Medicines & Healthcare products Regulatory Agency

NIBSC Confidence in Biological Medicines

WHO Reference Reagent
WHO Reference Reagent for Anti-Malaria (Plasmodium vivax) human plasma
NIBSC code: 19/198
Instructions for use
(Version 1.0, Dated 20/10/2020)

1. INTENDED USE

Source material for this Reference Reagent comprises malaria reactive plasma of suitable blood donations from P. vivax-infected donors. Plasmas were obtained from adults with a confirmed P. vivax malaria infection between February and June 2018. The intended use is to facilitate intra- and inter-laboratory harmonisation of immunoassays particularly, but not restricted to, the fields of vaccinology and immunoepidemiology.

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

100 U of plasma reactive to P. vivax antigens per ampoule

4. CONTENTS

Country of origin of biological material: Peru.
Each ampoule contains the lyophiliate of a pool of malaria reactive plasma from P. vivax-infected donors. The parent pool was diluted 1:12 in ultra-pure sterile water before filling (0.4 mL per ampoule).

5. STORAGE

This preparation should be stored at -80°C to ensure long-term stability. Short duration storage at higher temperatures is acceptable. Please refer to WHO/BS/2020.xxxx for complete stability data.
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. Various types of ampoule breaker are available commercially. To open the ampoule, tap the ampoule gently to collect material at the bottom (labelled) end and follow manufactures instructions provided with the ampoule breaker.

7. USE OF MATERIAL

No attempt should be made to weigh out any portion of the freeze-dried material prior to reconstitution
This material is supplied lyophilised and before use should be reconstituted in 0.4 mL water. This resuspension will result in a 1:12 dilution of human plasma.

8. STABILITY

This reference material is held at NIBSC within assured, temperature-controlled storage facilities (-80°C). Reference Materials should be stored on receipt as indicated on the label.

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

9. REFERENCES

Charles Olomu, Lynne M. Harris, Seda Yerlikaya, Peter Rigsby, Eleanor Atkinson, Marta Vidal, Ruth Aguilar, Carlota Dobaño, Xavier Ding, Paul W. Bowyer and the Collaborative Study Group, Collaborative study to evaluate the proposed World Health Organization Reference Reagent for Anti-Malaria (Plasmodium vivax) human plasma. WHO/BS/2020.2382

10. ACKNOWLEDGEMENTS

We gratefully acknowledge the donation of the recombinant antigens for the analysis of the reference reagent as well as the significant contributions of the collaborative study group in the development of this reference reagent. We would like to thank Professor Dionicia Gamboa and Dr. Katherine Torres from Malaria Laboratory in UPCH (Lima, Peru) and the study staff in Iquitos, Peru for undertaking the specimen collection study. Further acknowledgment is extended to the patients who kindly donated samples for this project. We also thank the Sze Sze Chua, staff and donors at the Singapore blood bank for providing clinical isolates for evaluation and Nuria Díez-Padrisa for support in the management of the study at ISGlobal. This project has been funded in part by the Bill & Melinda Gates Foundation Grant No. OPP1172683.

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

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

Physical and Chemical properties			
Physical appearance: Freeze-dried		Corrosive:	No
Stable:	Yes	Oxidising:	No
Hygroscopic:	No	Irritant:	No
Flammable:	No	Handling:	See caution, Section 2
Other (specify):	Contains material of human origin		

Toxicological properties	
Effects of inhalation:	Not established, avoid inhalation
Effects of ingestion:	Not established, avoid ingestion

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WHO International Laboratory for Biological Standards,
UK Official Medicines Control Laboratory

World Health Organization

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.	

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: 0.412 g
Toxicity Statement: Non-toxic
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_biolefstandardsrev2004.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.