1st International Reference Panel for HIV-1 RNA Genotypes
NIBSC code: 01/466

Instructions for Use (8th September 2004, Version 3)
Changes from previous version are highlighted in red, deletions are shown as

1. INTRODUCTION

HIV-1 exhibits substantial genetic diversity and several different genotypes of HIV-1 exist. There is a major group (group M), consisting of subtypes A-L, and a more diverse collection of outliers have been referred to as groups N and O. Many of the early nucleic acid-based tests (NAT) had a fairly narrow band of specificity targeted mainly at subtype B viruses, as these predominated in the Western World. Greater awareness of the HIV genetic diversity and the desire to detect as many strains of HIV as possible has led to a number of improvements in assay design. However, it has been recognised that some assays are still poor at detecting certain subtypes, occasionally giving low or negative results for samples that are clearly positive in other assays.

The WHO agreed that there is a need for a well characterised reference panel of different HIV-1 subtypes for use in regions of the world where non-B subtypes of HIV-1 predominate and by laboratories involved in NAT diagnosis and by kit manufacturers. The HIV-1 RNA subtype panel (Code 01/466) is enclosed for use in qualitative and quantitative HIV-1 RNA assays.

This panel has been evaluated in an international collaborative study and a report of this study has been submitted and accepted by the WHO Expert Committee on Biological Standardisation (ECBS). At the recommendation of the ECBS, this panel has been established as the 1st International Reference Panel for HIV-1 RNA Genotypes. ECBS report ref: WHO/BS/03.1961 (the report can be found via the Internet using the following link: http://whqlibdoc.who.int/hq/2003/WHO_BS_03.1961.pdf)

2. UNITAGE

There is no unitage assigned to this material.
3. CONTENTS

Each Panel consists of 11 members including a representative of each subtype A, B, C, D, AE (labelled as subtype E), F, G, AG-GH (labelled as subtype G), group N and group O and a negative control. Each vial contains 1.1ml of liquid and is diluted in HIV, HBsAg and HCV negative defibrinated plasma (BBI, USA).

4. CAUTION

4.1 THIS PREPARATION IS NOT FOR ADMINISTRATION TO HUMANS.

4.2 The preparation contains material of human origin, which has been tested and found negative for HBsAg, HIV antibody, HCV antibody and HCV RNA by PCR.

4.3 All subtypes contain infectious HIV-1 and must only be handled in appropriate containment facilities by fully trained and competent staff and in accordance with the local national safety guidelines (such as the UK "Protection against blood-borne infections in the workplace: HIV and hepatitis", Advisory Committee on Dangerous Pathogens, HMSO, London).

4.4 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 probably will include the wearing of protective gloves and avoiding the generation of aerosols. Care should be exercised in opening ampoules or vials, to avoid cuts.

5. USE OF MATERIAL

The following procedure should be followed:

i. The Biohazard container contains a panel of 10 viruses of different subtypes/groups and one negative control, following receipt all vials should be held in a freezer at or below -70°C.

ii. The vials should be rapidly thawed just before use, and well mixed by inverting or briefly vortexing (5 seconds). The subtype panel consists of 11 vials (code 01/466).

iii. The panel members should be tested in accordance with the assay protocol.
iv. We anticipate that vials will be used only once.

v. We do not recommend use after a freeze thaw cycle.

vi. The materials are provided solely for the purposes described within the document. They will be discarded after use and will not be used for any other purpose.

6. STABILITY

6.1 It is the policy of WHO not to assign an expiry date to their international reference materials. They remain valid with the assigned potency and status until withdrawn or amended.

6.2 Reference materials are held at NIBSC within assured, temperature-controlled storage facilities. Reference Materials should be stored on receipt as indicated on the label. For information specific to a particular biological standard, contact the Technical Information Officer or, where known, the appropriate NIBSC scientist.

6.3 In addition, once reconstituted, diluted or aliquoted, users should determine the stability of the material according to their own method of preparation, storage and use.

6.4 NIBSC follows the policy of WHO with respect to its reference materials.

6.5 Users who have data supporting any deterioration in the characteristics of any reference preparation are encouraged to contact NIBSC.

7. CITATION

In all publications (or data sheets for immunoassay kits) in which this preparation is used as an assay calibrant, it is important that the title of the preparation, ampoule code and the name and address of NIBSC are cited and cited correctly.
8. PRODUCT LIABILITY

8.1 Information emanating from NIBSC is given after the exercise of all reasonable care and skill in its compilation, preparation and issue, but is provided without liability in its application and use.

8.2 This product is intended for use as a standard or reference material in laboratory work in relation to biological research, manufacturing or quality control testing of biological products or in the field of in vitro diagnostics. It is the responsibility of the user to ensure that he/she has the necessary technical skills to determine the appropriateness of this product for the proposed application. Results obtained from this product are likely to be dependent on conditions of use and the variability of materials beyond the control of NIBSC.

8.3 NIBSC accepts no liability whatsoever for any loss or damage arising from the use of this product, whether loss of profits, or indirect or consequential loss or otherwise, including, but not limited to, personal injury other than as caused by the negligence of NIBSC. In particular, NIBSC accepts no liability whatsoever for:

(i) results obtained from this product; and/or
(ii) non-delivery of goods or for damages in transit.

8.4 In the event of any replacement of goods following loss or damage a customer accepts as a condition of receipt of a replacement product, acceptance of the fact that the replacement is not to be construed as an admission of liability on NIBSC’s behalf.
MATERIAL SAFETY SHEET

<table>
<thead>
<tr>
<th>Physical properties (at room temperature)</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Physical appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Fire hazard</td>
<td>None</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical properties</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Stable</td>
<td>Yes</td>
</tr>
<tr>
<td>Hygroscopic</td>
<td>No</td>
</tr>
<tr>
<td>Flammable</td>
<td>No</td>
</tr>
<tr>
<td>Other (specify)</td>
<td>Contains infectious HIV-1 and material of human origin</td>
</tr>
</tbody>
</table>

Handling: See precautions in section 4

Toxicological properties

Effects of inhalation: Avoid - Contains infectious HIV
Effects of ingestion: Avoid - Contains infectious HIV
Effects of skin absorption: Avoid - Contains infectious HIV

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 a virucidal agent. Rinse area with a virucidal agent followed by water.

Absorbent materials used to treat spillage should be treated as biologically hazardous waste.

Compiled by: Retrovirology Date: 8th September 2004