Medicines & Healthcare products Regulatory Agency

NIBSC Confidence in Biological Medicines

Non WHO Reference Material
Parathyroid Hormone Fragment Bovine-Type, Synthetic (1-34)
NIBSC code: 82/512
Instructions for use
(Version 4.0, Dated 05/12/2007)

This material is not for in vitro diagnostic use.

1. INTENDED USE

The reagent consists of a batch of ampoules (coded 82/512).

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

Each ampoule of the reagent contains 503 units.*

NOTE
Ampoules were included in an international collaborative study on the proposed replacement international standard for bovine parathyroid hormone. The study also included ampouled human 1-34 PTH fragment.
In the intravenous dose, one hour chick hypercalcaemia bioassay, ampoules of 82/512 assayed at 503 'units' (95% confidence limits 415-608) relative to bovine PTH. The estimates of biological potency relative to intact bovine PTH varied with different *in vivo* and *in vitro* bioassays and in different species and tissue response systems. In particular *in vitro* bone tissue assays showed marked discrimination between the 1-34 fragment and the whole molecule
.
* A single potency value, relative to International Units of bPTH, cannot be assumed.

The bulk preparation, lot B20355, was stated to contain approx 79.4% peptide, by weight. Analysis by HPLC at NIBSC showed that the bulk material was not homogenous. In general, results on the ampouled b1-34 PTH showed that significant qualitative losses had not occurred as a result of ampouling.

4. CONTENTS

Country of origin of biological material: United Kingdom.

Ampoules are estimated to contain:

b1-34 PTH	Approximately 60µg peptide
mannitol as bulking agent	" 2 mg

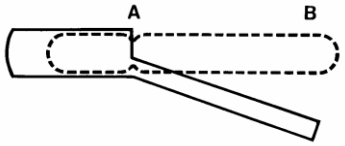
and the lyophilized residue of 0.2ml of 1mM acetic acid and nitrogen

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

Tap the ampoule gently to collect the material at the bottom (labelled) end. Ensure ampoule is scored all round at the narrow part of the neck, with a diamond or tungsten carbide tipped glass knife file or other suitable implement before attempting to open. Place the ampoule in the ampoule opener, positioning the score at position 'A'; shown in the diagram below. Surround the ampoule with cloth or layers of tissue paper. Grip the ampoule and holder in the hand and squeeze at point 'B'. The ampoule will snap open. Take care to avoid cuts and projectile glass fragments that enter eyes. Take care that no material is lost from the ampoule and that no glass falls into the ampoule.



Side view of ampoule opening device containing an ampoule positioned ready to open. 'A' is the score mark and 'B' the point of applied pressure.

7. USE OF MATERIAL

For all practical purposes, each ampoule of reagent contains the same quantity of the substances listed above. Dissolve the total contents of the ampoule in a known volume of a suitable solvent (distilled water, saline or buffer) with carrier protein where extensive solution is required. No attempt should be made to weigh out any portion of the freeze-dried material.
For economy of use, it may be possible that the solution be sub-divided into several small containers and stored at -40°C or below for approx. 3 months. Conditions of storage should be monitored carefully to ensure that activity is retained.
The ampoules do not contain bacteriostat and solution of the reagent should not be assumed to be sterile.

8. PREPARATION OF AMPOULES

Ampoules were prepared according to the procedures recommended for international biological standards (Annex 4, 29th Report of the Expert Committee on Biological Standardisation of the World Health Organisation), 1978).

9. 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 their international 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.
In addition, once reconstituted, diluted or aliquoted, users should determine the stability of the material according to their own method of preparation, storage and use.
NIBSC follows the policy of WHO with respect to its reference materials.
Users who have data supporting any deterioration in the characteristics of any reference preparation are encouraged to contact NIBSC.

10. ACKNOWLEDGEMENTS

Approximately 111mg of a syntheic prepartion of bovine 1-34 fragment of parathyroid hormone (b1-34 PTH), Lot B20355 synthesised at Beckman, was donated to NIBSC through the good offices of Ms Jane Malone, Beckman Instruments Inc, Palo Alto, CA, USA.

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:

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

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: Powder	Corrosive: No
Stable: Yes	Oxidising: No
Hygroscopic: Yes	Irritant: No
Flammable: No	Handling: See caution, Section 2
Other (specify): none	
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*: 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: 2mg
Toxicity Statement: Non-toxic
Veterinary certificate or other statement if applicable**.** **Attached:** No

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