Supplementary Materials

Characterization of a New Marine Leucine Dehydrogenase from *Pseudomonas balearica* and Its Application for L-*tert*-Leucine Production

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Table S1. Sequence information of the genes used in this study.

Gene name	Sequence
Pbleudh	ATGTCCGTCTTCGCTCATCCTGACTTCGACCGCCACGAGCAGGTGGTCTTCTGCC ATGACCAGGTTTCGGGGCTCAAGGCCATCATCGCCATCCACGACACGCGCCTCG GGCCGGCGCTGGGTGGCTGCCGGATGTTCCCCTACGCCAGTGACGACGAGGCC CTGCGCGATGTGCTGCGGCTGTCGCGCGGGATGACGCTGAAATCCTCGCTGGCC GGGCTCAAGCTCGGCGGCGGCAAGGCGGTGATCATCGGCGACCCGCATACTGG CAAGAGCCAGGCGCTGCTACACGCCATGGGCGACTTCGTCGACAGCCTCGGCG GGCGCTACATCACCGCCGCCGATTCGGGCACCGGCGATGCCGAAATGCAGGCC TTCGCCCAGCGCACCCGCCATGTGGTCGGCGCCACGCCGCGCGCGACCCTCGA CGGCAGCATCACCAGCGGCGACCCGTCGCCATCCACGGCGCTGGGCGTCTTCGT CGGGCTCAAGGCAGCGGTGCGCCACCGGCTCGGGCGTGACGACCTCGGCGGGT TGAAAGTGGCGATCCAGGGCGTTGGGCATGTCGGCCTGGGTCTGGCGCGGCATC TGAAAGCCGCGGGCGCCGAGCTGTGGGTGGCCGACATCTTCGATGCCAACGTC AAGCAGGCGATGGACGAGCTGGGCGCCCAGGTGGTGCGCCCGCAGGACATCTA CGGCCTGGACGTGGACGTCTTCGCGCCCTGCGCCATGGGTGCGATCCTCAACGA GCAGACCCTCGAGGTGCTGCGCGCGCCGGTGATCGCCGGGGCGGCGAACAACC AGCTGGCCACGCCGCAGGTCGGCGCCGAGCTGCAGCGCCGCAACCAGCTGTAC GCCCCGGACTACGCGATCAATGCCGGCGGCATCATCGACGTCTACTACCAGCG CATCGGCGGCAGTGCCGCGCAGATAGACGGCCATGTGCGCGCCATTGGTGACA CCCTGCAGCAGATCTTCACCCGTGCCGCCGCCAGCGGCGAGCCGACCTCGGTG ATCGCCGACCGCCTGGCACTCGAGCGGCTCGACAGCGGCAGCCAGCCGGAGGC CCTGCGCTTGCACGCCTGA
Bmgdh	ATGTATAAAGATTTAGAAGGAAAAGTAGTTGTCATAACAGGTTCATCTACCGGT TTAGGAAAAGCAATGGCGATTCGTTTTGCGACAGAAAAAGCTAAAGTAGTTGT GAACTATCGTTCGAAAGAAGAAGAAGCTAACAGCGTTTTAGAAGAAATTAAAA AAGTGGGCGGAGAGGCTATTGCCGTCAAAGGTGATGTAACAGTTGAGTCTGAT GTGATCAATTTAGTTCAATCTGCTATTAAAGAATTTGGAAAGCTAGACGTTATG ATTAATAACGCAGGAATGGAAAATCCGGTTTCGTCTCATGAAATGTCTTTAAGT GATTGGAATAAAGTCATTGATACGAACTTAACGGGAGCATTTTTAGGCAGCCGT GAAGCGATTAAATATTTTGTGGAAAATGATATTAAGGGAACAGTTATTAACATG TCGAGTGTTCACGAGAAAATTCCTTGGCCATTATTTGTTCATTACGCAGCAAGTA AAGGCGGAATGAAGCTCATGACCGAAACACTTGCATTAGAATACGCTCCAAAA GGTATTCGTGTAAATAACATTGGACCGGGAGCGATTAATACACCGATTAACGCT GAGAAATTTGCTGATCCTGAGCAGCGTGCAGATGTAGAAAGCATGATTCCAAT GGGATACATTGGAGAGCCGGAAGAAATTGCAGCGGTTGCTGCATGGCTAGCTT CTTCAGAGGCAAGTTATGTAACAGGGATTACACTCTTTGCTGACGGCGGTATGA CACAGTACCCATCATTCCAAGCAGGACGCGGATAA

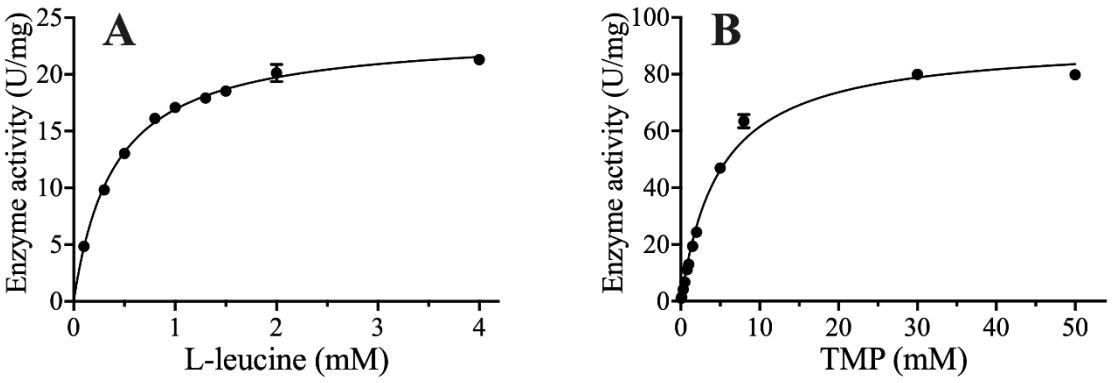

Figure S1. Analysis of kinetic parameters for *Pb*LeuDH using L-leucine (A) and TMP (B) as substrate.

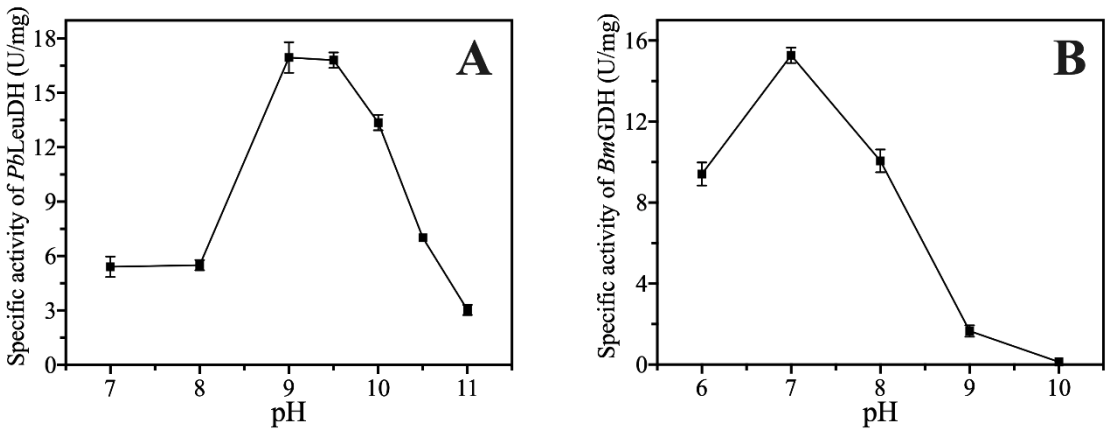

Figure S2. Effects of pH on the activity of *Pb*LeuDH (A) and *Bm*GDH (B) in the recombinant *E. coli* (pET28a-*Pbleudh-Bmgdh*). The reaction mixture (1 mL) of *Pb*LeuDH contained 10 mM 10 mM, 0.25 mM NADH, different pH buffer (100 mM) and appropriate amount of crude enzyme extract. The reaction mixture (1 mL) of *Bm*GDH contained 10 mM glucose, 1 mM NAD^+, different pH buffer (100 mM) and appropriate amount of crude enzyme extract. The activities of *Pb*LeuDH and *Bm*GDH were determined at room temperature.