

Effects of Locally-Isolated Bacteria (Youngheung Island, Korea), on Microalgal Growth

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Suspended solids (SSs) in seawater seem to affect the growth of microalgae. They are mostly consisted of foreign materials and bacteria. From a preliminary experiment with *Tetraselmis* sp. KCTC12433BP and fractionated seawater, the biomass productivity of the cultures containing all SSs was only 43% of that the filtered group with 3.0 μm pore sizes. It also seemed that SSs whose diameter ranges between 1.2 μm to 3.0 μm , does not prohibit the *Tetraselmis* sp. KCTC12433BP growth. In addition, SSs, with larger than 3.0 μm , seem to inhibit the microalgal growth. In order to characterize the SSs in seawater, the bacteria from Youngheung Island were isolated. The bacteria were cultivated on the agar plate using Marine Agar medium for three weeks. After spreading seawater on the plates, the colonies that seem to have same colour, sizes and shapes were divided into 6 plates using streaking method. Six single colonies were isolated after a series of streaking procedure. Attained single colonies were identified by 16s RNA sequencing. The bacteria isolated are followed: *Bacillus aquimaris*, *Bacillus vietnamensis*, *Rhizobiales* sp., *Lutibacter litoralis*, *Roseobacter* sp., and *Algoriphagus* sp. Further research will be performed to investigate the accurate interaction between the SSs and the growth of cells.