Working Standard
Biotinylated Brad-5 (Bio-Brad-5)
NIBSC code: 99/774
Instructions for use
(Version 2.0, Dated 29/07/2013)

This material is not for in vitro diagnostic use.

1. INTENDED USE
The reagent is intended for use in the European Pharmacopoeia competitive EIA for anti-D quantitation in immunoglobulin preparations.

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
N/A

4. CONTENTS
Country of origin of biological material: United Kingdom.
The human IgG1 monoclonal anti-D antibody Brad-5 (kindly provided by the Bio Products Laboratory, Elstree, Herts, UK) was biotinylated and diluted in phosphate-buffered saline (PBS) containing 5% (w/v) human serum albumin before distribution into ampoules and lyophilisation. Preparation 99/774 is from the same concentrated stock solution of biotinylated Brad-5 as 99/698, but was diluted and lyophilised separately. Parallel testing at NIBSC has shown that 99/698 and 99/774 are indistinguishable.

5. STORAGE
Store unopened ampoules 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
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 (labelled) 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 ampoule contents with 1.0 ml of distilled/deionised water containing 0.02% sodium azide. Transfer solution to a stoppered tube and store at 4ºC.

The concentration of biotinylated Brad-5 is approximately 10 µg/ml.

Dilute 1/40 to give working concentration i.e. 0.25 µg/ml for addition to equal volumes of dilutions of anti-D immunoglobulin standard and samples.

8. STABILITY
NIBSC follows the policy of WHO with respect to its reference materials. It is the policy of WHO not to assign an expiry date to its reference materials. They remain valid with the assigned potency and status until withdrawn or amended.

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 NIBSC (see Section 11).

In addition, once reconstituted, diluted or aliquotted, users should determine the stability of the material according to their own method of preparation, storage and use. However, tests at NIBSC have shown that reconstituted biotinylated Brad-5 is stable for at least 1 month at 4ºC in a tightly-lidded tube in the presence of 0.02% (w/v) sodium azide.

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

9. REFERENCES

10. ACKNOWLEDGEMENTS
Brad-5 was donated by the Bio Products Laboratory, Elstree, U.K.

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/d Transfer 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

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WHO International Laboratory for Biological Standards,
UK Official Medicines Control Laboratory
code number, and the name and address of NIBSC are cited correctly.

14. MATERIAL SAFETY SHEET
   Classification in accordance with Directive 2000/54/EC, Regulation (EC) No 1272/2008: Not applicable or not classified

<table>
<thead>
<tr>
<th>Physical and Chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical appearance: Lyophilisate</td>
</tr>
<tr>
<td>Corrosive: No</td>
</tr>
<tr>
<td>Stable: Yes</td>
</tr>
<tr>
<td>Oxidising: No</td>
</tr>
<tr>
<td>Hygroscopic: No</td>
</tr>
<tr>
<td>IRRitant: No</td>
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<tr>
<td>Flammable: No</td>
</tr>
<tr>
<td>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>

**Suggested First Aid**

<table>
<thead>
<tr>
<th>Inhalation:</th>
</tr>
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<tbody>
<tr>
<td>Seek medical advice</td>
</tr>
<tr>
<td>Ingestion:</td>
</tr>
<tr>
<td>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>

**Action on Spillage and Method of Disposal**

Spillage of 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

| 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:  0.06g |
| Toxicity Statement:  Toxicity not assessed |
| Veterinary certificate or other statement if applicable.  Attached: No |