1. INTENDED USE
The World Health Organization (WHO) International Reference Reagent for anti-Ross River virus (RRV) neutralizing antibodies (IgG) was developed from a pool of five plasma donations from blood donors from Townsville, Australia and evaluated in an international collaborative study. The principal use of the Reference Reagent is for the calibration and harmonization of serological assays for the quantification of anti-RRV neutralizing IgG. The standard can be used as reagent for control for immunoassay performance. Further details of the collaborative study are available in the report (1).

2. UNITAGE
The Reference Reagent has been assigned a unitage of 1,000 units (U)/ml after reconstitution in 0.5 ml sterile, cell culture grade water. The unitage relates to antibody (IgG) neutralization activity for virus neutralization assays.

For other types of immunoassay, the reference reagent may be used as a control reagent (with no assigned unitage) following dilution (dilution to be determined by the user and is assay dependent). The application of the standard is applicable to detection of specific RRV antigenic targets such as envelope proteins, whole virus – it should not be used to compare between groups of assays of different specificity.

3. CONTENTS
Each vial contains the freeze-dried residue of 0.5 ml of human plasma. Each vial contains 500 units of anti-RRV neutralizing antibodies (IgG).

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

As with all materials of biological origin, this preparation should be regarded as potentially hazardous to health. The plasma has been for negative for hepatitis B virus, hepatitis C virus as well as human immunodeficiency virus by NAT testing.

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
No attempt should be made to weigh out any portion of the freeze-dried material prior to reconstitution. The material is supplied lyophilized and should be stored at or below -20°C. Each vial should be reconstituted in 0.5 ml of sterile nuclease-free water. The product should be reconstituted just prior to use. For virus neutralization assays, the reconstituted material should be heat-inactivated prior to use.

6. STABILITY
As the stability studies with accelerated conditions indicate high stability of the lyophilized reference material under the recommended storage conditions (at or below -20°C), there is no expiry date assigned to the International Standard. This approach complies with the recommendations for the preparation, characterization and establishment of international and other biological reference standards (1). The reference material is held at the Paul-Ehrlich-Institut (PEI) within assured, temperature-controlled storage facilities. During its life cycle the stability is monitored at regular intervals. The international standard remains valid with the assigned potency and status until withdrawn or amended.

Reference materials should be stored on receipt as indicated on the label. Once, diluted or aliquoted, users should determine the stability of the material according to their own method of preparation, storage, and use.

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

7. REFERENCES
1. Collaborative study to evaluate a candidate International Reference Reagent for neutralizing antibodies against Ross River virus. WHO Expert Committee on Biological Standardization. WHO/BS/2023.2463

8. ACKNOWLEDGEMENTS
We are grateful to the anonymous donor who provided plasma and to all collaborative study participants.

9. FURTHER INFORMATION
Further information for this material can be obtained as follows: whoccivd@pei.de or WHO Biological Reference Preparations: http://www.who.int/biologicals/en/

10. 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 whoccivd@pei.de

11. CITATION
In any circumstance where the recipient publishes a reference to PEI materials, it is important that the correct name of the preparation, the PEI code number, the name and the address of PEI are cited correctly.
12. MATERIAL SAFETY SHEET

<table>
<thead>
<tr>
<th>Physical properties (at room temperature)</th>
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<td>Physical appearance</td>
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<td>Fire hazard</td>
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<td>Chemical properties</td>
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<td>Hygroscopic</td>
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<td>Flammable</td>
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<td>Corrosive</td>
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<td>Oxidising</td>
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Handling: See caution, section 4

<table>
<thead>
<tr>
<th>Toxicological properties</th>
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<tr>
<td>Effects of ingestion</td>
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<tr>
<td>Effects of skin absorption</td>
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</tbody>
</table>

Suggested First Aid

Inhalation: Seek medical advice
Ingestion: Seek medical advice
Contact with eyes: Wash thoroughly with water. Seek medical advice
Contact with skin: Wash thoroughly with water. Seek medical advice

Action on Spillage and Method of Disposal

Spillage of vial 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.

13. LIABILITY AND LOSS

Information provided by the Institute is given after the exercise of all reasonable care and skill in its compilation, preparation and issue, but it is provided without liability to the Recipient in its application and use.

It is the responsibility of the Recipient to determine the appropriateness of the materials supplied by the Institute to the Recipient (“the Goods”) for the proposed application and ensure that it has the necessary technical skills to determine that they are appropriate. Results obtained from the Goods are likely to be dependent on conditions of use by the Recipient and the variability of materials beyond the control of the Institute.

All warranties are excluded to the fullest extent permitted by law, including without limitation that the Goods are free from infectious agents or that the supply of Goods will not infringe any rights of any third party.

The Institute shall not be liable to the Recipient for any economic loss whether direct or indirect, which arise in connection with this agreement.