Medicines & Healthcare products Regulatory Agency

NIBSC Confidence in Biological Medicines

WHO International Standard
Acellular Pertussis Vaccine 1st IS
NIBSC code: JNIH-3
Instructions for use
(Version 9.0, Dated 09/04/2013)

1. INTENDED USE

JNIH-3 is a freeze-dried two components (PT, FHA) acellular pertussis vaccine manufactured by the Biken Kanonji Institute, Japan. The freeze-dried ampoules were originally held by the Statens Serum Institut (SSI), Copenhagen, Denmark and subsequently transferred to NIBSC.On behalf of WHO and in collaboration with members from NIID, Japan, NICPBP, China and KFDA, South Korea, a collaborative study for the establishment of JNIH-3 as a common standard for acellular pertussis vaccine in the modified intra-cerebral challenge assay (MICA, modified Kendrick test) was organized by NIBSC in 2006. Fourteen laboratories performed MICA in the study. The results of this study show that using JNIH-3 as a standard would improve inter-laboratory agreement in potency estimates for acellular pertussis vaccine formulations. This study did not show significant dissimilarity between JNIH-3 and the various acellular pertussis vaccine formulations included, irrespective of the differences in acellular pertussis components. Available data indicates that JNIH-3 is sufficiently stable to serve as an international standard. In 2008, on the basis of the results of this study (WHO/BS/08.2086), preparation JNIH-3 has been established as the First International Standard for Acellular Pertussis Vaccine for use in the MICA and other protective bioassays.

2. CAUTION

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

The material is not of human or bovine origin. 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

34 IU per ampoule.

4. CONTENTS

Country of origin of biological material: Japan.
Each ampoule of JNIH-3 (Japanese National Institute of Health) contains one ml of a co-purified two component acellular pertussis vaccine absorbed onto aluminium phosphate, manufactured by the Biken Kanonji Institute in Japan in 1984 . At the time of preparation each ampoule was found to contain a mean of 27.25 mg dry materials :

Protein nitrogen	15.0 µg PN
Filamentous Haemagglutinin (FHA)	7.5 µg PN
Pertussis Toxin (PT)	7.7 µg PN
Haemacell	20 mg
Aluminium	0.2 mg
Formaldehyde	<15 µg
Thiomersal	0.1 mg

5. STORAGE

Unopened ampoules should be stored at -20°C.

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 powder prior to reconstitution. Ampoules of JNIH-3 should be reconstituted in sterile saline and used according to laboratories own methodology. It is not recommended to store the reconstituted material under any conditions, if it is not used in the same day.

8. STABILITY

Reference materials are held at NIBSC within assured, temperature-controlled storage facilities. Reference Materials should be stored on receipt as indicated on the label. It is the policy of WHO not to assign an expiry date to their International Reference Materials.

Users who have any data supporting any change in the characteristics of this material are encouraged to contact NIBSC.

9. REFERENCES

1) Collaborative Study Report (2008) D. Xing, P. Newland, Y. Horiuchi, S. Zhang, Y. Kim, M. Corbel and R. Gaines-Das. International Collaborative Study on Reference Preparations Used for Modified Intra-Cerebral Challenge Assay for Acellular Pertussis Vaccines
WHO/BS/08.2086

2) D.K.L. Xing, M.J. Corbel, R. Dobbelaer and I. Knezevic. WHO Working Group on standardisation and control of acellular pertussis vaccines- report of a meeting held on 16-17 March 2006, St. Albans, United Kingdom, Vaccine 2007, 25:2749-2757

3) JG Kreeftenberg
Collaborative study on the candidate reference materials JNIH-3, JNIH-4, JNIH- 5 for the assay of acellular pertussis vaccines.
WHO BS/88.1586

10. ACKNOWLEDGEMENTS

Grateful acknowledgement is made to Dr Paul Matejtschuk (NIBSC) for moisture and oxygen determinations for JNIH-3. We also thank all of the participants of the collaborative study for their helpful contributions and the various manufacturers who contributed products for inclusion in this study via the national control authorities.

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

National Institute for Biological Standards and Control,
Potters Bar, Hertfordshire, EN6 3QG. T +44 (0)1707 641000, nibsc.org
WHO International Laboratory for Biological Standards,
UK Official Medicines Control Laboratory

World Health Organization

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 powder	Corrosive: No
Stable: Yes	Oxidising: No
Hygroscopic: No	Irritant: No
Flammable: No	Handling: See caution, Section 2
Other (specify):	Contains material of biological origin.
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.

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*: Japan * 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: 0.5 - 1.0 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.