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The 2nd International Standard for Tobramycin

NB: Since April 2006, the European Directorate for the Quality of Medicines & HealthCare (EDQM-Council of Europe) is in charge of the establishment and distribution of International Standards for Antibiotics instead of the National Institute for Biological Standards and Control (NIBSC-UK).

1. Introduction

The 2nd International Standard for Tobramycin was established by the WHO Expert Committee on Biological Standardisation at its 36th meeting in 1985[1]. The activity of the contents of each ampoule has been defined as 9800 International Units.

2. Biological Activity

The 2nd International Standard for Tobramycin (code-labelled 82_510) was calibrated in 5 laboratories against the 1st International Standard for Tobramycin in an international collaborative study[2]. A total of 33 individual assays were carried out in 1 laboratory by plate diffusion, in 3 laboratories by turbidimetric methods and in 1 laboratory by both methods. Five different test organisms were used in the study (2 strains of *B. subtilis*, and three strains of *S. aureus*). The potency agreed by the participants was **9800 International Units per ampoule**[2].

3. Caution

For laboratory use only. Handle in accordance with good occupational hygiene, safety and laboratory practices and take precautions to avoid exposure. This material is not for administration to humans or animals. The corresponding safety data sheet, when applicable, can be accessed via the EDQM website (Reference Standards Database) or is available upon request from the EDQM (Helpdesk-FAQ section).

4. Further Information

Preparation of the reference preparation

The bulk material consisted of approximately 70 gm of tobramycin base from the same batch that was used to prepare the 1st International Standard. It was stored in a sealed container at -20°C in the dark until required for filling. In March 1982 the material was dissolved in double glass-distilled water so that there was 11.21 mg of hydrated tobramycin base per 1.10 gm of solution. After fine filtration to ensure homogeneity, the filling solution, maintained at 4°C and protected from light, was distributed into non-actinic glass ampoules which were then processed as described by Campbell (1974)[3], tested for leaks and finally placed on storage at -20°C in the dark.

The ampouled material

The batch consisted of about 4000 ampoules, the mean liquid filling weight being 1.1024 gm +/- 0.14% [2]. The residual moisture content of the material in the sealed ampoules was determined as being less than 0.06% w/w. Because of the extremely hygroscopic nature of the ampoule contents no attempt should be made to weigh out any portion of the freeze-dried material

Stability and Storage

It is the policy of WHO not to assign an expiry date to their International Standard. They remain valid with the assigned potency and status until withdrawn or amended. Accelerated degradation studies were carried out on sealed ampoules of the 2nd International Standard for Tobramycin and showed no loss of potency after storage at 56°C for 24 months[2], indicating the material to be stable when stored unopened in the dark at -20°C or below.

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Eli Lilly and Co, Indianapolis, USA for generously supplying the material and to the participants in the collaborative study for calibrating the 2nd International Standard.

References

1) World Health Organisation, Expert Committee on Biological Standardisation, WHO Technical Report Series, 1986, (in press).

2) Lightbown, J. W.,Dixon, H., and Broadbridge, R.A (1986) Journal of Biological Standardisation, (in press)

3) Campbell, P.J (1974), Journal of Biological Standardisation, **2**, 259-267.

5. Citation

In all publications (or data sheets for kits) in which this Standard is used as an assay calibrant, it is more important that the title of the Standard, code and the name and addresses of EDQM are cited correctly.

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This document is electronically signed by:

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