

Effects of Dark Treatment on Lignin and Cellulose Synthesis in Celery

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SUPPLEMENTARY FIGURE S1

Nucleotide sequences and deduced amino acid sequences of *F5H* from celery

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1      atggaaaccaacactaccgcatgacaattctcttcttcttccgctgcttagtttcttcttcttccagcttttcgacgtaaacgt
M E T N T T A M T I L F F I L P L L S F F L L S S F R R K R
91      taccctccaggcccgaaaggttggcccatcatcggaacttggatgatggacaagctatctcatctggactggctaaacttgcgtct
Y P P G P K G W P I I G N L L M M D K L S H R G L A K L A A
181     caatatggcgcccttgtccacctccgtatgggttttcttcacatgttcaccgttttcgactcccgatatggcccgagaagttcttcaaatt
Q Y G G L V H L R M G F L H M F T V S T P D M A R E V L Q I
271     caagacaacatttttccaaccgtcctgtaccatgaatattagctacttaacttatgaccgagcggatatggctttcgcaaattacggg
Q D N I F A N R P A T M N I S Y L T Y D R A D M A F A N Y G
361     ccgttttggcgccaaatgcggaaaatatcggtcatgaagtattattagccgtaaaagggcagagtcgtgggactctgtccgtgaagaggtt
P F W R Q M R K I S V M K L F S R K R A E S W D S V R E E V
451     gatgacatggtgaaaatcggtgtgtcgaagacgggtgttcgggttaattattggagagcttgtgttcgggttaactaggaacattatttat
D D M V K I V L S K T G C S V N I G E L V F G L T R N I I Y
541     cgggcagcttttcgggacgttgttcgcacgaaggccaagacgagtttatcaagatatgacaggagttttcgaaactgtttgggtgcatcatt
R A A F G T L S H E G Q D E F I K I L Q E F S K L F G A F N
631     atctgtgattttgttccgggattaaacttgggcagatccgcaagggttcattgggtcgggtgtttaaagctagagcatcgcttgatggattc
I C D F V P G L T W A D P Q G F M G R V V K A R A S L D G F
721     atagactcaataatagatgcacacattgaaaaaagaagagcagtaaaaatgggtattatcgacgagggaaacagtgatattggtgatgaa
I D S I I D A H I E K K K S S K N G I I D E G N S D M V Y E
811     ttgctggatttttaccgtgaagaaaaggctaaagtcagcaggttgaagatcagaacagctccttgaagctcacaagagataacatcaaaa
L L D F Y G E E K A K V S E F E D Q N S S L K L T R D N I K
901     gccattatcatggatgtaattgtttgtgggacggagacggttagcatctgcaatagagtgggccatgtcagagctaatgaggagcccaaaa
A I I M D V M F G G T E T V A S A I E W A M S E L M R S P K
991     gacctcaaaaaagtcacaagaactcgtaattgtttgtggcttcaccgtcgtgttgaagaaagtatttcgacaagctcacttacctc
D L K K V Q Q E L V N V V G L H R R V E E S D F D K L T Y L
1081    aaatgctgcataaaagagactcttagactccaccctcccatccactacttttacacgagacggcccaagatgaggaggttgcgtgat
K C C I K E T L R L H P P I P L L L H E T A Q D A E V A G Y
1171    cacattccggcaaggtctcgagtcataaaactcatgggccatcaacagagacccaaactcgtggactgacccggacacattcaagcct
H I P A R S R V I I N S W A I N R D P N S W T D P D T F K P
1261    tctaggtttctacaagagggtatgcctgacttttaaaggaagcaactttgagttcataccatttgggtcgggtcggagggtcttgtccaggc
S R F L Q E G M P D F K G S N F E F I P F G S G R R S C P G
1351    atgcaacttggactttatgcacttgagatagctgtggctcaccttctgcattgttttaactgggagttacctgatggatgaagccaagt
M Q L G L Y A L E I A V A H L L H C F N W E L P D G M K P S
1441    gaagttgatactgatgatgtgtttgtctcactgctccgagggcgactcgacttgtggtgtgccaactccacgcttgtgtgtcctatc
E V D T D D V F G L T A P R A T R L V A V P T P R L L C P I
1531    tcctga
S *

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SUPPLEMENTARY FIGURE S2

Nucleotide sequences and deduced amino acid sequences of *C4H* from celery

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1  atgatggattttgctttgcttgagaaaaccctgttgggcctgttcattgcaacaattgtagccataactatttccaagctacgtggcaag
M M D F A L L E K T L L G L F I A T I V A I T I S K L R G K
91  aaactcaaactccgccaggccctattccagttcctgtgttcggtaactggttacaagttggtgatgatcttaaccagaggaacttggtg
K L K L P P G P I P V P V F G N W L Q V G D D L N Q R N L V
181  gactatgccagaagtttggagacttgtttatgttacgtatgggtcagaggaacttggttgtgtgtcctctcctgatttggctaaagat
D Y A K K F G D L F M L R M G Q R N L V V V S S P D L A K D
271  gttttgcatactcagggtgttgagtttggatcacgcacccgtaacgttgttttcgatatcttcacaggttaaggacaggacatgggttgc
V L H T Q G V E F G S R T R N V V F D I F T G K G Q D M V F
361  acagtcctatagttagcattggaggaagatgaggagaatcatgacagtacctttcttactaacaagttgtgcagcagtatcgatttggg
T V Y S E H W R K M R R I M T V P F F T N K V V Q Q Y R F G
451  tgggaggtagaggctgctcgtgttgtcagggatgttaaggccaatcctgaggctgctacaaaaggatcggttggaggaaccggttcag
W E D E A A R V V E D V K A N P E A A T K G I V L R N R L Q
541  ttgctcatgtataataatgtacagaatcatgtttgatagaaggtttgagagtgtagatgatcctttgttcttgaagcttaaggctttg
L L M Y N N M Y R I M F D R R F E S V D D P L F L K L K A L
631  aatggggagcgcagtaggcttgcctcagagcttcgagtataatttcggagattttatccctattcttcgccctttcttgagggttatctt
N G E R S R L A Q S F E Y N F G D F I P I L R P F L R G Y L
721  aaactttgccaggagatcaaggacaaaagttgaagctctttaaggattattttgtggacgagaggaagaagcttgaagcataaagagt
K L C Q E I K D K R L K L F K D Y F V D E R K K L E S I K S
811  gtgataacaacagcttgaagtgcgccatagatcatatcatagaagctcaggaaaaaggagaaatcaacgaggataacgttctttacatt
V D N N S L K C A I D H I I E A Q E K G E I N E D N V L Y I
901  gttgaaacataaatgttgcgaattgaacaacacataggtcaattgaatggggcattgcggaactagttataaacctgaaatccag
V E N I N V A A I E T T L W S I E W G I A E L V N N P E I Q
991  aagaagttgaggcatgagttggacactatgctcgggtcggagttcagatctgtgagccagacattcagaagctccttaccttcaagct
K K L R H E L D T M L G V G V Q I C E P D I Q K L P Y L Q A
1081  gtgatcaaaagagactcttcgattcagaatggccattcctcttttagtcctcacatgaaccttcatgaagcgaagcttcaggttatgac
V I K E T L R F R M A I P L L V P H M N L H E A K L A G Y D
1171  atcccggcagagagcaagatcttggatcaatgcattggtgcttgccaacaatcccgtcactggaaaaacccaatgagtttaggcctgag
I P A E S K I L V N A W W L A N N P A H W K N P N E F R P E
1261  aggttcttggaaagaatcaaaagttgaggctaattgaaaatgatttcaagtacataaccattcggggtcgggaggagaagttgccctgga
R F L E E E S K V E A N G N D F K Y I P F G V G R R S C P G
1351  ataatccttgcattgcctatcctcggtatcgtaatcgagcgttttggtgcagaactttgagctcatgcctcctcctggacaatctaaggtt
I I L A L P I L G I V I G R L V Q N F E L M P P P G Q S K V
1441  gatacagcagagaaaggaggacagttcagttcttcaattttgaagcactccactatcgtttgcacaaagatcaatttaa
D T A E K G G Q F S L Q I L K H S T I V C K P R S I *

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SUPPLEMENTARY FIGURE S3

Nucleotide sequences and deduced amino acid sequences of *HCT* from celery

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1   atgaagatcattgtacgagattcgacgatgggtggggccagcgcaggagacgccacgtcggagtttatggaacgccaacgtggacctgggtg
M K I I V R D S T M V G P A Q E T P R R S L W N A N V D L V
91  gtgccgaattttcacacgcccagtggtgtatttttacaggcctacgggatcgactaattttttcgatgcgaaagtattgaaggacgcgctg
V P N F H T P S V Y F Y R P T G S T N F F D A K V L K D A L
181 agctacgccttggtgccgttctatccgatggctgggaggttaaagaaggacgaggacgggcgctggagattgactgtcaaggacaaggt
S Y A L V P F Y P M A G R L K K D E D G R V E I D C Q G Q G
271 gtgcttttcgtcaggcggaaatccgacggagttatcgatgagttcggagacttcgcgccacgttggagcttcggaaacttattccggct
V L F V E A E S D G V I D E F G D F A P T L E L R K L I P A
361 gtgacttactttaaatgtgtggagtttcacttggagtggatgcaacatcatgctgcagatggtgcttctggtctccatttcattaac
V T Y F K C G G V S L G V G M Q H H A A D G A S G L H F I N
451 acatggtcgatatggctcggggacttgacctgaccatcccgcctttcattgatcgaccctcctcagagctcgtgacctcctaagccg
T W S D M A R G L D L T I P P F I D R T L L R A R D P P K P
541 gctttccaacacgttgaatacaacccccctccgtccatgaaaacgaatcctgatgttctcctgaaacagctgtttcgatttttaagtta
A F Q H V E Y Q P P P S M K T N P D V V P E T A V S I F K L
631 actcgagaccagctcaatataccttaaggccaagtctaaggaagaaggcaataaccattgcgtatagctcctatgaaatgttggtggacac
T R D Q L N I L K A K S K E E G N T I A Y S S Y E M L A G H
721 gtgtggcgatcagtggttaagcccgaggacttccagaagatcaggagagcaagttgtttattgcaactgatgggagagccaggctccgt
V W R S V C K A R G L P E D Q E S K L F I A T D G R A R L R
811 cctgcacttcctccaggctactttgggaatgttatattcactgctacgcctatagcagtagcaggagatctcgtatcaaagcctacttgg
P A L P P G Y F G N V I F T A T P I A V A G D L V S K P T W
901 tatagtgctagtagaatccagatgcattagtgagaatggacaacgagtacttgagatctgccttgattacttggaaattacagcctgat
Y S A S K I H D A L V R M D N E Y L R S A L D Y L E L Q P D
991 ctttaaggctcttgcaggagcacacagtttttaggtgtccgaatccttgggatcaccagttgggcaaggctgcctatccacgacgtgac
L K A L V R G A H S F R C P N L G I T S W A R L P I H D A D
1081 tttggttggggaagaccgatatttatgggacctggcggaattgcatatgaaggactgagcttcgtgttcctagcccttctaattgatggc
F G W G R P I F M G P G G I A Y E G L S F V L P S P S N D G
1171 agcttatctgttgcgatttctctgcaagcagaacacatgaaactcttagcaagttcttatatgacatttga
S L S V A I S L Q A E H M K L F S K F L Y D I *

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SUPPLEMENTARY FIGURE S4

Nucleotide sequences and deduced amino acid sequences of *4CL* from celery

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1      atgggagattgtgtaccagcacacaagacattatattccggctcgaactccccgatatttacatcccgaagcaccttccgttacatact
M G D C V A P A Q D I I F R S K L P D I Y I P K H L P L H T
91     tactgtttcgaataatttcgaagttggcgataaggcctgtttaataatggcgctacaggcgaacgttcacttattctcaagttgag
Y C F E N I S K V G D K A C L I N G A T G E T F T Y S Q V E
181    ctcatctccagaaaagttgcatcagggtttaataaaactcggcattcaacaggccgataccatcatgtcctgtctcccaactcccctgag
L I S R K V A S G L N K L G I Q Q A D T I M L L L P N S P E
271    tattttttcgcttttttaggcgcacgtatcgtggcgagtttctactatggccaatccggtttttcacctcagctgaggtgatcaaacag
Y F F A F L G A S Y R G A V S T M A N P F F T S A E V I K Q
361    ctcaaagcatctcaagctaagctcataattacgcaagcttgttacgtggacaaagttaaagactatgcgaaagagaacaacatacagatc
L K A S Q A K L I I T Q A C Y V D K V K D Y A K E N N I Q I
451    gtctgcatcgtatgatgctcctcaggattgtttacatttctcgaactcatggaagctgatgaatcagaatgcctgaggtagtgatcaat
V C I D D A P Q D C L H F S K L M E A D E S E M P E V V I N
541    tcagacgatgtcgtttcgctaccttactcatcagggtaccacaggattgcctaaagggtttatgtttgacgcacaaaggactgtttactagc
S D D V V A L P Y S S G T T G L P K G V M L T H K G L V T S
631    gtggcacaacaagttgatggagacaatcccaattgtatattcatagcgaggatgtgatgatctgcataattgcctttgtttcacatttat
V A Q Q V D G D N P N L Y I H S E D V M I C I L P L F H I Y
721    tcgcttaacgctgtttgtgctgtggactcagagcaggcgtgaccattttgattatgcagaattcgatattgagccatttttggaaactg
S L N A V L C C G L R A G V T I L I M Q K F D I E P F L E L
811    atacaaaaataaggttacaaattggaccgtttgtgccaccaattgtattggcgattgccaaaagtccagtggtggataagtgatgtttg
I Q K Y K V T I G P F V P P I V L A I A K S P V V D K Y D L
901    tcgtcgggtgaggacggttatgtctggagctgctccgttagggaaggagcttgaagatgctgttagagctaagtttccaatgccaaactt
S S V R T V M S G A A P L G K E L E D A V R A K F P N A K L
991    ggtcagggatattggaatgacagaggcagggccagttttagcaatgtgcctggcggtttgcaaaggaaccatacagatcaaatcgggtgct
G Q G Y G M T E A G P V L A M C L A F A K E P Y E I K S G A
1081   tgcggaactgttttgagaaatgctgaaatgaaaattgtggatcctgagaccaacgcctctctccacggaacgagcggggagaaatttgc
C G T V V R N A E M K I V D P E T N A S L P R N E R G E I C
1171   attcgaggtgatcaaatcatgaaagttatctcaatgatcctgaatcaacaagacaacaatagatgaggagggtggtgtgcacacagga
I R G D Q I M K G Y L N D P E S T K T T I D E E G W L H T G
1261   gatataggcttcattgacggcgatgatgagctatttattgttgatagactaaaggaaataatcaatacaaaaggcttcagggttgccct
D I G F I D G D D E L F I V D R L K E I I K Y K G F Q V A P
1351   gctgaacttgaagctctgctacttactcctaccatttctgatgctgcagttgtttccatgatagatgagaaagctggtgaggtgcct
A E L E A L L L T H P T I S D A A V V S M I D E K A G E V P
1441   gtggcttttgttgagaactaacggtttcaccactactgaggatgaaatcaagcaattcgtctcgaacagggtgtgttctacaagaga
V A F V V R T N G F T T T E D E I K Q F V S K Q V V F Y K R
1531   atatttcgtgtatttttgggtgatgcaattccgaaatccatccggaagattcttcgaaaggagttgagagcaagaatagcatccggt
I F R V F F V D A I P K S P S G K I L R K E L R A R I A S G
1621   gatctacctaataa
D L P K *

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SUPPLEMENTARY FIGURE S5

Nucleotide sequences and deduced amino acid sequences of *CCR* from celery

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1   atgccttctgtttcaggccaggttgtttgtgtcacccggcgccggaggtttcatcgcttcattggttgggttaagttgcttctggagaaaggt
M P S V S G Q V V C V T G A G G F I A S W L V K L L L E K G
91  tatactgttcgtggaactgttagaaatccaggtgatccaaagaatggtcatctgagagagcttgaaggagcggaggagagattgatatta
Y T V R G T V R N P G D P K N G H L R E L E G A E E R L I L
181 tgcaaagctgatctacttgattacgaaagtctgcgagaagccatcaatggctgtgatgggtgtttccactgcattctcgggttactgat
C K A D L L D Y E S L R E A I N G C D G V F H T A S P V T D
271 gatcctgaacaaatggtggaaccagcagtaattggaactaagaatgtgattgttcagctgcggaagccaaagttcgtcgtgtgtttt
D P E Q M V E P A V I G T K N V I V A A A E A K V R R V V F
361 acgtcgtctattggggcagtttacatgtccgccaacaggagccctgatgaggttattgatgaaagttgctggagtgatctcgaattctgc
T S S I G A V Y M S A N R S P D E V I D E S C W S D L E F C
451 aagaacactaggaactggtattgctatggtaaagcggtagcagagcaagcgccctgggaagaggcaaagcagagaggagtagacatggtg
K N T R N W Y C Y G K A V A E Q A A W E E A K Q R G V D M V
541 gcacttaatccggtactggtgcttggaccagttctgcagtcaactataaatgccagcattgttcatatcctcaaatacctcaccggatca
A L N P V L V L G P V L Q S T I N A S I V H I L K Y L T G S
631 gccaaacttatgctaactcagttcaggcctatgtccatgttaaggatgttgcagctgcacacattcttctgtttgagaatccgctctgca
A K T Y A N S V Q A Y V H V K D V A A A H I L L F E N P S A
721 accggagcctacctctgtgccgagagctcattcaccgcggtgatgttgcgaaattctggcaaatatcttccggaatatcctattcct
T G R Y L C A E S S L H R G D V V E I L A K Y F P E Y P I P
811 accaagtgttctgatcaagttaagccaagagcaagccgctgaagttctcaaaccaaaagctaaaggatttgggattcgagtttacacca
T K C S D Q V K P R A K P L K F S N Q K L K D L G F E F T P
901 gtgaagcaatgcttatatgaaactgtgaagagtttgaggagaaaggtcacctcccagtcctaccagcagcaacaagatgctaatggt
V K Q C L Y E T V K S L Q E K G H L P V P T Q Q Q Q D A N V
991 caacgcgttcatatccagtccttag
Q R V H I Q S *

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SUPPLEMENTARY FIGURE S6

Nucleotide sequences and deduced amino acid sequences of *PAL* from celery

1 atggcatatgtaaatggtaccgcgaacgggtatgcaaacgggaacgggaacggggttgatttgtgcatgaagaacgaggatccgctgagc
M A Y V N G T A N G Y A N G N G N G V D L C M K N E D P L S
91 tggggagtgggcgggagggcgttgacagggagtcatttggatgaagttaagaggatggtggctgagtagacaggaagccggtggtagattg
W G V A A E A L T G S H L D E V K R M V A E Y R K P V V K L
181 ggaggagaacactgacgatagctcaggtggcagctgtgtcagctagggatgacagtggctttaaggtggagctttccgagacggcgaga
G G E T L T I A Q V A A V S A R D D S G L K V E L S E T A R
271 gctggcgttaaaagctagtagtgattgggtgatggatagtagtaataaaggacagatagttatggtgttactactggttttgggtgctact
A G V K A S S D W V M D S M N K G T D S Y G V T T G F G A T
361 tctcataggaggactaaacaagtggtgctcttcaaaaggagcttattaggttcttgaatgctggaatatttggtagtgagctgaagct
S H R R T K Q G G A L Q K E L I R F L N A G I F G S G A E A
451 ggtaacaacacattaccacactcggcaacaagacagcaatgcttggtagaatcaacacactcctccaaggctattcaggaatccgattc
G N N T L P H S A T R A A M L V R I N T L L Q G Y S G I R F
541 gagatccttgaagccatcaccaagtttcttaaccacaacattactccttgttggcactcctggtgtacgatcactgcttctggagatcct
E I L E A I T K F L N H N I T P C L P L R G T I T A S G D L
631 gtgccattgtcgtacattgtcggacttctcactggtcgccctaactcgaaggctgttggacctactggagtaacactcagccctgaagag
V P L S Y I A G L L T G R P N S K A V G P T G V T L S P E E
721 gctttaagcttctggtgtggaaggtggatttttcgagttacagccaaagggaaggcctggcacttggttaaggaaacagctgttggttct
A F K L A G V E G G F F E L Q P K E G L A L V N G T A V G S
811 ggcatggcctctatggtacttttcgaggctaataatattagcagtgtagtggaagttagtcagcaattttcgtgaagtgtatgcagggg
G M A S M V L F E A N I L A V L A E V M S A I F A E V M Q G
901 aagcctgaatttacagaccatttgacacataagttgaagcaccatcccgccaaattgaggtgcagctataatggaacacattctggat
K P E F T D H L T H K L K H H P G Q I E A A A I M E H I L D
991 ggaagcgcgtacgttaaggctgctcaaaagctacatgaattggatccattacagaacacaaacaggacagatatgctctcagaacatct
G S A Y V K A A Q K L H E M D P L Q K P K Q D R Y A L R T S
1081 cctcagtggtcctcctcaaatggaattatcagatcatcgactaaatgatcgaaagagagatcaactctgtcaatgataacccattg
P Q W L G P Q I E V I R S S T K M I E R E I N S V N D N P L
1171 attgatgtttccaggaacaaggctatacatggtggaatttccagggaaacccaattggtgtttcaatggacaacacacgtttggctatt
I D V S R N K A I H G G N F Q G T P I G V S M D N T R L A I
1261 gcggccataggaagcttatgtttgtcattttcagagcttgcacagcacttctacaacaacgggttgccatcaaatgtctggaggg
A A I G K L M F A Q F S E L V N D F Y N N G L P S N L S G G
1351 cgtaacccgagcttggattatggattcaagggtgctgaaattgccatggcacttactgctgaactccagtttttagccaatccagtg
R N P S L D Y G F K G A E I A M A S Y C S E L Q F L A N P V
1441 actaacatgtccaaagtgtgaacagcacaatcaagatgtgaactctttgggtttaatatcttcaaggaaaacatcagaagctgttgaa
T N H V Q S A E Q H N Q D V N S L G L I S S R K T S E A V E
1531 atcttgaactcatgtctactacatttttagtgggtctgtgccaaagctatagacttgaggcatttggagaagaatttgaagagcactgtt
I L K L M S T T F L V G L C Q A I D L R H L E E N L K S T V
1621 aaaaacacagtgagccaagtagctaagagagtactaaccatgggtgttaacggtagctccatccctcaagattctgcgagaagatttg
K N T V S Q V A K R V L T M G V N G E L H P S R F C E K D L
1711 cttagagtttagaccgtgaatacatattttgcctacattgatgatccctgcagcgcaacctaccattgatgcaaaaactaaggagact
L R V V D R E Y I F A Y I D D P C S A T Y P L M Q K L R E T
1801 ctagttgagcatgcattgaacaatggtgacaagagaggaacttgagcacttccatcttccaaaagattgcagccittgaggatgaacta
L V E H A L N N G D K E R N L S T S I F Q K I A A F E D E L
1891 aaggtattctgcctaaagaagtcgagagtgctagagccgcgttgaaagtggaaatccggcaatccctaacaggatcaaggaatgcagg
K A I L P K E V E S A R A A L E S G N P A I P N R I K E C R
1981 tcttaccactgtacaagttgtgagggagaactgggaacagagtatcttactggagaaaaagcgcatcacctggggaagagttcgat
S Y P L Y K F V R E E L G T E Y L T G E K A R S P G E E F D
2071 aaggtatttacagcaatgtctaaagtgagataattgatccattgctggagtgtctgcagtcagtggaatggtgctcctcttccaattctgc
K V F T A M S K G E I I D P L L E C L Q S W N G A P L P I C
2161 taa
*

SUPPLEMENTARY FIGURE S7

Nucleotide sequences and deduced amino acid sequences of *POD* from celery

```

1      agttgtcagttgtcacagttcagcaaaatgaaggcttttaattttgtgtttggtagttataagcatgctggatatttctgagttctact
      M K A F N Y L C L V V I S M L V F L S S T
91     catgcacaattgaagatgggattttactcaacgagctgtcctaatagcagagaagattgtgcaggattatgtgaatgagcacattcctaata
      H A Q L K M G F Y S T S C P N A E K I V Q D Y V N E H I P N
181    gctccatcactagctgcagcttttgattagaatgcatttccatgattgctttgttcggggttgatgcgtctatcttgctgaattcaact
      A P S L A A A L I R M H F H D C F V R G C D A S I L L N S T
271    gcaacaacatcaggagacaaactgagaggtttgctgttccgaatcagacagttcgaggattcgattttattgacagaatcaaaagccta
      A T T S G R Q T E R F A V P N Q T V R G F D F I D R I K S L
361    cttgaagctgcatgccctggagtagtctcctgcgcagatattatcactttggctgcaagagactccattgttgcactggaggtccaact
      L E A A C P G V V S C A D I I T L A A R D S I V V T G G P T
451    tggaaggtaccaacaggcagaagagacggatcgatatcaaatgtcacggaagctaacaacaacatccctgccccaaagtttcaattttcc
      W K V P T G R R D G S I S N V T E A N N N I P A P S F N F S
541    agcttgcaacaagtttcgctaacgagggccttgatcttaatgatcttgttctcttatccggtgctcacacaattggaattgctcattgc
      S L Q T S F A N E G L D L N D L V L L S G A H T I G I A H C
631    aactccttctctagccggtatacaatttactggaagaggagaccaagatccggcattagacagcgaatacgaacaaacttgaaagct
      N S F S S R L Y N F T G R G D Q D P A L D S E Y A T N L K A
721    aacaaatgcagatcaatcagagacaacactacaaaagttgaaatggatcccggaagtgc tagaacatttgaccttagctactactcgctt
      N K C R S I R D N T T K V E M D P G S A R T F D L S Y Y S L
811    ctactgaagcgaagaggcctatttgaatccgattcagcattaacaacaagctcaaccacaacaattttatcactcaacttgttcaggga
      L L K R R G L F E S D S A L T T S S T T N N F I T Q L V Q G
901    tcacaaaagaatttctctctcagtttgcaaagtcattggagaaaatgggtcgaatcaatgtcaagacagggctctctggagagataagg
      S Q K N F F S Q F A K S M E K M G R I N V K T G S S G E I R
991    aaagtatgcgcctttgtgaatagttaa
      K V C A F V N S *

```


SUPPLEMENTARY FIGURE S8

Nucleotide sequences and deduced amino acid sequences of *CAD* from celery

```

1      atgggtagcttggaattgagagaaaaacaacaggatgggctgcaagagatcccttctgggtgttctctcaccttactcttacactctcaga
M G S L E I E R K T T G W A A R D P S G V L S P Y S Y T L R
91     gagacaggccccagaagatataattatcaggattacttgttgggatttgcatactgatattcatcagggtcaagaatgatcttggagct
E T G P E D I F I R I T C C G I C H T D I H Q V K N D L G A
181    tccaattaccccatggttccaggcatgaagtagttgggtgaggtggagggttgaactgatgtgaccaagtccaagacaggagattgt
S N Y P M V P G H E V V G E V V E V G T D V T K F K T G D C
271    gtcggagttggcacaatcgttggatgttgtaaaacctgcaggccgtgcacgcgtgatgttgagcagtactgcaacaagaagatctggctt
V G V G T I V G C C K T C R P C I A D V E Q Y C N K K I W S
361    tacaacgatgtctacacgatggcaagccccaccaaggaggtctctccagctcaatggctcgtcaatcaaaagtttgcggtgaaaatacca
Y N D V Y T D G K P T Q G G F S S S M V V N Q K F A V K I P
451    gatggaatggcaccggaacaggcagcacctctattatgtgcaggggtgactgtttatagtcctctgactcattttggattaagtaagatt
D G M A P E Q A A P L L C A G V T V Y S P L T H F G L S K I
541    gctggacttaaaaggggcatattggggcttggagggttggacacatgggggtcaagttagcgaagccatggggcatcacgtgactgtc
A G L K G G I L G L G G V G H M G V K L A K A M G H H V T V
631    ataagctcatctgataagaagaagaggaggcattggatcatcttgggtgcagatgcttatcttgtcagctcggatgctactcaaatacaa
I S S S D K K K E E A L D H L G A D A Y L V S S D A T Q M Q
721    gaagctgctgattcgcttgattatattgacaccgtgcctgtttttcaccacttgaaccttacctttccttggtaaaacttgatggg
E A A D S L D Y I I D T V P V F H P L E P Y L S L L K L D G
811    aagttgatcttgatgggggttatcaacactcctttgcagtttatctccccatgggttatgctcgggagaaaggccataacaggagcttc
K L I L M G V I N T P L Q F I S P M V M L G R K A I T G S F
901    ataggagcataaaagaacagaggaaatgcttgatttttgcataaaagggaattacttcaacaatcgaagtagtgaagatggattac
I G S I K E T E E M L D F C N E K G I T S T I E V V K M D Y
991    atcaacaaagccitttgagggttggagaaaacgacgtcagataccgggtttgtttagatatttcaggcagcaaaccttgatcaagaaca
I N K A F E R L E K N D V R Y R F V V D I S G S K L D Q E T
1081  taa
      *
```

SUPPLEMENTARY FIGURE S9

Nucleotide sequences and deduced amino acid sequences of *CCoAOMT* from celery

```

1      atggcttctaagtctgaatccaacattcagaagttgggcacaagagtcctttgcagagtgatgctctttatcagtataacttgaaaca
M A S N A E S K H S E V G H K S L L Q S D A L Y Q Y I L E T
91     agtgtgtaccaagagagccagaggcaatgaaagagcttagagatgtcactgccaaagcatccatggaatctgatgacaacatcagctgat
S V Y P R E P E A M K E L R D V T A K H P W N L M T T S A D
181    gaagggcagttcttgagcatgcttttgaagctcatcaatgccaaagacacccatggagattgggtgtttacactggttattctctccttgcc
E G Q F L S M L L K L I N A K N T M E I G V Y T G Y S L L A
271    acggccctggctcttccagatgatgggaagattttggcattggacatcaacagagaaaactatgaaattggattaccaattattgaaaaa
T A L A L P D D G K I L A L D I N R E N Y E I G L P I I E K
361    gctggagttgggtcacaaaattgacttcagagagggccctgctttgcctgttcttgcacatgcttgaagatgggaagtttcatgggaca
A G V G H K I D F R E G P A L P V L D H M L E D G K F H G T
451    ttggattttgtattcgttgatgctgacaaagataactatatcaactaccacaagagattaattgatttagtgaatacggaggacttatc
L D F V F V D A D K D N Y I N Y H K R L I D L V K I G G L I
541    ggctacgacaacacccctttggaatggttctgtggcacagccagctgatgctcccatgaggaagtatgtaaggtaactacagagactttgtg
G Y D N T L W N G S V A Q P A D A P M R K Y V R Y Y R D F V
631    atcgagcttaacaaagccctggctgctgatccaggattgagatctgcatgcttcctgttgggtgatggagttaccctgtgccgtcgatc
I E L N K A L A A D P R I E I C M L P V G D G V T L C R R I
721    agctga
S *

```

SUPPLEMENTARY FIGURE S10

Nucleotide sequences and deduced amino acid sequences of *C3'H* from celery

```

1      atggctctccttctgctggctgcatcatctctctcattctcatcattctctacaacttctatcaacggctgagatttaatctccctccc
M A L L L L A A S S L L I L I I L Y N F Y Q R L R F N L P P
91     ggctcctcgacccttacctattgtaggaatctctacgacatcaagccactcaagttccgttgcctttgctgatcttgcacaaactgtacggc
G P R P L P I V G N L Y D I K P L K F R C F A D L A K L Y G
181    cctatcttttgtctacgtctagactccaggcttaatgttgggttacaacagctgagttggctaaagaagtgtgaaggaaaatgatcag
P I F C L R L D S R L N V V V T T A E L A K E V L K E N D Q
271    cagttggctgacaggcacaggaacaaagctactgatatatttagtagaggtgggagtgatttgatatgggctgattatgggcctcattat
Q L A D R H R N K A T D I F S R G G S D L I W A D Y G P H Y
361    gtttaaggctcaggaaagtttgtaatgttgagctttttactcccaagagacttgaagctttgaggccattagagaagatgaagttactgct
V K V R K V C N V E L F T P K R L E A L R P I R E D E V T A
451    atggttgagaccctttatatatgtgcagataagcagggaaaagatttggcttaaggccttacttaggatcagtagcatttaacaacatt
M V E T L Y I C A D K Q G K S L L L R P Y L G S V A F N N I
541    acaagactgtcatttggaaaaagatttgcacacagaaggtggaattgatgagcaaggacaagagttcaagggaattgtttctaattggt
T R L S F G K R F V N S E G G I D E Q G Q E F K G I V S N G
631    atcaagatcggtgccaaagtgttcattgggagagtatgtgccatggccttgcctggatgtttgctggagaaaacgatgtactcaaccagcac
I K I G A K V F M G E Y V P W L R W M F A G E N D V L N Q H
721    gaagctcgtcgggcacgcctgaccaaacagatcatggcagaacatactcttcacgcaacaaaaccgggggtgccaaagatcattttgtt
E A R R A R L T K Q I M A E H T L A R N K T G G A K D H F V
811    gatgcattgctcactcttcagaacagtatgatttaagtacgacactgttatcactctcctatgggacatgatcactgcaggaatggac
D A L L T L Q K Q Y D L S D D T V I T L L W D M I T A G M D
901    acaacttcaatctcagtggaaatgggctatggctgagctagtcagaacccaaggttacagaagaaggcccaagaggagctagaccgggta
T T S I S V E W A M A E L V K N P R V Q K K A Q E E L D R V
991    gttgggtcggaaccgaatcatgacagaagctgacttctccaagctcccttacctgcaatgtgtagccaaggaagcactaagattgcaccct
V G S D R I M T E A D F S K L P Y L Q C V A K E A L R L H P
1081   cctaccctatgatgtccctcacaagccagtgccaataccaaacttggaggtacgacgtcccaaggaatccattgtgcatgttaat
P T P M M L P H K A S A N T K L G G Y D V P K G S I V H V N
1171   gtatgggccattgccctgacctgcattgtggaagacctctggagttttggcccgaaagattcttgaacaagatgttgacatgaaa
V W A I A R D P A L W K D P L E F W P E R F L E Q D V D M K
1261   ggccacgactatcggtccttccattcggtgctggaaggcgaatttgccttggcgctcagcttgctataaacttgggtgacatctatgttg
G H D Y R L L P F G A G R R I C P G A Q L A I N L V T S M L
1351   ggacatcttttgcacattttacttggactccaacagcaggtgtcaggccagaggaagttgacatgagtgaaccaggaatgggtgact
G H L L H H F T W T P T A G V R P E E V D M S E N P G M V T
1441   tacatgaaaacaccagtgaagctattgtactccagattagcagcagagttgtacaacgcgtgccattggacatatag
Y M K T P V Q A I A T P R L A A E L Y K R V P L D I *

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SUPPLEMENTARY FIGURE S11

Nucleotide sequences and deduced amino acid sequences of *COMT* from celery

```

1      atgactacaacgactgagctaattcccaccaacaatccaagtcgatgatgaagaagaagaagcatgcatgtttgccatgcaattagcaagt
M T T T T E L I P P T I Q V D D E E E E A C M F A M Q L A S
91      gcatctgtttctacccatgattctcaaatcagccattgagcttgaccttcttgagtcctatagctaaagctgggtccaggagcttatgtttcg
A S V L P M I L K S A I E L D L L E S I A K A G P G A Y V S
181     ccttctgagcttgcgtctcagcttccatccagtcacactcccgatgcttgaccgcaccccttaggctcttggccagctactct
P S E L A S Q L P S S Q P D T P V M L D R I L R L L A S Y S
271     gtgctcaaatgtaaacttcaagacctgcctcaggggtgggtggagaggctctatgccttggcgcctgtttgcaagttcttgaccaagaac
V L K C K L Q D L P Q G G V E R L Y A L A P V C K F L T K N
361     tctgatgtgtgtctatggcacctcttttgcctcatgaaccaagataagattcttatggaaagctgggtaccacttgaagatgcagtactt
S D G V S M A P L L L M N Q D K I L M E S W Y H L K D A V L
451     gacgggtggaataccttttaacaagcatatggaatgacagcatttgagtaccatggcaaagaccctagattcaaaaagtcttcaatcta
D G G I P F N K A Y G M T A F E Y H G K D P R F N K V F N L
541     ggaatgtctaattcattccactattactatgaagaaaatccttgaaacttacaatggttttgccgtctcaaaactgtgtggatgttggt
G M S N H S T I T M K K I L E T Y N G F A G L K T V V D V G
631     ggaggcaccggagcaacccttaatatgattatctctaataatcctaataatcaaagggttaactttgatctaccccatgttgttgaagat
G G T G A T L N M I I S K Y P N I K G I N F D L P H V V E D
721     gctccatcttatcctgtgtgtagacagcttggaggtgacatgtttgtcagcgtacccgagggggatgctatttttatgaagtggatgtt
A P S Y P G V E H V G G D M F V S V P E G D A I F M K W I C
811     cagatttgagcgtatcacattgtctgtcattcttgaagaattgctataaagcccttcacagaatgggaaggtgatactcgcagaatgc
H D W S D A H C L S F L K N C Y K A L P Q N G K V I L A E C
901     attcttccggaggcaccagactccaagcttacaaccaagaatgtcgttcatatagacgttatcatgtttggcacataatcccgaggagaaaa
I L P E A P D S K L T T K N V V H I D V I M L A H N P G G K
991     gaaagaaccgagaaagaattcgaggcactgggttaaaggccgggttcaaaagctttaacaaggcctgttgtgtcttataatacttgggtt
E R T E K E F E A L G K E A G F K S F N K A C C A Y N T W V
1081    attgaattccttaaatag
I E F L K *

```

SUPPLEMENTARY FIGURE S12

Nucleotide sequences and deduced amino acid sequences of *LAC* from celery

```

1      atgaaaaacgacattgcagcagtgacttctgcagcatgtctgtttccgggtcttagttgaatgcagagttcgacattacaagttcaatgtg
M K N D I A A V T S A A C L F P V L V E C R V R H Y K F N V
91     gtgatggcaaatcaagcagactgtgctcgacaaagccaatagtgcaggtgaatggacaattccaggtcctactttaactgctagggaa
V M A N S S R L C S T K P I V T V N G Q F P G P T L T A R E
181    ggtgacacagtgctagtgaagttgtcaaccatgtcaagtacaatgtttcagtcactggcatggcattcgacagctcagaacaggggtgg
G D T V L V K V V N H V K Y N V S V H W H G I R Q L R T G W
271    gcggatgggccagcgtacatcacacaatgccctatccagccggggcaaaactatgtatacaacttcacaatcaccgagcaaaaggggtacc
A D G P A Y I T Q C P I Q P G Q N Y V Y N F T I T E Q R G T
361    ctctggtggcatgcacatatcttatggctacgtgcaacagtagatggcgcgattgtaatccttcttaagagaggtatcccatatccattt
L W W H A H I L W L R A T V H G A I V I L P K R G I P Y P F
451    cccaaacccgacaaggaagttgtgtcgattagctgaatactggaaagcagatacagaactgtgatcaaccaagcacagaatcagga
P K P D K E V V V V L A E Y W K A D T E L V I N Q A Q K S G
541    ttggcgccaaacgtatcagatgcacatacaatcaatgggagaccaggaccagtttcttaactgttcggcacaagatgcattcaaatgagt
L A P N V S D A H T I N G R P G P V S N C S A Q D A F K L S
631    gttgaagcaggaaaaaacgtacatgctacgtatcatcaacgctgcactcaacgaagaacttttctttaaaattgctggacacaagctaact
V E A G K T Y M L R I I N A A L N E E L F F K I A G H K L T
721    gtggttgaagttgatgccacctatgtaaagcctttcaaaactgatacaatcgtagtagcaccgggccaaccaccaacgttttagtgaca
V V E V D A T Y V K P F K T D T I V I A P G Q T T N V L V T
811    gcagacaaatcttcttgcaagtagctttaggtgcctcaccatttatggattctccgattgcagtagacaacgtgactgcaacagcaaca
A D K S S G K Y L M A A S P F M D S P I A V D N V T A T A T
901    ttgcattattcttggaacactttcaagttctccaacctctcgcgaccccaacacctcaaaatgccaccccaattgcagacaatttcaca
L H Y S G T L S S S P T I L A T P T P Q N A T P I A D N F T
991    aactctttacgaagtttgaattcaagaagtaccctgccaaaggttccattaaaggttgatcactctcttatgatcacagtcggactagga
N S L R S L N S K K Y P A K V P L K V D H S L M I T V G L G
1081   attaatccgtgtccaagctgtaagctggtaacggaagccgcgtagtagcatccatgaacaatatcaccttcatatgccaaccacagct
I N P C P S C K A G N G S R V V A S M N N I T F I M P T T A
1171   ctccctcaagcacattacttcaaaatcaaaggtgtttttacaacagattttccaagcaatcctccatttgccttttaattacacaggaaca
L L Q A H Y F K I K G V F T T D F P S N P P F A F N Y T G T
1261   acaccaccgcaaaacttagggaccacaactggaacaaaactatacaggttgcccttacaattccacagttcaactagttctccaagacaca
T P P A N L G T T T G T K L Y R L P Y N S T V Q L V L Q D T
1351   aatataatagccccagaaaacatccaattcatttgcattgattcaacttctttcggttggcagaggacttggaaactttaatccaag
N I I A P E N H P I H L H G F N F F A V G R G L G N F N P K
1441   aaagatccgaaaaactttaatcttgttgaccctgttgagaggaacacaattggtgtaccatccgggggatggacagctattagatttcgt
K D P K N F N L V D P V E R N T I G V P S G G W T A I R F R
1531   gcagataaccaggtgttttggttcattgcattgccacttggaagtacacacaacatggggactaaagatggccttccctggtggacaacgga
A D N P G V W F M H C H L E V H T T W G L K M A F L V D N G
1621   aagggccgaatgagacaatcttgccacctccaagagatctcccaaatgttag
K G P N E T I L P P P R D L P K C *

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SUPPLEMENTARY FIGURE S13

Nucleotide sequences and deduced amino acid sequences of *CSLD3* from celery

```

1      atgacgtcaaaaacaaagtggcaagtcggttatctatgacatcggatgctgatggctctgattcacaccacaagccaccaatgcctcca
M T S K T K V A S R L S M T S D A D G P D S H H K P P M P P
91     actgtcacatttgggaggagaacctcatctggctgatatactagttattcagagatgatcttgatagtgaaacttgaagcagtgatttt
T V T F G R R T S S G R Y I S Y S R D D L D S E L G S S D F
181    atgaactacacagtacacatgccaccaactccagacaatcaaccaatggattccatttcccagaagggtgaagagcagtatgtatcaagt
M N Y T V H M P P T P D N Q P M D S I S Q K V E E Q Y V S S
271    tcactttttacaggtggattcaacagcggttacacgagctcatcttatggacaagggtgactgaatcagaagtcaacctccccagatggct
S L F T G G F N S V T R A H L M D K V T E S E V N H P Q M A
361    ggttcaaaaggatcttcatgtgccattcctggatgtgatggaaggatgatgagtgatgaacgtgggggtggatattccttcttggatgt
G S K G S S C A I P G C D G K V M S D E R G V D I L P C E C
451    gatttcaagatatgcagggttgctatatggatgcggttaagactcggagatggaatttggcctggttgcaaggaacagtataaaggctcct
D F K I C R D C Y M D A V K T G D G I C P G C K E Q Y K V P
541    gatattggatgaagcagaaccgaatggaagacacttcaactcccactccatctgggatttcaaaaatggaaggaggttgctctctcatg
D M D E A E P N G R T L Q L P P P S G I S K M E R R L S L M
631    aaatcaacaaagtcacaaactgatgaggagccatactggggatttggatcacaaatcgatggctctttgaaacgagtgccacctatggctac
K S T K S Q L M R S H T G D F D H N R W L F E T S G T Y G Y
721    ggaatgcttatatggccaaaggagggaggtttgttaacgcgaagggtgaaaagacagctgacctatgattgaggttaacca
G N A I W P K E G G G F V N A K G E K T A D P S D L M G K P
811    tggagaccactcactcgcaagttaaaaataccagctgctattctcagcccatacaggcttctgatcgtgattcgggttggttcttctgca
W R P L T R K L K I P A A I L S P Y R L L I V I R L V L A
901    tttttctggaatggaggatcaccaccccaataatgatgcaatttggctctgggggatgctattgttggtagttatggtttgccttc
F F L E W R I T H P N N D A I W L W G M S I V C E L W F A F
991    tcgtgggttcttgatcaacttccaaaactctgtcctatttaaccgttcacagacctcaatgtcttaaaagagaatttgaatgcctagt
S W V L D Q L P K L C P I N R S T D L N V L K E K F E M P S
1081   ccaataatcccacgggaaaactctgatctccctggaatagatatcttgtgtctactcgagatcctgagaaagaaacctccacttgcact
P N N P T G K S D L P G I D I F V S T A D P E K E P L V T
1171   gcaaacacaattttgtctatcttagccactgattatccagttgaaaagcttgcattgctctctgatgcaggaggtgctcttttgaca
A N T I L S I L A T D Y P V E K L A C Y V S D D G G A L L T
1261   tttagggccatggcagaagccgagcctttgctaacatgtgggttccattttgccgaaaacataattattggccctagaacctgactct
F E A M A E A A S F A N M W V P F C R K H N I E P R N P E S
1351   tatttcagtttgaaggaggtcctacaagaacaggtacggagacagctttgtcaaggaccgttagacgaataaaacgtgagtagacgaa
Y F S L K R D P Y K N K V R T D F V K D R R R I K I V I G
1441   tttaaagtcgcatcaatgggtgccagactctatccgtctgtagatctgacgcctatcatgctcgggaggaaattaaagctatgaaacaa
F K V R I N G L P D S I R R S D A Y H A R E E I K A M K Q
1531   cagagacagaagagatgatgatcccgagagagtattaaagctcgaaagctacatggatggcagatggaaaccttggccaggaaact
Q R Q K R D D D P A E S I K I A K A T W M A D G T H W P T
1621   tggttgactcttcagtagacacactagggtgatcctgtgtataatacaggtgatgctgaaacctccaagtdatgagccactacat
W L T P S V E H T R G D H A G I I Q V M L K P P S D E P L H
1711   ggtacaatcgacgagatgggacattggactccactgatattgatatccgtctcccatgcttgtttatgtatctcgtgagaagcgcct
G T I D E I G T L D S T D I D I R L P M L V Y V S R E K R P
1801   ggctcagatcacaataagaagcaggagccatgaatgctcttgttcgagcttctgcaatcatgtctaattggcccttcttcaatctt
G Y D H N K K A G A M N A L V R A S A I M S N G P F I L N L
1891   gactctgaccactacatctacaactctcaggtctatgaagaaggtatgttttcatgatggataggggtggatcggttcttctgtc
D C T V A E I Y N S Q A M K E G M C F M M D R G D G D C Y V
1981   cagtttcccagagatttggggtattgatccttctgaccggtatcgcaatcacaacactgttttctttgatggaataatcgcgccactt
G F P Q K R F E G I D P S D R Y A N H N T V F F D G N M R A L
2071   gatggcctcagggtcctgtctacgttggacaggatgcctcttgcgaagaattgcactctatggatttgatcgcctcagcgaagaa
D G L Q G P V Y V G T G C L F R R I A L Y G F D P P R A K E
2161   caccacctgtgtcgtcagctgctgttggctcgaaaaagcgtgcctgggtgtcacacacccagaagaacccgcgcgttagaagt
H H P G C C S C C F G R K R I A S V S H T P E E N R A L M
2251   ggtgattctgatgacgaagacatgaatctatctctcgtccaaagaagtttggaaactcaactttccttattgattcgataccagttgca
G D S D D E D M N L S L A P K K F G N S T F L I D S I P V A
2341   gagttccaaggcgcgtcccttgcagatcctcgtgtttaaagtgacagacctcctgggctcttaccattccagagagcttcttgat
E F Q G R P L A D H P A V K N G R P P G A L T I P R E L L D
2431   gcatccactgttgcgaggcaatcagcgtcatctcatgctggatgaggataaaactgagtgggcgatcgtgttgggtggatttacggg
A S T V A E A I S V I S C W Y E D K T E W G D R V G W I Y G
2521   tctgttacagaagatgttgtcacgggtatagaatgcacaataggggatggaaatcagtttattgtgtgactaaacgggatgctttccga
S V T E D V V T G Y R M H N R G W K S V Y C V T K R D A F R
2611   ggaactgctccaacttaacagataggcttcaccaggttctccgttgggctactggttcgggtcagatattcttctctgtaacaat
G T A P I N L T D R L H Q V L R W A T G S V E I F F S R N N
2701   gctctgttagccacatcgaaaatgaagtctctgcaagaattgcttacctcaatgtagaatataccatttaccctatttctctgatt
A L L A T S K M K F L Q R I A Y L N V G I Y P F T S I F L I
2791   gtgtactgttttcttccagcgtctctccttttttctgtgctcattgtccaaagcttgcagttactttcttggcataacctcttgacc
V Y C F L P A L S L F S G Q F I V Q S L D V T F L A Y L L T
2881   attaccatcacactttgttctgtgtgtgaggtgaagtggtcggcattgaattagaggagtggtggagaacagcagcaggttttgg
I T I T L C L L A V L E V K W S G I E L E E W W R N E Q F W
2971   ttgatcgaggaccagtgctcattggctgtgtgtctcaagggtgctgaaagtgtgtgtggatagagatatcttcttactttgaca
L I G G T S A H L A A V L Q G L K L K V V A G I E I S F T L I
3061   tcaaaatcaggagctgaggatgagaacgatgaatttgcgtgagctctatgtagtgaatggacatctctcatgatccctctatcacaatt
S K S G A E D E N D E F A E L Y V V K W T S L M I P P I T I
3151   atgatgactaatctgatttgcctagcagttggatttagccgcacaatatagtcacaataaccacaatggagctcggttactaggggagtt
M M T N L I A I A V G F S R T I Y S Q I P Q W S R L L G G V
3241   ttctttagtttctgggtgctagccatctatcttcttcccaagggttgatgggaagaagaggaagaacaccttaccattgttttcgtg
F F S F V L A H L Y P F A K G L M G R R G R T P I V F V
3331   tggtcagggttatcgccatcaccatatcccttcttgggtgcaattaatccaccacaaggtgctactgaaatcggaggtccttccag
W S G L I A I T I S L L W V S I N P P Q G A T E I G G S F Q
3421   tttccttga
F P *

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SUPPLEMENTARY FIGURE S14

Nucleotide sequences and deduced amino acid sequences of *CESA6* from celery

1 atggatactaagggaagacttattgctggttctcataacagaaatgagtttgttttaataatcaatgctgatgaagttggaaggggtgacttct
M D T K G R L I A G S H N R N E F V L I N A D E V G R V T S
91 gtcaaaagagtttaagtgccatttttgccagatttggtagatgagattgaagtaactgttgatggggagccatttttgccctgcaatgaa
V K E L S G H F C Q I C G D E I E V T V D G E P F V A C N E
181 tgtgccttccctgttttcagaaactgctatgaatatgagagaagagagggaactcagtcacgcctcaatgtagaaccagatatacaagcgc
C A F P V C R N C Y E Y E R R E G T Q S C P Q C R T R Y K R
271 gttaaaggatgtccaagagtggaatggagatgaagaagaagatgaatttgatgatttagataatgagtttgattatgagaacaatgatcaa
V K G C P R V D G D E E E D E F D D L D N E F D Y E N N D Q
361 agataccatcatcacggagcgatggaatgctacatctggtgcgccataatattggcgtgttccatctaatgcttcagggatcactaca
R Y H H H G G D G N A T S G R H N I G R V P S N A S G I T T
451 cccttagacatggattccttactcttaactcctgaattcctccttacctatggtcaaggagatgatgcaatttcaggcagacaacat
P L D M D S S T L N P E I P L L T Y G Q E D D A I S A D K H
541 gctcttattgtccctccatttagggcgctgcaaaagcagtttccctatgcatatactgattcctcagtttctttccaccctccca
A L I V P P P R G R A K R V H P M P Y T D S S F P R P
631 atggatccgaaaaaggatttggcagtatatgggtatggttctgtagcatggaaggaaagaatggaggattggaggaaaaagacaaaatgat
M D P K K D L A V Y G Y G S V A W K E R M E D W R K R Q N D
721 aagcttcaagtggttgaagcagaggaatgaagatggcaggaatggagatgatttggatgccgatttggccaagatggatgaa
K L Q V V K H Q G G N E D G R N G D D L D D P D L P K M D E
811 ggccgacacacctttatcaaggaagctaccgattccttcgagcaagattaatccatacaggatgatcattcctaaccgaatggccattctt
G R Q P L S R K L P I P S S K I N P Y R M I I L I R M A I L
901 ggactcttttttactataggtcctcgcatccagtgcagtgatgcttctgcatgttggtgtgtatcagttatttgcgaaatttggtttgc
G L F F H Y R L R H P V H D A F A L W L V S V I C E I W F A
991 gtgtcatgatattggaatcatttccgaagtgggtcccttctgagcagagaacacacccggacagactccttaaggatgagaaagaa
V S W I L D Q F P K W S P I E R E T Y L D R L S L R Y E K E
1081 gggaaaccttctgagtttagctcctattgacgtctttagtaagtacagtggtaccactaaagaacctccactcattactcacaacacgctc
G K P S L S R K L P I D V F V S T V D P L K E P P L I T A N T V
1171 ttatccatcctcgtctgtagattatcctgtggacaaggttgcctgttatgtctctgatgatgtgtgtctgtatgctcacttttgaagctctc
L S I L A V D Y P V D K V A C Y V S D D G A A M L T F E A L
1261 tccgaaccttgatttgaaggaagtggttcccttctgcaaggaagtttaatatagaacctcgtgccccaggttggatttttgcgaa
S E T S E F A R K K W V P F C K K F N I E P R A P E W Y F A E
1351 aaggttgactatctcaagacaaagtacatccacatttggtaggaacgcctgcaatgaagagagattgaagagtttaagtaaga
K V D Y L K D K V H P T F V R E R R A M K R D Y E R R
1441 ataaatgggttagttgccatggcacagaaggttccctgaagaggggtggacaatgaagatgttactccatggccttggttaacaacgttaga
I N G L V A M A Q K V P E E G W T M Q D G T P W P G N N V R
1531 gatcatcttggatgattcaggtgttccataggttaataatggttgccttgacactgatggaatgagttgcctcatctagtttatttctt
D H P G M I Q V F L G N N G V L D T D G N E L P H L V Y V S
1621 cgtgagaagaggcctggatttgaacaccacaaaaagccggtgctatgaatttcttattccagagtcacagtcattcctcaaatgctcca
R L F P G F E H H K K A G A M N S L I R V N S A V I A S T L
1711 tacctactcaatgtcgattgtgatcactacataaacaacagtaaaagcacttagggagtcctatgtgctttatgatggacctacgtctgga
Y L L N V D C D H Y I N N S K A L R E S M C F M M D P T S G
1801 aagaagatatgctatgacaatttcccaagatttgaatgggatttgatcgtcatgatcgatacttaactcgcaacgttcttattcttggat
K K I C Y V Q F P Q R F D G I D R H D R Y S N R N V V F F D
1891 attaatatgaaggactagacggtatccaaggaccgatattgttgaacaggttgggtgttgcaggaggcaagcttcttattggatgat
I N M K G L D G I Q G P I Y V G T G C V F R R Q Q A C T I A S T L
1981 gcacctgtgaagaagaagctgcaggaacaaacttgaactgtttgccaaaaatgggttttgcctgttttggatctagaagaagacacaaa
A P V K K K A A G K T C N C L P K W F C C C F G S R K K T K
2071 aaaagttaagtcacaagagaagaagacaagaagagcagggaggtttcaacacagttacctgcacttgaaaatattgaacaagggtattgaa
K S K S K E K K D K K S R E V S T Q L P A L E N I E Q G I E
2161 ggaatagatagtgaaaaagtatcactcattcccaagataaattatgagaaaaagtttggacagtcaccagtggtttagcatcaacactt
S V Y C I P K R A C F K G S A P I N L S D R L H Q Q S P V F I A S T L
2251 atagaagaaggttgagtagtgcctggagcaacttcagcttcactcttgaagaagccattcatgttattagttgtgggtacgaagacaaa
I E E G G V L P G A T S A S L L K E A I H V I S C G Y E D K
2341 acagattggggaaaagaggttgggtggatctatggctctgttactgaagatatattgaccgggttcaagatgcactgcatgttggcga
T D W G K E V G W I Y G S V T E D I L T G F K M H C H G W R
2431 tctgtttactgcattcccaagaggttgcctttaaaggttcagctcccatatatttcttgatgcttccaccaagttctcaggtgggccc
S V Y C I P K R A C F K G S A P I N L S D R L H Q Q S P V F I A S T L
2521 cttggatctgttgagattcttctgagcaagcattgccccatttggatggttatggttgcggtttgaagccactggaacggttttcgtat
L G S V E I L L S K H C P I W Y G Y G C G L K P L E R F S Y
2611 ataaactctgtctatatacctttaaactcgttcccttgccttactgcacattgcccgtgtctgtctgttactggaagatttatc
I N S V V Y P L T S V P L L A Y C T L P A V C L L T G K F I
2701 gtgccagagattagcaattatgcagcttctgttgcattggccatgttttgcattgcccgaactagatcttagaataatgcagtggtt
V P E K I P S N Y A S L V F M A M A F L S I A V T S I L E M Q W A
2791 cgtgttggatagatgatttgtggagaatgaacagtttgggtgataggaggtgtctcggcacatcttttgcctcttcttcaaggtctt
R V G I D D L W R N E Q F W V I G G V S A H L F A L F Q G L
2881 ctcaaggttttggcaggggtgaacactagtttactgttacttcgaaaggaggagatgatggtgaatttccgactgttaccttttcaag
L K V L A G V N T S F T V T S K G G D D G E F S E L Y L F K
2971 tggactactttattgctccctccttcttacttattgtaattgtgaacatagtcggggttctagtggaatatcagatgccataaccaatgg
W T L L L P P L T L I V N I V G V L V G I S D A I T N G
3061 tacgagtcattggggccgctcttggcaggtgttcttgcatttgggtcattgtccatctgtacccttctcacaaggaatgatgggg
Y E S W G P L F G R L F F A I W V I V H L Y P F L K G M M G
3151 aaacagtcgtgagttccgactattataatcggtgtgctgattcttcttcaactcttttcaactttttagggatcggatcaacccctt
K Q S G V P T I I I V W S I L L A S I F S L L W V R I N P F
3241 gtatcaagggtatgcatgtattagaagctgcgggttggattgtgaciga
V S R D G I V L E V C G L D C D *