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The 1st International Standard for Colistin

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 1st International Standard for Colistin was established by the WHO Expert Committee on Biological Standardisation at its 21st meeting in 1969[1]. It consists of ampoules each containing approximately 75 mg of colistin sulphate, 20500 International Units per mg and the International Unit of Colistin is defined as the activity contained in 0.00004878 mg of the 1st International Standard for Colistin.

2. Biological Activity

The 1st International Standard for Colistin (code-labelled 65_062) was calibrated by 9 laboratories in an international collaborative study[2]. A total of 181 individual assays were carried out by plate diffusion methods.
Two different test organisms were used in the study, (*B. brontiseptica* and *E. coli*). The potency agreed by the participants was **20500 International Units per mg**.

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 a single batch of colistin sulphate, stored in sealed containers at -10°C in the dark until required for filling. In July 1965 it was allowed to warm to room temperature overnight being thoroughly mixed during that period. It was then distributed in approximately 75 mg quantities into neutral glass ampoules. After filling, the ampoules were dried at room temperature over P_2O_5 in vacuo to constant weight, filled with pure dry nitrogen and sealed by fusion of the glass, tested for leaks and finally placed on storage at -20°C in the dark.

The ampouled material

The batch consisted of about 2200 ampoules, each ampoule containing approximately 75 mg of colistin sulphate. The mean residual moisture content of the material in the sealed ampoules was found to be less than 0.1% w/w[2]. The contents of the ampoule are hygroscopic. Care should therefore be exercised in weighing out material from the ampoule to avoid error due to uptake of moisture.

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. The 1st International Standard for Colistin is a stable preparation when stored in unopened ampoules in the dark at -20°C or below.

Acknowledgements are made to:
Kakayu Antibiotics Research Co. Ltd., Tokyo, Japan for generously supplying the material and to the participants in the collaborative study for calibrating the 1st International Standard.

References

1) World Health Organisation, Expert Committee on Biological Standardisation, WHO Technical Report Series, 1969, **413**, 11.

2) Lightbown, J.W., Bond, Jillian M., and Grab, B. (1973). Bulletin of the World Health Organisation (1973) **48**, 65-74

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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