P72

Vibrio sp. KYJ 962 isolated from seawater is a pH-dependent halophile

Young Jae Kim

Department of Microbiology, Changwon National University, Sarim-dong, Changwon, Kyungnam 641-773, Republic of Korea

Abstract A strain, designated KYJ 962, was isolated from seawater in Jindong, Republic of Korea, and identified as a species of the genus Vibrio on the basis of the 16S rDNA sequence. Its 16S rDNA sequence showed approximately 99.6% homology to Vibrio alginolyticus, Vibrio parahaemolyticus, Vibrio campbelli, and Vibrio natrigens, but strain KYJ 962 was quite different physiologically from other Vibrio species. V. alginolyticus, V. parahaemolyticus, V. campbelli, and V. natrigens are typical marine halophiles. In contrast, the level of salt requirement revealed that strain KYJ 962 is a pH-dependent halophile. Strain KYJ 962 required NaCl at a concentration of 0.3-0.5 M for optimal growth. The strain can grow around neutral pH even though NaCl is not present at all, whereas it does not grow at all at acidic and alkaline pHs unless NaCl is present. Also, strain KYI 962 required KCl at a concentration of 0.2 M for optimal growth in place of NaCl, whereas V. alginolyticus, V. parahaemolyticus, V. campbelli, and V. natrigens required KCl at 0.6 M, 0.4 M, 0.3 M, and 0.2 M, respectively. On the other hand, strain KYJ 962 and V. alginolyticus can grow at 45°C, whereas V. parahaemolyticus, V. campbelli, and V. natrigens can not grow at 45°C. Also, the membrane pattern of strain KYJ 962 on SDS-PAGE was different from other Vibrio species. On the basis of the results, the name Vibrio jindong sp. nov. is proposed for strain KYJ 962.