This preparation is not for administration to humans or animals in the human food chain. It is a positive control material for FCXM

NIBSC code: 78/214

Instructions for use
(Version 16.0, Dated 15/12/2011)

This material is a self certified IVD and complies with the requirements of the "EU in vitro diagnostic medical device directive 98/79/EC".

1. INTENDED USE
This product is CE marked for use as an IVD in Europe. In all other territories it is the sole responsibility of the Recipient to ascertain whether it can be used as an IVD.

This product should be used as a WEAK (minimum potency) positive control material and should not be diluted.

Prior to organ transplantation, flow cytometry cross matching is performed to detect anti-HLA antibodies that may be detrimental to the performance of the organ. Findings from multicentre studies have shown not only the importance of the selection and standardization of the methods used for cross-matching, but also that the selection of the control sera is fundamental to the cross-match (Harmer et al 1996; Shenton et al 1997). Transplants known to have taken place after a positive FCXM result may have impaired survival (Scornik et al 2001).

2. CAUTION
This preparation is not for administration to humans.

Each unit used for the production of this standard was individually tested and found to be negative for the presence of HBsAg and antibody to HCV and HIV 1 and 2. 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. The plasma was filtered through 0.2μm filters and stored under sterile conditions before filling into vials (0.5ml/vial) and freeze-drying.

3. UNITAGE
No unitage assigned. This is a minimum potency positive control for anti-HLA relative to the negative control 09/112.

4. CONTENTS
Country of origin of biological material: United Kingdom. Freeze-dried residue of approximately 0.5ml of pooled human plasma.

5. STORAGE
Prior to reconstitution, this material has an expiry date of 2017/09. Accelerated degradation studies have indicated that this material is suitably stable when stored at 2-8°C prior to reconstitution. Reference materials should be stored on receipt as indicated on the label. Once reconstituted, users should determine the stability of the material according to their own method of preparation, storage and use. It is recommended this material be used on the day of reconstitution.

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

To reconstitute this material, dissolve the entire contents of the ampoule in 0.5ml of sterile distilled water, keep at 2-8°C and use on the day of reconstitution. Once reconstituted, this material should be treated as anti-HLA positive human plasma for use as a Minimum Potency Positive Control for FCXM. It is recommended that this standard is used alongside the Negative Control for FCXM (09/112) and that 50μl of standard is used per 2x10^5 cells. Incubation for approximately 30 minutes at room temperature is recommended. Users should be aware that by changing assay conditions or reagents e.g. incubation times or secondary antibodies, results may vary. It is therefore important that each user validates this control using their own methods and reagents. No attempt should be made to weigh out a portion of the freeze-dried material, nor should aliquots be re-frozen after use.

The Preparation and Biological Activity Please refer to page 2.

8. STABILITY
The expiry date is stated on the vial label. The stability of this preparation is monitored by NIBSC. Users who have data supporting any deterioration in the characteristics of this preparation are encouraged to contact NIBSC. Reference materials are held at NIBSC within assured, temperature-controlled storage facilities. Reference Materials should be stored on receipt as indicated on the label.

9. REFERENCES

10. ACKNOWLEDGEMENTS

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/standardsiation/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
**Physical and Chemical properties**

<table>
<thead>
<tr>
<th>Classification in accordance with Directive 2000/54/EC, Regulation (EC) No 1272/2008: Not applicable or not classified</th>
<th>Corrosive: No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical appearance: Freeze-dried powder</td>
<td>Oxidising: No</td>
</tr>
<tr>
<td>Stable: Yes</td>
<td>Irritant: No</td>
</tr>
<tr>
<td>Hygroscopic: Yes</td>
<td>Handling: See caution, Section 2</td>
</tr>
<tr>
<td>Flammable: No</td>
<td>Other (specify): Contains material of human origin</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**

| 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.

**THE PREPARATION**

The standard was prepared from a pool of four Bw4 positive and three Bw6 positive human plasma donations. The positive pool was diluted with 30 anti-HLA negative human AB+ plasma donations to give a minimum potency.

**BIOLOGICAL ACTIVITY**

Donor lymphocytes incubated with FCXM minimum potency

Positive Control standard 07/214 and Negative Control standard 09/112.

<table>
<thead>
<tr>
<th>09/112 (Negative)</th>
<th>07/214</th>
</tr>
</thead>
</table>

Lymphocyte gate  T cells (CD3 gate)  B cells (CD19 gate)