

Bacteroides chinchillae sp. nov. and Bacteroides rodentium sp. nov., isolated from chinchilla (*Chinchilla lanigera*) faeces

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Abstract:

Chinchillas (*Chinchilla lanigera*) are nocturnal foragers that live in communal burrows and are native to the rocky slopes of the high Andes. Since the 1950s, chinchillas have become a common animal model in otitis media and other otic diseases. To our knowledge, the bacterial faecal flora of chinchilla has been only studied by Worthington & Fulghum¹), and their identification method of isolated strains was based solely on physiological and biochemical characteristics. Strains of Gram-negative anaerobic rods were isolated from chinchilla faeces, and three strains, ST170T, ST180 and ST28T, were investigated taxonomically. Based on the phylogenetic analyses and specific phenotypic characteristics, the three strains belonged to the genus *Bacteroides*. Phylogenetic analyses of their 16S rRNA gene sequences revealed that the two strains, ST170T and ST180, formed a single cluster and a distinct line of descent, and their sequence similarity was 99.7 %. The highest sequence similarity to ST170T was found with *B. massiliensis* JCM 13223T (95.1 %), *B. dorei* JCM 13471T (94.6 %), *B. vulgatus* JCM 5826T (94.4 %). Strain ST28T also formed a distinct line of descent, and the highest sequence similarity to ST28T was found with *B. uniformis* JCM 5828T (98.1 %). A low DNA-DNA hybridization value (1 %) between ST28T and *B. uniformis* JCM 5828T clearly indicated that they were different species. Analysis of the *hsp60* gene sequences also supported these relationships. Based on the phenotypic and phylogenetic characteristics, two novel species *Bacteroides chinchillae* sp. nov. and *Bacteroides rodentium* sp. nov., are proposed. The G+C content of the type strains was 45.2 mol% for *B. chinchillae*, and 41.0 mol% for *B. rodentium*. The type strains of *B. chinchillae* and *B. rodentium* are ST170 T (= JCM 16497T = CCUG 59335T) and ST28 T (= JCM 16496T = CCUG 59334T), respectively²). 1) Worthington, J. M. & Fulghum, R. S. (1988). Cecal and fecal bacterial flora of the Mongolian gerbil and the chinchilla. *Appl Environ Microbiol* 54, 1210-1215. 2) Kitahara, M. et al. *Bacteroides chinchillae* sp. nov. and *Bacteroides rodentium* sp. nov., isolated from chinchilla (*Chinchilla lanigera*) faeces. *Int J Syst Evol Microbiol* first published on May 21, 2010 as doi: 10.1099/ijs.0.024026-0

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