DNA extraction

DNA was extracted by using the xanthogenate-sodium dodecyl sulfate (XS) DNA extraction protocol described by Tillett and Neilan (2000). Briefly, each Sterivex filter was added about 2 mL of freshly made XS buffer (1% potassium ethyl xanthogenate [Fluka, Buchs, Switzerland], 100 mM Tris-HCl [pH 7.4], 20 mM EDTA [pH 8.0], 1% sodium dodecyl sulfate, 800 mM ammonium acetate) and the filter was inverted several times to mix. The filter was incubated at 70^{o}C for 120 min. Following incubation, the tube was vortexed for 10 s and then immediately placed on ice for 30 min. To recover the most bacterial DNA, these procedures were performed twice and then the filters were washed with 1 mL of XS buffer. Cell debris was pelleted by centrifugation at 22,000 g for 15 min at 4^{o}C. The supernatant was transferred to several clean 2.0-mL tubes and mixed with as equal volume of 100% isopropanol. After incubation at room temperature for 10 min, the precipitated DNA was pelleted by centrifugation at 22,000 g for 20 min. The DNA pellet was washed twice with 500 µL of 70% ethanol, air dried, and resuspended in 30 µL of TE buffer. The DNA concentration was measured by Nanodrop ND-1000 fluorescence spectrometer (Nanodrop Technologies). The DNA was stored at -80^{o}C.

*Tillett, D., Neilan, B.A. (2000) Xanthogenate acid isolation from cultured and environmental cyanobacteria. *J Phycol* **36**:251-258