Request for an Opinion

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The status of the species *Lactobacillus rogosae* Holdeman and Moore 1974. Request for an Opinion

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A brief history of the species *Lactobacillus rogosae* is presented. It was ascertained that the type strain and other existing strains are not available in any established culture collection; therefore, they cannot be included in any scientific study. This matter is referred to the Judicial Commission, asking for an Opinion on the status of the species.

The species *Lactobacillus rogosae* was described by Holdeman & Moore (1974) on the basis of at least nine strains. Cells were rod-shaped, Gram-positive, catalase-negative, non-spore-forming and obligately anaerobic and produced lactic acid and acetic acid. The type strain ATCC 27753^T, corresponding to the original isolate VPI C37-38^T, and several other strains were found to be motile and peritrichous, but non-motile strains were also included in the species. Fermentation ability was restricted to fructose, with variable reactions with cellobiose and lactose. Growth temperature was above 30 °C, but below 45 °C, with an optimum at 37 °C. Finally, a G + C content of 59 mol% was reported for one of the isolates. The isolation origin, human faeces, was indicated only for the type strain.

In 1980, *L. rogosae* was included in the Approved List of Bacterial Names (Skerman *et al.*, 1980), but Kandler & Weiss (1986) described *L. rogosae* among species not to be considered in the genus *Lactobacillus*: they reported that ‘no strains which correspond to the original description are presently available’ since they had received two strains from VPI that resembled propionibacteria more than they did lactobacilli. In their conclusion, they stated that ‘more investigations are needed to clarify the taxonomic position of *L. rogosae*’. *L. rogosae* was not considered in the phylogenetic study performed by Stackebrandt & Teuber (1988) nor in the subsequent analysis of the genus *Lactobacillus* and related genera by Collins *et al.* (1991).

In order to include the type strain of *L. rogosae* in a comparative study in progress in our laboratory on the species belonging to the genus *Lactobacillus*, the availability of the original type strain, VPI C37-38^T, was checked in different culture collections [American Type Culture Collection (ATCC, <http://www.atcc.org>), Deutsche Sammlung von Mikroorganismen und Zellkulturen (DSMZ,

<http://www.dsmz.de>), BCCMTM/LMG, Belgian Bacteria Collection (<http://www.belspo.be/bccm>), Japan Collection of Microorganisms (JCM, <http://www.jcm.riken.go.jp/>)] and with the original owner VPI, i.e. Anaerobe Culture Collection, Virginia Polytechnic Institute and State University, Blacksburg, VA, USA.

It was found that none of the aforementioned culture collections owns the strain, and that the Anaerobe Laboratory that housed the VPI collection no longer exists (John Hess, Virginia Polytechnic Institute and State University, personal communication). Part of the VPI collection was transferred to the ATCC (John Hess, personal communication), but, on its part, the ATCC does not possess strain VPI C37-38^T (ATCC, personal communication) nor ATCC 27753^T, indicated as corresponding to the original type strain in the description of Holdeman & Moore (1974) and by Pot *et al.* (1994).

In accordance with Rule 18g of the Bacteriological Code (Lapage *et al.*, 1992), we are referring to the Judicial Commission the unavailability of strain VPI C37-38^T and, therefore, its unsuitability as the type strain of *L. rogosae*.

Rule 18c of the Bacteriological Code (Lapage *et al.*, 1992) states that ‘if a strain on which the original description was based cannot be found, a **neotype** strain may be proposed’. Unfortunately, all the existing strains of *L. rogosae* are either unavailable for incomplete accession process in the ATCC (ATCC, personal communication) or not present in the other major culture collections.

Since, according to Rule 30 of the Bacteriological Code (Lapage *et al.*, 1992), the name of a species is not validly published if a culture of a type strain is not readily available in at least one of the established culture collections, the status of the whole species *L. rogosae* is also referred to the Judicial Commission.

On the basis of the presented evidence, we suggest the

rejection of the species name, at least until strains under accession process in the ATCC are available and confirmed as belonging to the genus *Lactobacillus*.

References

- Collins, M. D., Rodrigues, U. M., Ash, C., Aguirre, M., Farrow, J. A. E., Martinez-Murcia, A., Phillips, B. A., Williams, A. M. & Wallbanks, S. (1991). Phylogenetic analysis of the genus *Lactobacillus* and related lactic acid bacteria as determined by reverse transcriptase sequencing of 16S rRNA. *FEMS Microbiol Lett* **77**, 5–12.
- Holdeman, L. V. & Moore, W. E. C. (1974). New genus, *Coprococcus*, twelve new species, and emended descriptions of four previously described species of bacteria from human feces. *Int J Syst Bacteriol* **24**, 260–277.
- Kandler, O. & Weiss, N. (1986). Regular, nonsporeforming Gram-positive rods. In *Bergey's Manual of Systematic Bacteriology*, vol. 2, pp. 1208–1234. Edited by P. H. A. Sneath, N. S. Mair, M. E. Sharpe & J. G. Holt. Baltimore: Williams & Wilkins.
- Lapage, S. P., Sneath, P. H. A., Lessel, E. F., Skerman, V. B. D., Seeliger, H. P. R. & Clark, W. A. (editors) (1992). *International Code of Nomenclature of Bacteria (1990 Revision)*. Bacteriological Code. Washington, DC: American Society for Microbiology.
- Pot, B., Ludwig, W., Kersters, K. & Schleifer, K.-H. (1994). Taxonomy of lactic acid bacteria. In *Bacteriocins of Lactic Acid Bacteria: Microbiology, Genetics, and Applications*, pp. 13–90. Edited by L. de Vuyst & E. J. Vandamme. London: Blackie Academic & Professional.
- Skerman, V. B. D., McGowan, V. & Sneath, P. H. A. (1980). Approved Lists of Bacterial Names. *Int J Syst Bacteriol* **30**, 225–420.
- Stackebrandt, E. & Teuber, M. (1988). Molecular taxonomy and phylogenetic position of lactic acid bacteria. *Biochimie* **70**, 317–324.