Some Addenda on the Species *Gordona sputi* (Tsukamura 1978)

Stackebrandt et al. 1989 comb. nov.

MICHIO TSUKAMURA

Department of Microbiology, Fujita Health University School of Medicine, Toyoake, Aichi 470-11, and

The National Chubu Hospital, Oba, Aichi 474, Japan

The history of the creation of the species *Gordona sputi* is described briefly. In addition, the mycolic acid and menaquinone compositions of this organism, which are needed to classify species in the genus *Gordona*, are described.

In 1971, Tsukamura (11) proposed the new genus *Gordona* for slightly acid-fast organisms that occur in sputa of patients and in soil. In 1973, *Rhodococcus rhodochrous* Zopf was also placed in this genus (12). However, Tsukamura (13) suggested that for reasons of priority, "the appropriate name for the genus appears to be *Rhodococcus*.’’ Goodfellow and Alderson (4) also used the genus name *Rhodococcus* for the *rhodochrous* complex in 1977. However, further studies revealed that the genus *Rhodococcus* was heterogeneous. The species *Rhodococcus bronchialis*, *Rhodococcus rubropertinctus*, and *Rhodococcus terrae*, which had previously been placed in the genus *Gordona* by Tsukamura (11), had mycolic acids with longer chains (numbers of carbon atoms, 52 to 66), and the other species had mycolic acids with shorter chains (numbers of carbon atoms, 30 to 52) (1, 3, 10): as the predominant menaquinone type, the former group had type MK-9 menaquinones (9 is the number of isoprene units in the side chain), and the latter group had type MK-8 menaquinones (2). Hall and Ratledge (5) reported that *R. bronchialis*, *R. rubropertinctus*, and *R. terrae* contained mycobactins and the other *Rhodococcus* species did not. Finally, Stackebrandt et al. (9) demonstrated that these two groups were distinguishable on the basis of the results of reverse transcriptase sequencing of 16S rRNA and proposed that the name *Gordona* Tsukamura 1971 (11) should be revived for the taxon containing *R. bronchialis*, *R. rubropertinctus*, and *R. terrae*. Thus, the names *R. bronchialis*, *R. rubropertinctus*, and *R. terrae* were changed to *Gordona bronchialis* (Tsukamura 1971) Stackebrandt et al., *Gordona rubropertincta* (Tsukamura 1974) Stackebrandt et al., and *Gordona terrae* (Tsukamura 1971) Stackebrandt et al., respectively and were validated in 1989 (6).

*Rhodococcus sputi* was described by Tsukamura (14) in 1978. However, this name did not appear on the Approved Lists of Bacterial Names in 1980 (8). Therefore, revival of this name was proposed by Tsukamura and Yano (16) in 1985. Independent of this proposal, the name *Rhodococcus sputi* Tsukamura 1978 was revived in an update of the Approved Lists (7). Stackebrandt et al. (9) included this species in the newly revived genus *Gordona* as *Gordona sputi*.

Further studies of *G. sputi* have revealed that this organism has long-chain mycolic acids (numbers of carbon atoms, 56, 58, 60, 62, 64, and 66 [center, 62 carbon atoms]). The numbers of carbon atoms in the α unit are 16 and 18, the numbers of carbon atoms in the β unit are 40 to 48, and the numbers of double bonds in the mycolic acids are 2 to 6 (10, 15). Furthermore, it has been shown that the predominant menaquinone type is MK-9(H2) (9 is the number of isoprene units in the side chain and 2 is the number of hydrogen atoms that saturate the side chain) (15). The G+C content of the DNA is 65.2 mol%, and the cell wall type is type IV (15). These findings confirm that the species does not belong in the genus *Rhodococcus* but belongs in the revived genus *Gordona*. The distinctness of the species has been supported by the results of a DNA-DNA hybridization study (17). The type strain is strain ATCC 29627. The biological and biochemical characteristics of *G. sputi* have been described previously (14, 16).

REFERENCES


12. Tsukamura, M. 1973. A taxonomic study of strains received as “Mycobacterium *rhodochrous*.” Description of *Gordona*