

Nucleotide sequence of a complete barley alcohol dehydrogenase 1 cDNA

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We have isolated a barley (*Hordeum vulgare* cv. Himilaya) cDNA encoding the complete coding region of alcohol dehydrogenase 1 (ADH1). Sequence analysis has shown that this cDNA is 74.4% homologous to the maize ADH1 cDNA (1) and 98.6% homologous to a partial genomic clone of barley ADH1 (cv. Proctor) (2).

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ACACGGATTTTTGATCCTGTGAAGTGAGAGATCAGTTCTCGATTTCGATTCGGGGTCACAGAATTTTTCGA      72
      M A T A G K V I K C K A A V A
TTCAAGGCGACGCGGAAGCAGACAGAAAAGATGGCGACGGCCGGAAGGTGATCAAGTGCAAAGCCGCGTGGC      144
W E A G K P L T M E E V E V A P P Q A M E V R V
CTGGGAGGCGGGAAAGCCGCTGACCATGGAGGAGTGGAGGTGGCGCCGCGCAGGCCATGGAGGTGCGCGT      216
K I L F T S L C H T D V Y F W E A K G Q I P M F
CAAGATCCTCTCACCTCCCTCTGCCACACCCGCTACTTCTGGGAGGCCAAGGGGCAGATCCCCATGTT      288
P R I F G H E A G G I V E S V G E G V T D V A P
CCCTCGGATCTTCGGCCATGAAGCTGGAGGCATAGTGGAGAGTGTGGAGAGGGCGTACTGATGTTGCCCC      360
G D H V L P V F T G E C K E C P H C K S A E S N
TGGTGCCACCGTCCCTCGTGTTCACCTGGGAGTGTAAAGGAATGCCACATTGCAAGTCTCGGGAGAGCAA      432
M C D L L R I N T D R R G V M I G D G K S R F S J
CATGTGTGATCTGCTCAGGATCAACACCCGACAGAGGTGTGATGATCGGGGATGGCAAGTCGGCGTCTCTAT      504
G G K P I Y H F V G T S T F S E Y T V M H V G C
TGGCGGCAAGCCGATTTACCATTTTCGTAGGGACTTCCACCTTCAGTGAGTACACTGTCATGATGTCGGTGG      576
V A K I N P E A P L D K V C V L S C G I S T G L
TGTTGCCAAGATCAACCTGAGGCTCCCTTGATAAAGTCTGTGTTCTTAGCTGTGGTATTTCCACTGGTCT      648
G A S I N V A K P P K G S T V A I F G L G A V G
TGGCGCGTCAATTAATGTTGCAAAACCACAAAGGGTCCACAGTGGCGATATTTGGGCTAGGAGCTGTTGG      720
L A A A E G A R I A G A S R I I G V D L N A V R
CCTTGCTGCTGCAGAAGGTGCAAGGATTGGAGGTGCATCAAGGATCATTGGTGTGACCTGAAACGCGCTCAG      792
F E E A R K F G C T E F V N P K D H T K P V Q O
ATTTGAAGAGGCTAGGAAGTTTGGCTGCACGGAATTTGTGAACCCGAAAGATCACACCAAGCCAGTTCAGCA      864
V L A D M T N G G V D R S V E C T G N V N A M I
GGTGGCTCCTGACATGACAAATGGCGGAGTTCACCGCAGTGTGAGTGCCTGGCAACGTCATGCTATGAT      936
Q A F E C V H D G W G V A V L V G V P H K D A E
ACAAGCATTGAATGTGTTTCATGATGGCTGGGGTGTAGCTGTGCTGGTGGGTGTGCCACACAAGGACGCTGA      1008
F K T H P M N F L N E R T L K G T F F G M F K P
ATTCAAGACCCACCCGATGAACTTCTGTAATGAGAGGACCCCTGAAGGGCACCTTCTTCGGTAACTTCAAGCC      1080
R T D L P N V V E H Y M K K E L E V E K F I T H
GCGCACTGACCTGCCAAATGTCGTGGAGATGTACATGAAGAAGGAGCTGGAGGTGGAGAAGTTCATCACACA      1152
S V P F S E I N T A F D L H A K G E G I R C I
CAGCGTGCCGTTCTCGGAGATAAACACAGCCTTCGACCTTATGGCGAAGGGGGAGGGCATCCGTTGCATCAT      1224
R M D N *
CCGCATGGCAACTAGCGCTCCTCCTCAAGTGTCTCTGATCGCTCCGATGTAATAAGCGTGGGGGCGGGTC      1296
TTCTGAACCAGATCATCGGTGATGGTAATACACTTCCATGTATCATCGTCTGCGGTTTCGCCTTCCCTGGCC      1368
AAAGTGGCATAGCCCAAGTGGTGGGGGCGCATGATGTAACCTAACGACAGAGTTCGATTTCTGTGTCAGA      1440
GACGAATTTCTGGAATTTCTCATGAGGATGCTTCTCATATCAATAAACCGTGGGTGCTAGTCCCATGGAG      1512
TTTCATTTTTTTCAAAGTAGCGTAATATTAGTATGTATATCTGTAATTACCTTACCGGAGAAGTGGTTGTA      1584
CTACGAGCTCTTTTTCGAGCAAGTAATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG      1656
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA      1728
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA      1754
    
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2. M. Trick, E.S. Dennis, K.J.R. Edwards and W.J. Peacock Plant Mol. Biol. (In press).