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Polysaturated fatty acids (PUFA), such as docosahexaenoic acid [DHA, 22:6(n-3)], have beneficial effects on human health through their effect on membrane fluidity and contribute to many aspects of health (6, 7, 13, 15). Twenty-five years ago, a marine bacterium originally designated Vibrio marinus (3) and later renamed Moritella marina MP-1 (14) was reported to produce high levels of DHA (18% of the total fatty acids) (4). Such high levels of DHA presumably provide this bacterium with the ability to maintain appropriate membrane fluidity in the low temperatures and high pressures of its marine environment. Indeed, it has been proposed that such marine microbes are the source of omega-3 fatty acids in the marine food web (10). A comparison of marine bacteria showed that MP-1 produced more than twice as much DHA as 9 other species (9). The PUFA biosynthesis pathway used by marine bacteria, such as MP-1, is distinct from the plant and microalgae pathways (5, 8, 10).

MP-1 is a Gram-negative facultative anaerobe with curved or straight rods that is motile by polar flagella, convex, opaque, cream colored, a halophile, and nonpigmented and that grows in straight rods. It was isolated from a deep-sea sediment that was cold-adapted. It was grown under the conditions described in the materials and methods section. The whole-genome sequence includes 4,636,778 bp with a G+C content of 40.5% and consisting of 83 contigs.

The genome sequence of the psychrophilic deep-sea bacterium Moritella marina MP-1 (ATCC 15381) has 482 subsystems (related functional roles) predicted by the RAST server for the construction of metabolic networks.

The availability of the genome sequence of Moritella marina MP-1 will allow deeper comparative genomic studies and track the potential pathway involved in long-chain polysaturated fatty acids by the polyketide pathway.

**Nucleotide sequence accession number.** The whole-genome draft sequence of Moritella marina MP-1 has been deposited in GenBank under the accession number ALOE00000000.

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**REFERENCES**


