

Flavobacterium chilense sp. nov. and *Flavobacterium araucanum* sp. nov., isolated from farmed salmonid fish.

Kämpfer P, Lodders N, Martin K, Avendaño-Herrera R (2012) *Flavobacterium chilense* sp. nov. and *Flavobacterium araucanum* sp. nov., isolated from farmed salmonid fish. *Int J Syst Evol Microbiol* 62(Pt 6), 1402-1408.

[Details](#)



Abstract

Three Gram-staining-negative non-endospore-forming strains were isolated from farmed fish in Chile: one (LM-09-Fp(T)) from a rainbow trout (*Oncorhynchus mykiss*) and the others (LM-19-Fp(T) and LM-20-Fp) from two Atlantic salmon (*Salmo salar*). Phylogenetic analyses based on 16S rRNA gene sequences indicated that all three isolates belonged to the genus *Flavobacterium*. In these analyses, strain LM-09-Fp(T) appeared most closely related to the type strains of *Flavobacterium chungangense* (98.5 % sequence similarity), *Flavobacterium glaciei* (98.2 %), *Flavobacterium aquidurens* (97.6 %), *Flavobacterium saccharophilum* (97.6 %) and *Flavobacterium hercynium* (97.6 %). The 16S rRNA gene sequences of strains LM-19-Fp(T) and LM-20-Fp were found to be identical and most similar to the corresponding sequences of the type

strains of *Flavobacterium aquidurens* (98.6 %), *Flavobacterium frigidimaris* (98.5 %), *Flavobacterium hercynium* (97.9 %), *Flavobacterium saccharophilum* (97.7 %) and *Flavobacterium pectinovorum* (97.7 %). For each of the three novel strains, menaquinone (MK-6) was the predominant respiratory quinone and the major compounds in the polar lipid profile were phosphatidylethanolamine, an unidentified aminolipid, phosphatidylserine and two or three unknown lipids. The fatty acid profile of each strain, which comprised major amounts of iso-C(15:0), C(15:0) and summed feature 3 (C(16:1) ω 7c and/or iso-C(15:0) 2-OH) as well as smaller amounts of various hydroxylated fatty acids (e.g. iso-C(16:0) 3-OH, iso-C(17:0) 3-OH, C(16:0) 3-OH and C(15:0) 3-OH), indicated that each belonged to the genus *Flavobacterium*. Based on their physiological and biochemical characteristics and the results of DNA-DNA hybridizations, which showed relatively low levels of relatedness between the novel strains and the most closely related *Flavobacterium* species, strain LM-09-Fp(T) (= LMG 26360(T) = CCM 7940(T)) represents a novel species within the genus *Flavobacterium*, for which the name *Flavobacterium chilense* sp. nov. is proposed, and strains LM-19-Fp(T) (= LMG 26359(T) = CCM 7939(T)) and LM-20-Fp (= LMG 26331) represent a second novel species within the same genus, for which the name *Flavobacterium araucanum* sp. nov. is proposed.

Beteiligte Forschungseinheiten

[Biotechnikum Miriam Agler-Rosenbaum](#) [Mehr erfahren](#)

Leibniz-HKI-Autor*innen



Karin Martin

[Details](#)

Identifier

doi: 10.1099/ijls.0.033431-0

PMID: 21828008