1. INTENDED USE
This preparation, when reconstituted and diluted as described below, should be used as a reference reagent for minimum acceptable potency for the detection of antibodies against Human Platelet Antigen-3a (HPA-3a). It should not be used for HPA-3a typing or any other purpose.

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

3. UNITAGE
No units are assigned to this material.

4. CONTENTS
Country of origin of biological material: The Netherlands.

Each ampoule contains the residue after freeze-drying of 1 ml human plasma. The plasma was collected from a donor immunised against HPA-3a and was diluted in AB plasma from a non-transfused male donor. The immunoglobulin classes of the anti-HPA-3a antibodies present are IgG and IgM although the preparation is intended for use as a minimum sensitivity reagent for the detection of IgG anti-HPA-3a only. Antibodies against other HPA antigens have not been detected in this preparation but antibodies against HLA Class I antigens are present and this material should therefore only be used in glycoprotein-specific assays (e.g. MAIPA or ELISA).

5. STORAGE
Unopened ampoules should be stored at -20°C.

6. DIRECTIONS FOR OPENING
DIN ampoules have an 'easy-open' coloured stress point, where the narrow ampoule stem joins the wider ampoule body. Tap the ampoule gently to collect the material at the bottom (labeled) end. Ensure that the disposable ampoule safety breaker provided is pushed down on the stem of the ampoule and against the shoulder of the ampoule body. Hold the body of the ampoule in one hand and the disposable ampoule breaker covering the ampoule stem between the thumb and first finger of the other hand. Apply a bending force to open the ampoule at the coloured stress point, primarily using the hand holding the plastic collar.

Care should be taken to avoid cuts and projectile glass fragments that might enter the eyes, for example, by the use of suitable gloves and an eye shield. Take care that no material is lost from the ampoule and no glass falls into the ampoule. Within the ampoule is dry nitrogen gas at slightly less than atmospheric pressure. A new disposable ampoule breaker is provided with each DIN ampoule.

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

Reconstitute the contents of one ampoule with 1.0 ml distilled water using gentle mixing. The ampoules do not contain bacteriostat and the preparation should not be assumed to be sterile.

Dilute the reconstituted material immediately before use by adding 1 volume of reconstituted material to 7 volumes of phosphate buffered saline containing 0.2% (w/v) bovine serum albumin. Diluted material should then be tested for the presence of IgG anti-HPA-3a antibodies using HPA-3a3a platelets. This dilution (1in 8) is the minimum dilution expected to be detectable in glycoprotein specific assays (i.e. MAIPA and ELISA assays).

However, many laboratories can detect the anti-HPA-3a at higher dilutions, as shown in the following histogram which is taken from the publication indicated in Section 9.

![Figure 1. Data from collaborative study: titration of anti-HPA-3a in individual laboratories, boxes indicate maximum dilution giving a positive result.](image)

8. STABILITY
Reference materials are held at NIBSC within assured, temperature-controlled storage facilities and they should be stored on receipt as indicated on the label. It is the policy of NIBSC and WHO not to assign expiry dates to reference materials. Accelerated degradation studies have indicated that this standard is suitably stable, when stored at -20°C or below, for the assigned values to remain valid until the standard is withdrawn or replaced. These studies have also shown that the standard is suitably stable for shipment at ambient temperature without any effect on the assigned values.

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

9. REFERENCES
The following publication describes the International Collaborative Study which was carried out in order to characterise the reagent; J Berry, D Allen, L Porcelijn, M de Haas, R Kekomaki, C Kaplan, WH Ouwehand, P Metcalfe. Collaborative studies to establish the first WHO International Standard for detection of human antibody against HPA-3a. Vox Sang 2007;93:309-315.

10. ACKNOWLEDGEMENTS
NIBSC would like to thank the staff of Sanquin Research at CLB, Netherlands for supplying the plasma used to make this material.
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

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

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

<table>
<thead>
<tr>
<th>Suggested First Aid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation: Seek medical advice</td>
</tr>
<tr>
<td>Ingestion: Seek medical advice</td>
</tr>
<tr>
<td>Contact with eyes: Wash with copious amounts of water. Seek medical advice</td>
</tr>
<tr>
<td>Contact with skin: Wash thoroughly with water</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Action on Spillage and Method of Disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
</tr>
</tbody>
</table>

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

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: 0.07g
Toxicity Statement: Toxicity not assessed
Veterinary certificate or other statement if applicable. Attached: No

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_biol_efstandardsrev2004.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.