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The Aerobic Respiratory Chain-Linked NADH Oxidase
System of A pH-Dependent Halophile *Vibrio* sp.
KYJ 962 Isolated from Seawater

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Abstract The activity of membrane-bound NADH oxidase of a pH-dependent halophile *Vibrio* sp. KYJ 962 was specifically stimulated by Na⁺. The maximum activity of NADH (or deamino-NADH) oxidase was obtained at about pH 9.0 in the presence of 0.2 M NaCl. Surprisingly, the maximum activity of NADH:ubiquinone oxidoreductase was obtained at about pH 7.5 in the presence of 0.1 M NaCl. The NADH oxidase activity was about 96% inhibited by 60 μ M 2-heptyl-4-hydroxyquinoline-N-oxide (HQNO), while the NADH:ubiquinone oxidoreductase activity was about 54% inhibited by 60 μ M HQNO. The activities of NADH oxidase and NADH:ubiquinone oxidoreductase were about 35% inhibited by 300 μ M capsaicin, while the activities were highly resistant to rotenone. From the results, we suggest that the aerobic respiratory chain-linked NADH oxidase system of a pH-dependent halophile *Vibrio* sp. KYJ 962 is quite different in enzymatic properties compared to those of other marine halophilic bacteria.