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**The nucleotide sequence of 3-isopropylmalate dehydrogenase gene from *Bacillus caldodenax***


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FEATURES: The gene coding for 3-isopropylmalate dehydrogenase from *Bacillus coagulans* (facultative thermophile) was sequenced (1). Since the enzyme gene from *B. caldodenax* (obligate, moderate thermophile) had been cloned in *Escherichia coli* using pBR322 as a vector (2), the nucleotide sequence for the *B. caldodenax* enzyme gene was determined.

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ATGGAACTATCGGATTCGGCTCTGCCAGGGATGCGATCGGCAAGAAAGTACGCTCCGGAGCGGTGAGGTATTAAGCGGTCCGATCCGGTTTGGCCACGAGTTACGTTGAA 120
M G N Y R I A V L P G D G I G K E V T S G A V E V L K A V G I R F G H E F T F E
TATGGATTGATCGGTGGACCGCGATGAGCGGGGACCGCGCTCCCGGAGAAACCGTCCGCTTTCCCGGAGAAGCGATCGCGTCTGTGGGGCGGTCCGGCGTCCGAAGTGG 240
Y G L I G G A A I D E A G T P L P E E T V R L C R E S D A V L L G A V G G G P K W
GATGACAACCTCCGATTCGCCCGGAAAAAGGATTCCTGCCATTCCGAAGCACTGACTTATATGCCAACTTCCGGCCGGTGTGTCTGATGACAGTTGGTTCCCGTTCGGC 360
D D N P P H L R P E K G L L A I R K O L D L Y A N L R P V V C Y D S L V S R S P
TAAACCGGATCTCGTGAAGCGCGTCAATTTGTGATCGTCCGGAGCTGACCGCGCGCATTTACTTCCGCCAGCGGCGCGCTCGAAAAACGGCGAAGAAAAAGCACTGGACACC 480
L K P D L V Q G V D F V I V R E L T G G I Y F G Q P S A V V E N G E E K A V D T
TTGTATATAAAAGGAAGAAATTTGACGGATCGTCCGATCGCGTTTGAAGCTCCGACCGCGCGGAGAAAAAGTACCTCGTCGCAAGCGCAAGCTCTTCCGTAAGCGCTCTA 600
L L Y K K E E I E R I V R H A F E L A R G R R K K V T S V D K A H V L S S R L
TGGAGGAAGTGGCGGAAGGTGGCGAAGCAATTTCCGGAGCTCACCGTTGAGCATATGCTTTGTGACATCGCGATCGAGCTCATCCGTGGCGCGAAGCAGTTTGTATGTCATTGTGACA 720
W R E V A E E V A N E F P D V T L E H M L V D M R M Q L I R A P K O F D V I V T
GAAAACATGTTGGCGACATTTAAAGCATGAAGCCCTCCATGTTGTCGGGTTCCGCGGATCGTCCCGTCCGCCAGCTTATCCCGCTCCGGTCCGAGCTTGTATGAGCCGGTGCACCGT 840
E N H F G D I L S D E A S M L S G S L G M L P S A S L S A S G P S L Y E P V H G
TCAGCGCTGATATCCCGCATGAACAAAGCAATCCGATTCGGCGATTTTGTGGCCGGATGATGCTTCGACTGCTGTTCCGGCTCACCGCGAAGCAAGCGGTAGAGCACCGGTG 960
S A P D I A G H N K A N P I A A I L S A A H M L R L S F G L T A E A G G R A R V
TGGCAGCGCTCCCGCATAGTCTGCGCAGCCGATTCGCCAAACCGCGCGCATATCGACGAAGAAATGTCGAAGAAATCAAGCGCGGTCTGCGATTATACGCCATTGCTCAA 1080
W O A L A L G S G S R L G O R R P H L S T H E H V E E I K A A V L D Y T A I A Q
ATTATGACCGTTATGCCTAA 1101
I M T V Y A *

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COMMENTS: The G+C contents of coding region and third letter of the codon for the *B. caldodenax* enzyme were 56.7 and 65.2%, respectively. The values were intermediate between those for the *B. coagulans* (53.1 and 55.7%, respectively (1) and for the *Thermus thermophilus* enzyme (70.0 and 89.4%, respectively).

## REFERENCES:

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