concentration of 0.01µg/ml in TE buffer pH7.5 (10mM Tris-HCl and 1mM EDTA) and 0.1% w/v lactose was added as a bulking agent prior to freeze-drying.

5. STORAGE
Unopened ampoules should be stored at -20°C or below.
Rehydrate preparation 00/410 in 0.1ml of distilled water. Aliquot the rehydrated material in 10µl volumes and store at -70°C.
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
No attempt should be made to weigh out any portion of the freeze-dried material prior to reconstitution
A Standard Operating Procedure for the MAPREC assay is available from; Chief, Biologicals, World Health Organization. This procedure requires that an aliquot of 00/410 is tested in each MAPREC assay and used to validate the test.

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
We thank the participants of the WHO collaborative study to evaluate the Poliovirus type1 MAPREC assay.

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 tlm/
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

<table>
<thead>
<tr>
<th>Physical and Chemical properties</th>
<th>Corrosive: No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification in accordance with Directive 2000/54/EC, Regulation (EC) No 1272/2008: Not applicable or not classified Physical appearance: White solid</td>
<td></td>
</tr>
<tr>
<td>Stable: Yes Oxidising: No</td>
<td></td>
</tr>
<tr>
<td>Hygroscopic: Yes Irritant: No</td>
<td></td>
</tr>
<tr>
<td>Flammable: No Handling: See caution, Section 2</td>
<td></td>
</tr>
<tr>
<td>Other (specify): None</td>
<td></td>
</tr>
</tbody>
</table>

Toxicological properties

| Effects of inhalation: Not established, avoid inhalation |
| Effects of ingestion: Not established, avoid ingestion |
| Effects of skin absorption: Not established, avoid contact with skin |
Suggested First Aid

<table>
<thead>
<tr>
<th>Situation</th>
<th>Action</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</td>
</tr>
<tr>
<td></td>
<td>medical advice</td>
</tr>
<tr>
<td>Contact with skin</td>
<td>Wash thoroughly with water.</td>
</tr>
</tbody>
</table>

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 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>0.10g</td>
</tr>
<tr>
<td>Toxicity Statement:</td>
<td>Toxicity not assessed</td>
</tr>
<tr>
<td>Veterinary certificate or other statement if applicable.</td>
<td>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_bio_olefstandardsrev2004.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.