

Appendix A. Translated DNA sequences of a-class and α -class precursor genes included in this study

1. a-class precursor genes

Ashbya_gossypii (Identified in this study, accession - NC_005783)
1 atgcaactaacgaataatccaacaaggacgaatcaacagagaataaggataactggatcgccaagggtacatgtggac 80
1 M Q L T N N T N K D E S T E N K D N W I A K G Y M W T 27
81 gccccagtgtgtgatcggt 99
28 P Q C V I V 33

Candida_glabrata (Identified in this study, accession - CR380949)
1 atgcaaccaactattgaagccactcaaaaggataacactcaagaaaaggagacaattatattgtcaaaagggtttttctg 80
1 M Q P T I E A T Q K D N T Q E K R D N Y I V K G F F W 27
81 gagtccagattgtgtaacgct 102
28 S P D C V I A 34

Chaetomium_globosum (Identified in this study, accession - NT_165976)
1 atgccttccaccaccaccagaccaaggtccccagacctccacaaacttcaacggctactgctgtgcatg 72
1 M P S T T T Q T K V P Q T S T N F N G Y C V V M 24

Chryphonectria_parasitica_1 (Zhang, Baasiri, and Van Alfen 1998); accession - U92042)
1 atgccttccaacaccagacctccaactcctccatgggagtgcaacggctactcctactgctgtgcatg 69
1 M P S N T Q T S N S S M G V N G Y S Y C V V M 23

Chryphonectria_parasitica_2 (Zhang, Baasiri, and Van Alfen 1998); accession - U92042)
1 atgccttccaacaccagacctccaactcctccatgggagtgcaacggctactcctactgctgtgcatg 69
1 M P S N T Q T S N S S M G V N G Y S Y C V V M 23

Fusarium_circinatum_MRC6213 (Sequenced for the first time in this study)
1 atgccttccacaaaacaccaccgcccagacccccggctaccctctcactgacgctcatggccaagcccaccaagga 80
1 M P T T A Q T P G Y P L T C S V M A K P T K D 27
81 caaccagactccccgctatccccctgacctgacgctcatgaagaagccagttgccaacgggtcaaacccccggctaccccc 160
28 N Q T P G Y P L T C S V M K K P V A N G Q T P G Y P L 54
161 tgacctgcaactgttatg 177
55 T C T V M 59

Fusarium_circinatum_MRC7488 (Sequenced for the first time in this study)
1 atgccttccacaaaacaccaccgcccagacccccggctaccctctcactgacgctcatggccaagcccaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C S V M A K P T K D 27
81 caaccagactccccgctatccccctgacctgacgctcatgaagaagccagttgccaacgggtcaaacccccggctaccccc 160
28 N Q T P G Y P L T C S V M K K P V A N G Q T P G Y P L 54
161 tgacctgcaactgttatg 177
55 T C T V M 59

Fusarium_fujikuroi_MRC8532 (Sequenced for the first time in this study)
1 atgccttccacaaaacaccaccgcccagacccccggctaccctctcactgacgctcatggccaagcccaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C T V M A K P T K D 27
81 caaccagactccccgctatccccctgacctgacgctcatgaagaagccagttgccaacgggtcaaacccccggctaccccc 160
28 N Q T P G Y P L T C S V M K K P A A N G Q T P G Y P L 54
161 tgacctgcaactgtcatg 177
55 T C T V M 59

Fusarium_fujikuroi_MRC8534 (Sequenced for the first time in this study)
1 atgccttccacaaaacaccaccgcccagacccccggctaccctctcactgacgctcatggccaagcccaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C T V M A K P T K D 27
81 caaccagactccccgctatccccctgacctgacgctcatgaagaagccagttgccaacgggtcaaacccccggctaccccc 160
28 N Q T P G Y P L T C S V M K K P A A N G Q T P G Y P L 54
161 tgacctgcaactgtcatg 177
55 T C T V M 59

Fusarium_konzum_MRC8544 (Sequenced for the first time in this study)
1 atgccttccacaaaacaccaccgcccagacccccggctaccctctcactgacgctcatggccaagcccaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C T I M A K P T Q D 27
81 caaccagactccccgctatccccctgacctgacgctcatgaagaagccagttgccaacgggtcaaacccccggctaccccc 160
28 N Q T P G Y P L T C S V M K K P V A N G Q T P G Y P L 54
161 tgacctgcaactgtcatg 177
55 T C T V M 59

Fusarium_konzum_MRC8545 (Sequenced for the first time in this study)
1 atgccttccacaaaacaccaccgcccagacccccggctaccctctcactgacgctcatggccaagcccaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C T I M A K P T Q D 27
81 caaccagactccccgctatccccctgacctgacgctcatgaagaagccagttgccaacgggtcaaacccccggctaccccc 160
28 N Q T P G Y P L T C S V M K K P V A N G Q T P G Y P L 54
161 tgacctgcaactgtcatg 177
55 T C T V M 59

Fusarium mangiferae_MRC7559 (Sequenced for the first time in this study)
1 atgccttccaccaagaacaccaccgcccagacccccggctaccctctcacctgcagcgtcatggccaagcccaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C S V M A K P T K D 27
81 caaccagactcccggtatcccttgacctgcagcgtcatgaagaagccagctgccaacgggtcaaactcccggtaccccc 160
28 N Q T P G Y P L T C S V M K K P A A N G Q T P G Y P L 54
161 tgacctgactgtcatg 177
55 T C T V M 59

Fusarium mangiferae_MRC8092 (Sequenced for the first time in this study)
1 ATGCCTTCCACCAAGAACCACCACCGCCAGACCCCCGGTACCCTCTCACCTGCACCGTCATGGCCAAGCCCATCAAGGA 80
1 M P S T K N T T A Q T P G Y P L T C T V M A K P I K D 27
81 CAACCAGACTCCCGGTATCCCTTGACTTGCAGCGTCATGAAGAAGCCAGCTGCCAACGGTCAAACCCCCGGTACCCTCC 160
28 N Q T P G Y P L T C S V M K K P A A N G Q T P G Y P L 54
161 TGACCTGCACTGTCATG 177
55 T C T V M 59

Fusarium nygamai_MRC8546 (Sequenced for the first time in this study)
1 atgccttccaccaagaacaccaccgcccagacccccggctaccctctcacctgcagcgtcatggccaagcccaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C S V M A K P T K D 27
81 caaccagactcccggtatcccttgacctgcagcgtcatg 120
28 N Q T P G Y P L T C T V M 40

Fusarium nygamai_MRC8547 (Sequenced for the first time in this study)
1 atgccttccaccaagaacaccaccgcccagacccccggctaccctctcacctgcagcgtcatggccaagcccaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C S V M A K P T K D 27
81 caaccagactcccggtatcccttgacctgcagcgtcatg 120
28 N Q T P G Y P L T C T V M 40

Fusarium oxysporum (Identified in this study, accession - AAXH01000548)
1 atgccttccaccaagaacaccaccgcccagacccccggctaccctctcacctgcagcgtcatggccaagcccaccaagga 80
1 M P S T K N T T A Q T P G Y P L S C S V M A K P T K D 27
81 caaccagactcccggtatcccttgacctgcagcgtcatgaagaagccagctgccaacgggtcaaactcccggtaccccc 160
28 N Q T P G Y P L S C S V M K K P A A N G Q T P G Y P L 54
161 tcagctgactgtcatg 177
55 S C T V M 59

Fusarium proliferatum_MRC8549 (Sequenced for the first time in this study)
1 atgccttccaccaagaacaccaccgcccagacccccaggctaccctctcacctgcaccgtcatggccaagcccaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C T V M A K P T K D 27
81 caaccagactcccggtatcccttgacctgcagcgtcatgaagaagccagctgccaacgggtcaaactcccggtaccccc 160
28 N Q T P G Y P L T C S V M K K P A A N G Q T P G Y P L 54
161 tgacctgactgtcatg 177
55 T C T V M 59

Fusarium proliferatum_MRC8550 (Sequenced for the first time in this study)
1 atgccttccaccaagaacaccaccgcccagacccccaggctaccctctcacctgcaccgtcatggccaagcccaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C T V M A K P T K D 27
81 caaccagactcccggtatcccttgacctgcagcgtcatgaagaagccagctgccaacgggtcaaactcccggtaccccc 160
28 N Q T P G Y P L T C S V M K K P A A N G Q T P G Y P L 54
161 tgacctgactgtcatg 177
55 T C T V M 59

Fusarium sacchari_MRC8551 (Sequenced for the first time in this study)
1 atgccttccaccaagaacaccaccgcccagacccccggctaccctctcacctgcaccgtcatggccaagcccaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C T V M A K P I K D 27
81 caaccagactcccggtatcccttgacctgcagcgtcatgaagaagccagctgccaacgggtcaaactcccggtaccccc 160
28 N Q T P G Y P L T C S V M K K P A A N G Q T P G Y P L 54
161 tgacctgactgtcatg 177
55 T C T V M 59

Fusarium sacchari_MRC8552 (Sequenced for the first time in this study)
1 atgccttccaccaagaacaccaccgcccagacccccggctaccctctcacctgcaccgtcatggccaagcccaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C T V M A K P I K D 27
81 caaccagactcccggtatcccttgacctgcagcgtcatgaagaagccagctgccaacgggtcaaactcccggtaccccc 160
28 N Q T P G Y P L T C S V M K K P A A N G Q T P G Y P L 54
161 tgacctgactgtcatg 177
55 T C T V M 59

Fusarium sterilihyphosum_MRC2802 (Sequenced for the first time in this study)
1 atgccttccaccaagaacaccaccgcccagacccccggctaccctctcacctgcactgtcatggccaagccctaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C T V M A K P T K D 27
81 caatcagactcccggtatcccttgacctgcagcgtcatgaagaagccagctgccaacgggtcaaactcccggtaccccc 160
28 N Q T P G Y P L T C S V M K K P A A N G Q T P G Y P L 54
161 tgacctgactgtcatg 177
55 T C T V M 59

Fusarium sterilihyphosum_MRC8105 (Sequenced for the first time in this study)
1 atgccttccaccaagaacaccaccgcccagacccccggctaccctctcacctgcactgtcatggccaagccctaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C T V M A K P T K D 27
81 caatcagactcccggtatcccttgacctgcagcgtcatgaagaagccagctgccaacgggtcaaactcccggtaccccc 160
28 N Q T P G Y P L T C S V M K K P A A N G Q T P G Y P L 54

161 tgacctgcaactgtcatg 177
55 T C T V M 59

Fusarium subglutinans (grp1)_MRC1084 (Sequenced for the first time in this study)
1 atgccttccaccaagaacaccaccgcccagacccccggctaccctcttacctgcaactgtcatggccaagcctaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C T V M A K P T K D 27
81 caaccagactcccggctatcccctgacctgcaactgtcatgagaagccaggtgccaacgggtcaaaccctggctaccccc 160
28 N Q T P G Y P L T C S V M K K P V A N G Q T P G Y P L 54
161 tgacctgcaactgtcatg 177
55 T C T V M 59

Fusarium subglutinans (grp1)_MRC7828 (Sequenced for the first time in this study)
1 atgccttccaccaagaacaccaccgcccagacccccggctaccctcttacctgcaactgtcatggccaagcctaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C T V M A K P T K D 27
81 caaccagactcccggctatcccctgacctgcaactgtcatgagaagccaggtgccaacgggtcaaaccctggctaccccc 160
28 N Q T P G Y P L T C S V M K K P V A N G Q T P G Y P L 54
161 tgacctgcaactgtcatg 177
55 T C T V M 59

Fusarium subglutinans (grp2)_MRC8553 (Sequenced for the first time in this study)
1 atgccttccaccaagaacaccaccgcccagacccccggctaccctcttacctgcaactgtcatggccaagcccaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C S V M A K P T K D 27
81 caaccagactcccggctatcccctgacctgcaactgtcatgagaagccaggtgccaacgggtcaaaccctggataccccc 160
28 N Q T P G Y P L T C S V M K K P A A N G Q T P G Y P L 54
161 tgacctgcaactgtcatg 177
55 T C T V M 59

Fusarium subglutinans (grp2)_MRC8554 (Sequenced for the first time in this study)
1 atgccttccaccaagaacaccaccgcccagacccccggctaccctcttacctgcaactgtcatggccaagcctaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C T V M A K P T K D 27
81 caaccagactcccggctatcccctgacctgcaactgtcatgagaagccaggtgccaacgggtcaaaccctggctaccccc 160
28 N Q T P G Y P L T C S V M K K P A A N G Q T P G Y P L 54
161 tgacctgcaactgtcatg 177
55 T C T V M 59

*Fusarium thapsinum*_MRC8557 (Sequenced for the first time in this study)
1 atgccttccaccaagaacaccaccgcccagacccccggctaccctcttacctgcaactgtcatggccaagcctaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C T V M A K P T K D 27
81 caaccagactcccggctatcccctgacctgcaactgtcatgagaagccaggtgccaacgggtcaaaccctggctaccccc 160
28 N Q T P G Y P L T C S V M K K P A A N G Q T P G Y P L 54
161 tgacctgcaactgtcatg 177
55 T C T V M 59

*Fusarium thapsinum*_MRC8558 (Sequenced for the first time in this study)
1 atgccttccaccaagaacaccaccgcccagacccccggctaccctcttacctgcaactgtcatggccaagcccaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C S V M A K P T K D 27
81 caaccagactcccggctatcccctgacctgcaactgtcatgagaagccaggtgccaacgggtcaaaccctggataccccc 160
28 N Q T P G Y P L T C S V M K K P A A N G Q T P G Y P L 54
161 tgacctgcaactgtcatg 177
55 T C T V M 59

Fusarium verticillioides (Identified in this study, accession - AAIM0200073)
1 atgccttccaccaagaacaccaccgcccagacccccggctaccctcttacctgcaactgtcatggccaagcccaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C S V M A K P T K D 27
81 caaccagactcccggctatcccctgacctgcaactgtcatgagaagccaggtgccaacgggtcaaaccctggctaccccc 160
28 N Q T P G Y P L T C N V M K K P A A N G Q T P G Y P L 54
161 tgacctgcaactgtcatg 177
55 T C T V M 59

*Fusarium verticillioides*_MRC8559 (Sequenced for the first time in this study)
1 atgccttccaccaagaacaccaccgcccagacccccggctaccctcttacctgcaactgtcatggccaagcccaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C S G M A K P T K D 27
81 caaccagactcccggctatcccctgacctgcaactgtcatgagaagccaggtgccaacgggtcaaaccctggctaccccc 160
28 N Q T P G Y P L T C N V M K K P A A N G Q T P G Y P L 54
161 tgacctgcaactgtcatg 177
55 T C T V M 59

*Fusarium verticillioides*_MRC8560 (Sequenced for the first time in this study)
1 atgccttccaccaagaacaccaccgcccagacccccggctaccctcttacctgcaactgtcatggccaagcccaccaagga 80
1 M P S T K N T T A Q T P G Y P L T C S V M A K P T K D 27
81 caaccagactcccggctatcccctgacctgcaactgtcatgagaagccaggtgccaacgggtcaaaccctggctaccccc 160
28 N Q T P G Y P L T C S V M K K P A A N G Q T P G Y P L 54
161 tgacctgcaactgtcatg 177
55 T C T V M 59

Gibberella zeae (Kim, Lee, and Yun 2008; Lee, Leslie, and Bowden 2008); accession - AACM02000166
1 atgccttccaccaagcccacctcttcccagaagccccggctaccctcttacctgcaactgtcatg 63
1 M P S T K P T S S Q K P G Y P L S C T V M 21

Kluyveromyces delphensis (Identified in this study, accession - AY181250)
1 atggaaccgctcaagctactcaaaaggataactctcaagacaagaaggacaactacgtctggagaggttagattctggta 80

Saccharomyces_kudriavzevii_2 (Identified in this study, accession - ABPO01001303)
1 atgcaaccaactgctaccggtttccgctcaagcttctcaaaaggacagatcttctgaaaagaagacaacttcataattaa 80
1 M Q P T A T V S A Q A S Q K D R S S E K K D N F I I K 27
81 aggtctattctgggatcctgcctgcgttatcgct 114
28 G L F W D P A C V I A 38

Saccharomyces_mikatae_1 (Identified in this study, accession - AACH01001097)
1 atgcaacctctaccattactgcccgtccaaagataagaccaacagaaaataaggacaactacattatcaagggtgt 80
1 M Q P S T I T A A P K D K T N T E N K D N Y I I K G V 27
81 tttttgggaccggcctgtgtcattgcc 108
28 F W D P A C V I A 36

Saccharomyces_mikatae_2 (Identified in this study, accession - AACH01001097)
1 atgcaacctattactaccacctctgcccagcgctcaaaagaataaatcctctgaaaagaagacaattatataattaa 80
1 M Q P I T T T S A Q A A Q K N K S S E K K D N Y I I K 27
81 gggctttttctgggaccctgcctgtgtattgct 114
28 G L F W D P A C V I A 38

Saccharomyces_paradoxus (Johnson et al. 2004); accesion - AJ515205)
1 atgcaacctctaccgctaccgcccgtccaaagataagaccagcgtgaaaagaaggacaactacattatcaaaagggtgt 80
1 M Q P S T V T A A P K D K T S A E K K D N Y I I K G V 27
81 gttctgggaccagcatgtgtcattgctt 109
28 F W D P A C V I A X 37

Saccharomyces_pastorianus_1 (Identified in this study, accession - ABPO01001569)
1 atgcaacctctaccgctaccgcccgtccaaagaaaagaccagcgtgaaaagaaggacaactatattatcaaaagggtgt 80
1 M Q P S T A T A A P K E K T S S E K K D N Y I I K G V 27
81 cttctgggaccagcatgtgtattgct 108
28 F W D P A C V I A 36

Saccharomyces_pastorianus_2 (Identified in this study, accession - ABPO01001569)
1 atgcaaccgctaccactgctctacacagccactcagaaggataaatcctctgaaaagaagacaactatataatcaa 80
1 M Q P I T T A S T Q A T Q K D K S S E K K D N Y I I K 27
81 gggcctcttctgggatcccgctgtgtatcgct 114
28 G L F W D P A C V I A 38

Saccharomyces_pastorianus_3 (Identified in this study, accession - ABPO01001569)
1 atgcaaccagtcaccaccatctgcccagcttctcaaaaggacaagtcttccgagaagaagacaactatataatcaa 80
1 M Q P V T T I S A Q A S Q K D K S S E K K D N Y I I K 27
81 gggctgtttctgggatcccgctgtgtatcgct 114
28 G L F W D P A C V I A 38

Schizosaccharomyces_pombe_1 (Davey 1992); accession - NC_003421)
1 atggactcaatgggtaactccggtttcttctcctctgctgcaacgctggcaacaagcctgctgaaactcttaacaagac 80
1 M D S M A N S V S S S V V N A G N K P A E T L N K T 27
81 cgttaagaattatacccccaagggttccttacatgtgtgtcattgcataa 129
28 V K N Y T P K V P Y M C V I A * 42

Schizosaccharomyces_pombe_2 (Davey 1992); accession - NC_003421)
1 atggactccattgcaactaacactcattcttcatcattgtcaatgctcacaacaacaatcctaccgatggtgtaaaaac 80
1 M D S I A A T N T H S S S I V N A Y N N P T D V V K T 27
81 tcaaaaattataaaaattataactccaagggttccttataatgtgtgtaattgcttaa 135
28 Q N I K N Y T P K V P Y M C V I A * 44

Schizosaccharomyces_pombe_3 (Davey 1992); accession - NC_003421)
1 atggactcaatgggtaactccggtttcttctcctcctgctgtaacactggcaacaagccttctgaaactcttaacaagactgt 80
1 M D S M A N T V S S S V V N T G N K P S E T L N K T V 27
81 taagaattatacccccaagggttccttacatgtgtgtcattgcataa 126
28 K N Y T P K V P Y M C V I A * 41

Sordaria_macrospora (Pöggeler 2000); accession - AJ249863)
1 atgcctccaccgctgctccaccaaggtccccagaccaccatgaacttcaacgctactgcgtgttatg 72
1 M P S T A A S T K V P Q T T M N F N G Y C V V M 24

Trichoderma_atroviridae (Identified in this study, accession - ABDG01000148)
1 atggcttccgagggcgttcaatccttttccgctccaggtcaagaaggccagctctccgcagaactctcccgcacgctc 80
1 M A S E G V Q S F S A V Q A K K G Q S P Q N S P A T S 27
81 tcagtttatcggtaccttggctgcaccatcatg 114
28 Q F I G Y L G C T I M 38

Trichoderma_reesii (Identified in this study, accession - AAIL01000483)
1 atggctcaaacctcggtgcaccgctcattgctcaagcctcagagcgtcagaggaagggtcattggctgcag 80
1 M A Q T G N L G C T V M A K P Q S V E R K R L I G C S 27
81 cgtcatgaccaagcctgcccgaacgacaagaagttcaccggcctcctgggctgcaccgctcatg 144
28 V M T K P A A N D K K F T G L L G C T V M 48

Trichoderma_virens (Identified in this study, accession - ABDF01000230)
1 atggccgcatcaggaccaccactatcggtgcaccgctcattgctcagcagcccaagccaccaccaccgttggctgcaa 80
1 M A A I R T T T T I G C T V M A K P K P T T T V G C N 27
81 tgtcatgcccagccccagcgaacaagaagtcctcctcgcagaagtaccacaccaccatcggtgcaccatcatg 156

28 V M A K P H G N N K S I F D K Y H T T I G C T I M 52

Vanderwaltozyma_polyspora_1 (Identified in this study, accession - NW_001834693)
1 atgcaatcaactacttacgccgctcaaaagaactcttctgaaaagaaagataactacattgttaaggctggttctggga 80
1 M Q S T T Y A A Q K N S S E K K D N Y I V K G W F W D 27
81 tccagaatgtgttattgct 99
28 P E C V I A 33

Vanderwaltozyma_polyspora_2 (Identified in this study, accession - NW_001834693)
1 atgcaatcaactacttacgccgctcaaaagaactcttctgaaaagaaagataactatattgttaaggctggttctggga 80
1 M Q S T T Y A A Q K N S S E K K D N Y I V K G W F W D 27
81 tccagaatgtgttattgtc 99
28 P E C V I V 33

Vanderwaltozyma_polyspora_3 (Identified in this study, accession - NW_001834693)
1 atgcaatcaactacttacgccgctcaaaagaactcctctgaaaagaaagataactacattgttaaggctggttctggga 80
1 M Q S T T Y A A Q K N S S E K K D N Y I V K G W F W D 27
81 tccagaatgtgttattgtt 99
28 P E C V I V 33

Verticillium_albo-atrum (Identified in this study, accession - ABPE01002130)
1 atgccttcctacaccagaagaacggcgccgacactccggctgcagcatcatgaagaatggtggcggacactccggctg 80
1 M P S Y T Q K N G G G H S G C S I M K N G G G H S G C 27
81 cagcatcatgaagaatggtggcggacactccggctgcagcatcatgaagaatggtggaggtcactccggctgcagtgtca 160
28 S I M K N G G G H S G C S I M K N G G G H S G C S V M 54
161 tgaagaacggcggtggccactccggctgcgccatcatg 198
55 K N G G G H S G C A I M 66

Verticillium_dahliae (Identified in this study, accession - ABJE01001512)
1 atgccttcctacaccagaagaacggcgccgacactccggctgcagcatcatgaagaacgggtggcggacactccggctg 80
1 M P S Y T Q K N G G G H S G C S I M K N G G G H S G C 27
81 cagcatcatgaagaacggcgccgacactccggctgcagcatcatgaagaacggcgaggtcactccggctgcagtgtca 160
28 S I M K N G G G H S G C S I M K N G G G H S G C S V M 54
161 tgaagaacggcggtggccactccggctgcgtatcatg 198
55 K N G G G H S G C A I M 66

161 R A V Y A F A N A I R G A A G I P E S R S A E I S N M 187
561 gcgCGTGGGGGCGGCTacaatgccaagcgcgCGTgcaggacatgcaccatgatggctggcgcacctcggagcctc 640
188 R G G A A Y N A K R A V Q D I A T M M A G R T S E P P 214
641 ctgagttcctgaagcagctcttcatcctggaacacttcggccccgacgccaacatcaccgctttggcctctccacc 720
215 E F L K Q L F I L E H F G P D A N I T A F G P P T 240
721 gacgCGcagctgccccaatctccacgagcagctcaaccaccaccaagcgcgatgCGcagcCGcagccctggctgct 800
241 D A D A A P I S T D D D S T T T K R D A D A E P W C L 267
801 gttccacggcgaagggctggaagcggctccgaggaggcggcagcagcgcgcaccagcctggccaccgCGcagcca 880
268 F H G E G C W K R S E E A G S S A A T S L A T R D A S 294
881 gccccgCGcCGcCGccttctgccccttcgagggctccagcaccctgctacgctccaagcCGcagcttcgCGcCGcCGc 960
295 P A A A A F C P F N G T S S T C Y A S K R D F A A A D 320
961 aagcCGcgtgcaaccagccccggcaggcctgttacgtgcCGcgtgcCGcCGcagggccatcgtcaccgagatcCGcag 1040
321 K R A C N Q P G E A C C Y V A R C A A E A I V T E I A S 347
1041 ctggcCGcctgccaagcctccgCGcagcctcCGcggcCGcgtgctgctcttccacgCGcagggctgctggaagcCGc 1120
348 W A P A K R S A E A V A A R W C L F H G E G C W K R D 374
1121 acgCGatgagcagctggtgCGcCGcctcaatgCGcagcagcggctgctcCGcagggcCGcCGcagcctggggctc 1200
375 A M D V V A R C N A D D G A C S Q A R R D L G L C 400
1201 acaccgCGcctgcaaccctgctgactacctcaacgaggagtaggttgCGatcCGcctcagcaccctcttctcCGc 1280
401 T P P L A T C L T T S T R S R L R S V I S H S Y P R P 427
1281 tcgTgtatgggactttgagagagagaacccatggcaacatggagcgaacccgacaagataagctctcttctttt 1360
428 R V Y G D F E R E N P W Q H G A E P D K I S L L F T F S 454
1361 cacttctcGcaacatgctcattacgacCGcctcgtccatccCGcagcagcagcagcagcagcagcagcagcagcagc 1440
455 L L R Q H A H Y D A I A S S H P H A Y I Q I F S L L 480
1441 cttttctcctcagc 1520
481 P F L S S S T R A I P S R S L A L F G R A D N K G R L 507
1521 gtctGGTaatatcattacCGcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagc 1593
508 S G E Y I I T C S K A T R E K T R F E I N I S * 530

Clavispora_lusitaniae (Identified in this study, accession - Aaft01000038)

1 atgaaatcttcttggctattatcttttcttggctgctgCGcgttcttctgctgacccagtgGCCaccgaaatcctcttc 80
1 M K F S L A I I F S L A A A V V S A A P V A P E S S S 27
81 agacttccagatccctgaggaagccatcctcttcaagctcttggagacgaccaactccttggatttgggtgaag 160
28 D F Q I P E E A I I S S Q A L G D D Q L P L L L G E G 54
161 gaaatgCCactcttggactcgtcaatggtactacttggcgaagccttaccgaaataccaaaagagatgCGcgaagcc 240
55 N A T Y F V L V N G T T L A E A Y G I T K R D A E 80
241 ttgatgctacacttgggaagctctgctgCGcgaagagagcgaacgctgatgcatgggctggatccactttctca 320
81 F D A T Y L G S S V A K R E A N A D A W G W I H F L N 107
321 cactgCGtaattggaaagagagatgctgaacctaattggaatggatccatttccgtaaccaccgCGcagcctggtgtaaa 400
108 T D V I G K R D A E P K W K W I H F R N T D V I G K R 134
401 gagaCGcagcCGcgaagggaaatggatcaagtttagaaatcacagatgctcattggcgaagagatgCGcagcCGcagc 480
135 D A S P K W K W I K F R N T D V I G K R D A E A D A 160
481 tctcctaattggaatggatcaagttcagaaataccgagcgtcattggcgaagagatgCGcgaagcCGcagcctgCGc 560
161 S P K W K W I K F R N T D V I G K R D A E A D A A P K 187
561 gtggaaatggatcaaatgaaacaccgagatgctgaaagagagatgcaaacgctgctcctaattggaatggatgga 640
188 W K W I K F R N T D V I G K R D A N A A P K W R W I N 214
641 acttccgcaaccagcagcttattcggaaagagagaagcCGcag 684
215 F R N T D V I G K R E A Q E 228

Debaromyces_hansenii (Identified in this study, accession - ?)

1 atgaaatcttcaatatttgccttaactcgtttagtacaaatcattagctgctgCGcaccactcctgatagc 80
1 M K F S I F A L T T L V S T I S L A A A A P T P D S T 27
81 agagacaggaaatcgttctgctgacttccatttccagatgaagctattaataacaaggttgagataaccgatgacc 160
28 E T G K Y V V C D Y L V P D E A I N N K V E I T D Q 54
161 aacaaccacttggtagaagaagggaaagaaatgctcctcattgtaagctcatttggcgaatcagtcatttcc 240
55 Q P L V V E E S G K K Y V L I V N A T L A E S V I S 80
241 aaagcagcattgacatcagggattagagcctgatttggcagcagcagcagcagcagcagcagcagcagcagcagc 320
81 K A G I D I E G L E A A F A K S D D T A S V S K R D A 107
321 caacCGcagcCGcagcgaagttccattggatgacatataagttcttccagcctaacttgaggaaaagagaagcgaatg 400
108 N A D A E A K F H W M T Y R F F Q P N L R K R E A N A 134
401 ctgatgctaaattccattggatgacataccttcttccagcgaacttgaaaaaagagaagcgaacCGcagatgCGcga 480
135 D A K F H W M T Y R F F Q P N L K K R E A N A D A E 160
481 gctaaatttccactggatgacatataagttcttccaacctaattttaaagaagagagaagcgaatgctgaaagcgaatg 560
161 A K F H W M T Y R F F Q P N L K K R E A N A E A N A D 187
561 tgcaaaatctcattggatgacatataagttcttccaacctaattttaaagaagagagaagcgaacCGcagatgCGcga 640
188 A K F H W M T Y R F F Q P N L K K R E A N A D A E A K 214
641 aatttccactggatgacttacagattcttccagcgaattta 681
215 F H W M T Y R F F Q P N L 227

Fusarium_circinatum_MRC6213 (Sequenced for the first time in this study)

1 nctgcaaccctgactacaagggcaagccatgCGcagcagcagcagcagcagcagcagcagcagcagcagcagcagc 80
1 X C N L D Y K G K P C E E I V G Q G D K N A D A I C K 27
81 ggctgggtgtagcacttctgCGcctcagaaagcgtgatcgtcctcagcctcagcagcagcagcagcagcagcagc 160
28 A G C P E H F C G P Q K R D A V P E P Q P D P V A D P M 54
161 tgccttgggtgactagcgtggacagcctgctggaaggagaaggtgaagcgaagcgaagcgaagcgaagcgaagcga 240
55 P W C T R R G Q P C W K E K V K A K R E A I P E P V 80
241 cgactcctcaaccctgactcCGcctcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagc 320
81 A A P Q P D P V A D P M P W C T W R G Q P C W K E K M 107
321 gaagcgaacCGcagc 400
108 K A K R E A F P E P V A A P Q P D P V A D P M P W C T 134
401 cttggcCGcgtcaacccttctggaaggaaagatggcgaacgagagcagcagcagcagcagcagcagcagcagcagcagc 480
135 W R G Q P C W K E K M A K R E A I A E P V A A P Q P 160

481 gatccagttgctgagccgatgccgtgacacctggcagggccagccgtgctggaaggaaaagatgaaggccaagcgtga 560
161 D P V A E P M P W C T W R G Q P C W K E K M K A K R E 187
561 agctgaagctattcccgaacccatgcgctcctcaaccgaatcccgttgccgatcccatgcttgggtgacctggcgtg 640
188 A E A I P E P I A A P Q P N P V A D P M P W C T W R G 214
641 gtcagccatgctggaaggagaagatggcacaacgcgaggtatccctgaaccagttgctgctccccaaccgacccgtgc 720
215 Q P C W K E K M A K R E A I P E P V A A P Q P D P V 240
721 gccgaccccatgcccgtgacacctggagggccaaacctgctggaaggagaagatggctaagcgtgaggtattgccga 800
241 A D P M P W C T W R G Q P C W K E K M A K R E A I A E 267
801 acccgttgccgtcctcagcctgatcctgctgacacatgcccgtgacacctggagaggtcagccttgggaaag 880
268 P V A A P Q P D P V A E P M P W C T W R G Q P C W K E 294
881 agaagatgagaatggctaagcgagagcctgaagctatcccgaacccgtcgtgcccccaaccctgatcccgttgcgtgg 960
295 K M R M A K R E P E A I P E P V A A P K P D P V A G 320
961 cctatgccctgggtgacatggcgccgacccctgctggaaggacaagatgaagctcaagacccctggaagcgcctcccgt 1040
321 P M P W C T W R G P P C W K D K M K L K T R E A A P V 347
1041 cgctgagcctgagcccaagccttgggtgcatgtggcgccgacaacctgctggaagatgaccaagcgcgcccgtgcccccg 1120
348 A E P E P K P W C M W R G Q P C W K M T K R A A A P E 374
1121 agcccgtcccagagctgagaacctaagcttagtggtgcatgtggcgaggtcagccttggctggaagaagaccaacgtgat 1200
375 P A P E A E N E P R W C M W R G Q P C W K K T K R D 400
1201 gctatcccagccttgggtgcatgtggcgccagccatgctggaaggctaaagcgcgacgctgctcccagcctcctgggtg 1280
401 A T P E P W C M W R G Q P C W K A K R D A A P E P W C 427
1281 tatgtggcgaggacagccatgctggaagccaagcgtgatgcccgtcaagctctcctcaacgcccctccagcgaacctgat 1360
428 M W R G Q P C W K A K R D A G Q A L S N A L H A T R S 454
1361 ctctcgacaccgctcccgacgacccgacccgctcatctcccgcgacgcccacaaggccaagcctccatc 1440
455 L D T R S A D A P S T A H L P R D A A H K A K R S I 480
1441 gtogagctgcgaacctgctcgcctctcgcgctggttagtcccagagagtagtactcaagagcctcagagcttgagacttt 1520
481 V E L A N L I A L S A R G S P E E Y F K S L E L E T F 507
1521 ctccctgatgcccgtcccacgctaccgccaagcgcgacctcaacactcttcaggaggataaagcgttgggtgcatgtggc 1600
508 F P D A A P N A T A K R D L N T L Q E D K R W C M W R 534
1601 gaggcaaccttgggaaagccaagcgcgctgctgaggcagttctcgatgcccgtggtggcgatgacggtgctactggt 1680
535 G Q P C W K A K R A A E A V L D A V D G D D G A T G 560

*Fusarium circinatum*_MRC7488 (Sequenced for the first time in this study)

1 aagaatgctgatgccatctgcaaggctggtgctgagcactctctgctgctcctcagaagcgtgatgctgctccctgagcctca 80
1 K N A D A I C K A G R E H F C G P Q K R D A V P E P Q 27
81 gccgacccctgctgctgacccatgcttgggtgacacccctgctggaaggagaagatgaaggccaac 160
28 P D P V A D P M P W C T W R G Q P C W K E K M K A K R 54
161 gtgaagctattcccagcctgctcagcaccctcagcccagctcctggtgacaccttggcgccgt 240
55 E A I P E P V A A P Q P D P V A D P M P W C T W R G 80
241 caaccttggctggaaggaaaagatggcacaacgcgagccatcgcgagccagttgctgacccccagcctgatccagttgc 320
81 Q P C W K E K M A K R E A I A E P V A A P Q P D P V A 107
321 tgagccgatgcccgttgggtgacacccctgctggaaggaaaagatgaaggccaagcgtgaagctgaagctga 400
108 E P M P W C T W R G Q P C W K E K M K A K R E A E A I 134
401 ttcccgaacccatgcccgtcctcaaccgaatcccgttgcgcatcccatgcccgttgggtgacacccctgctggaagcctatgc 480
135 P E P I A A P Q P N P V A D P M P W C T W R G Q P C 160
481 tgggaaggagaagatggcacaacgcgaggtatccctgaaccagttgctgctcccccaaccgacccctgctgcccacccat 560
161 W K E K M A K R E A I P E P V A A P Q P D P V A D P M 187
561 gccctggtgacacctggagggccaaacctgctggaaggagaagatggctaagcgtgaggtattgcccgaacccgttgcgc 640
188 P W C T W R G Q P C W K E K M A K R E A I A E P V A A 214
641 ctctcagcctgctcctgctgacacatgcccgtgacacctggagaggtcagccttggctggaaggagaagatgaga 720
215 P Q P D P V A E P M P W C T W R G Q P C W K E K M R 240
721 atggctaagcagagcctgagcccgttgcgcccccaacctgacccctgctgctgagcctatgcccgttgggtgacacccgtg 800
241 M A K R E P E P V A A P Q P D P V A E P M P W C T W R 267
801 cggacagccttggctggaaggagaagatgcccgaagcgtgagcctgaaagctatccccgaacccgctcgtgccccca 880
268 G Q P C W K E K M R M A K R E P E A I P E P V A A P K 294
881 agcctgatcccgttgcgctgacacatgcccgtgacacatggcgccgacagcctgctggaaggacaagatgaagctcaag 960
295 P D P V A E P M P W C T W R G Q P C W K D K M K L K 320
961 acccgtgaaagcgcctcccgtcgtgagcctgagcccaagccttgggtgacatggcgccgacaacctgctggaagaagac 1040
321 T R E A A P V A E P E P K P W C M W R G Q P C W K K T 347
1041 caagcgcgcccgtgccccagcgcctcccaggtgagaacccaagcctagatgggtgcatgtggcgaggtcagccttggct 1120
348 K R A A A P E P A P E A E N E P R W C M W R G Q P C W 374
1121 ggaagaagaccaaacgtgatgctactcctgagccttgggtgcatgtggcggtggccagcctgctggaaggctaaagcgcgac 1200
375 K K T K R D A T P E P W C M W R G Q P C W K A K R D 400
1201 gctgctcccagccttgggtgcatgtggcgagcagccatgctggaagccaagcgtgatgcccgtcaagctcctccaa 1280
401 A A P E P W C M W R G Q P C W K A K R D A G Q A L S N 427
1281 gcacctcagcgaactcgatctctcgacaccgctcccgaggtgagaacccaagcctcagcctcctcctcccgcgacccgccc 1360
428 A L H A T R S L D T R S A D A P S T A H L P R D A A H 454
1361 acaaggccaagcgtcctcctgctgagctcgcacaacctgctgccccctctcctgctgctggttagtcccagagtagtactcaag 1440
455 K A K R S I V E L A N L I A L S A R G S P E E Y F K 480
1441 agcctcagacttggactttctccctgatgcccgtcccgaacgctaccgccaagcgcgacctcaacactcttcaggaggga 1520
481 S L E L E T F F D A C P N A T A K R D L N T L Q E D 507
1521 taaacgctggtgcatgtggcgccgacaaccttggctggaagaaagcgc 1569
508 K R W C M W R G Q P C W K N K R 523

*Fusarium fujikuroi*_MRC8532 (Sequenced for the first time in this study)

1 atgaaatactccttctgacttggctgctggtgagctgcaactcgcggcaacctccgcccctccgcatcgacagcctt 80
1 M K Y S F V T L A A V V G A A L A A P P P S A I D S F 27
81 cggcccggatattcttcccccttctgcaacctcgactacaaggccaagcctgagagcctgcttgggaaggcgaca 160
28 G P D F F T P F C N L D Y K G K P C E E L V G K G D K 54
161 agaatgcccagcctcctcgaaggctgcccgtgagcatttctgcccctcagaagcgtgatgcccgttctgagcctcag 240
55 N A D A I C K A G R E H F C G P Q K R D A V P E P Q 80
241 cccgacccctgctgctgatcctatgcccgttgggtgacatggcggtggacagccctgctggaaggaaaagatgaaagccaacg 320

81 P D P V A D P M P W C T W R G Q P C W K E K M K A K R 107
321 tgaagctattcccagcctattgcagctcctcaaccgatcctgttgccgaccctatgccctgggtgcaacttggcgtggtc 400
108 E A I P E P I A A P Q P D P V A D P M P W C T W R G Q 134
401 aaccttggctggaagaaaagatggctaaccgagagccatcgccgagccagtgtgctgacccaagcctgatccctgtgct 480
135 P C W K E K M A K R E A I A E P V A A P K P D P V A 160
481 gagcccatgcccgtgggtgcaacttggcgaggccagccatgctggaagaaaagatgaaggccaagcgtgaagctgaagctat 560
161 E P M P W C T W R G Q P C W K E K M K A K R E A E A I 187
561 tcccagcccatcgccgctcctcaaccgatccctgttgccgaccatgccatgggtgtacctggcggtggcagccatgct 640
188 P E P I A A P Q P D P V A D P M P W C T W R G Q P C W 214
641 ggaagagaagatggccaacgcgaggtatccctgaaccagtgtgctgctcccaaccgaccctgtgctgcccgatccatg 720
215 K E K M A K R E A I P E P V A A P Q P D P V A D P M 240
721 ccttgggtgtacctggaggggccaacctgttgggaaggagaagatggctaagcgtgaggctattgctgaaccgctgcccgc 800
241 P W C T W R G Q P C W K E K M A K R E A I A E P V A A 267
801 tctcaacctgatcctgtcgctgaacctatgcttgggtgtacctggagaggtcagccttggctggaagaaaagatcgcga 880
268 P Q P D P V A E P M P W C T W R G Q P C W K E K I R M 294
881 tggccaagcgtgagccatcgctgaaccagctgctgctcctaaagccgaccctgtgctgaaacctatgcccctgggtgcaact 960
295 A K R E P I A E P V A A P K P D P V A E P M P W C T 320
961 tggcgtggacagccctgctggaaggagaagatgaagctcaagaccgcaagccgctcccagggtgagaacgaacctag 1040
321 W R G Q P C W K E K M K L K T R E A A P E A E N E P R 347
1041 atgggtgcatgtggcgagccagccttggctggaagaagccaagcgtgatgctactcctgagccttgggtgcatgtggcgtg 1120
348 W C M W R G Q P C W K K T K R D A T P E P W C M W R G 374
1121 gacaaccttgttgggaagcctaagcgcgacgctgctcccagccctgggtgtatgtggcgaggtcagccttggctggaagacc 1200
375 Q P C W K A K R D A A P E P W C M W R G Q P C W K A 400
1201 aagcgtgatgctggtcaagctctctccaacgcccctccacgcaactcgatctctcgacacccgatccgcccagcaccag 1280
401 K R D A G Q A L S N A L H A T R S L D T R S A D A P S 427
1281 caccgctatcctcccgtgacgcccacaaagcgaagcctcctcgtcgagctcgccaacctgatcgccctctctg 1360
428 T A H L P R D A A H K A K R S I V E L A N L I A L S A 454
1361 cccgcccagctcccagagtagtactcaagagcctcgagctcgagaccttcttcccagcgtgctcctaacgctaccgcc 1440
455 R G S P E E Y F K S L E L E T F F P D A A P N A T A 480
1441 aagcggacctcaacactcttcaggaggataagcgtgggtgcatgtggcgaggacagccttggctggaaggccaagcgcgc 1520
481 K R D L N T L Q E D K R W C M W R G Q P C W K A K R A 507
1521 tgtcagcagttctcgatgcccgttggatggcgatgacggtgctactggtcctggaggtcccagactctcactacgatgctc 1600
508 A E A V L D A V D G D D G A T G P G G P D S H Y D A R 534
1601 gggatttcaagcgtgagaacttggcgccaagcagatctcattgctatcaaggcagcagctcgcagcattgccgacatg 1680
535 D F K A E N F A A K R D L I A I K A A A R S I A D M 560
1681 cccgaggag 1689
561 P E E 563

Fusarium_fujikuroi_MRC8534 (Sequenced for the first time in this study)

I atgaaatactccttctgacttggccgcagacgtcggagctgactcgcggcacctccgctcgcgcatcgacagctt 80
1 M K Y S F V T L A A D V G A A L A A P P R S A I D S F 27
81 cggcccgatattcttcaacccttctgcaacctcgactacaagggcaagcctgagcgtgcttgggaagggcgaca 160
28 G P D F F T P F C N L D Y K G K P C E E L V G K G D K 54
161 agaatgcccagttccatgcaagcgtgagcatttctgcccctcagaagcgtgatgcccgttctgagcctgctc 240
55 N A D A I C K A G R E H F C G P Q K R D A V P E P Q 80
241 cccgaccctgtcgtgatcctatgcttgggtgtacatggctggaagaaaagatgaaagccaaaagc 320
81 P D P V A D P M P W C T W R G Q P C W K E K M K A K R 107
321 tgaagctattcccagcctattgcagctcctcaaccgatcctgttgccgaccctatgccctgggtgcaacttggcgtggtc 400
108 E A I P E P I A A P Q P D P V A D P M P W C T W R G Q 134
401 aaccttggctggaagaaaagatggctaaccgagagccatcgccgagccagtgtgctgacccaagcctgatccctgtgct 480
135 P C W K E K M A K R E A I A E P V A A P K P D P V A 160
481 gatcccatgcccgtgggtgcaacttggcgaggccagccatgctggaagaaaagatgaaggccaagcgtgaagctgaagctat 560
161 D P M P W C T W R G Q P C W K E K M K A K R E A E A I 187
561 tcccagcccatcgccgctcctcaaccgatccctgttgccgaccatgccatgggtgtacctggcggtggcagccatgct 640
188 P E P I A A P Q P D P V A D P M P W C T W R G Q P C W 214
641 ggaagagaagatggccaacgcgaggtatccctgaaccagtgtgctgctcccaaccgaccctgtgctgcccgatccatg 720
215 K E K M A K R E A I P E P V A A P Q P D P V A D P M 240
721 ccttgggtgtacctggaggggccaacctgttgggaaggagaagatggctaagcgtgaggctattgctgaaccgctgcccgc 800
241 P W C T W R G Q P C W K E K M A K R E A I A E P V A A 267
801 tctcaacctgatcctgtcgctgaacctatgcttgggtgtacctggagaggtcagccttggctggaagaaaagatcgcga 880
268 P Q P D P V A E P M P W C T W R G Q P C W K E K I R M 294
881 tggccaagcgtgagccatcgctgaaccagctgctcctaaagccgaccctgtcgtgaaacctatgccctgggtgcaact 960
295 A K R E P I A E P V A A P K P D P V A E P M P W C T 320
961 tggcgtggacagccctgctggaaggagaagatgaagctcaagaccgcaagccgctcccagggtgagaacgaacctag 1040
321 W R G Q P C W K E K M K L K T R E A A P E A E N E P R 347
1041 atgggtgcatgtggcgagccagccttggctggaagaagccaagcgtgatgctactcctgagccttgggtgcatgtggcgtg 1120
348 W C M W R G Q P C W K K T K R D A T P E P W C M W R G 374
1121 gacaaccttgttgggaagcctaagcgcgacgctgctcccagccctgggtgtatgtggcgaggtcagccttggctggaagacc 1200
375 Q P C W K A K R D A A P E P W C M W R G Q P C W K A 400
1201 aagcgtgatgctggtcaagctctctccaacgcccctccacgcaactcgatctctcgacacccgatccgcccagcaccag 1280
401 K R D A G Q A L S N A L H A T R S L D T R S A D A P S 427
1281 caccgctatcttcccgtgacgcccacaaagcgaagcctcctcgtcgagctcgccaacctgatcgccctctctg 1360
428 T A H F P R D A A H K A K R S I V E L G N L I A L S A 454
1361 cccgcccagctcccagagtagtactcaagagcctcgagctcgagaccttcttcccagcgtgctcctaacgctaccgcc 1440
455 R G S P E E Y F K S L E L E T F F P D A A P N A T A 480
1441 aagcggacctcaacactcttcaggaggataagcgtgggtgcatgtggcgaggacagccttggctggaaggccaagcgcgc 1520
481 K R D L N T L Q E D K R W C M W R G Q P C W K A K R A 507
1521 tgtcagcagttctcgatgcccgttggatggcgatgacggtgctactggtcctggaggtcccagactctcactacgatgctc 1600
508 A E A V L D A V D G D D G A T G P G G P D S H Y D A R 534
1601 gggatttcaagcgtgagaacttggcgccaagcagatctcattgctatcaaggcagcagctcgcagcattgccgacatg 1680
535 D F K A E N F A A K R D L I A I K A A A R S I A D M 560

Fusarium_konzum_MRC8544 (Sequenced for the first time in this study)

1 tgcaacctcgattacaaggccaagccatgaggagatcggtgggaggcgacaagaatgctgatgccatctgcaaggc 80
1 C N L D Y K G K P C E E I V G K G D K N A D A I C K A 27
81 tggcgtgagcaactctgctggtcctcagaagcgtgatgctgctcctgagcctcagcccagcccgtcgtgatcccatgc 160
28 G R E H F C G P Q K R D A V P E P Q P D P V A D P M P 54
161 cctgggtgacttggcgtggacagccctgttggaggagaaggtgaaggccaacgtgaggctatccccgagcctgttga 240
55 **W C T W R G Q P C W K E K V K A K R E A I P E P V A** 80
241 gccctcaacctgatcctgttggcgcctcctatgccctgggtgcaacttggcgcggtcaaccttggctggaagaaaagatggc 320
81 A P Q P D P V A D P M P **W C T W R G Q P C W K E K M A** 107
321 taaacgagagccatcgccgagccagttgctgcaccccagcctgaccagttgctgagccgatccgtggtgcaacttggc 400
108 K R E A I A E P V A A P Q P D P V A E P M P W C T W R 134
401 gaggccaacctgctgcaagaaaagatgaagccaagcgtgtagctgaagctattccggagccatcgccgctcctcaa 480
135 G Q P C C K E K M K A K R V A E A I P E P I A A P Q 160
481 ccagatccctgtgctgacccatgcccctgggtgtaacctggcgtggtcagccatgctggaagaaaagatggccaacgcga 560
161 P D P V A D P M P **W C T W R G Q P C W K E K M A K R E** 187
561 ggctatccctgaaccagttgctgctcccccaaccgacctgctgcagccccatgccgtggtgcttggaggggccaac 640
188 A I P E P V A A P Q P D P V A D P M P W C L W R G Q P 214
641 cctgctggaaggagaagatggctaagcgtgaggtattgccgaaccgcttggcgtcctcagcctgatcctgtcgtgaa 720
215 C W K E K M A K R E A I A E P V A A P Q P D P V A E 240
721 cctatgccctgggtgtaacctggagaggtcagccttggctggaagaaaagatgcaaatgctaaccgtgaggtattcccaa 800
241 P M P **W C T W R G Q P C W K E K M R M A K R E A I P K** 267
801 acctgtgctgcccctaaacctgatcctgttggctgagccgatgccttgggtgcaatggcgaggtcagccttggctggaagg 880
268 P V A A P K P D P V A E P M P **W C T W R G Q P C W K D** 294
881 acaagatgaagctcaagaccgctgaagccgctcccgttggctgagccgaggccaagccttgggtgcaatggcgaggaaa 960
295 K M K L K T R E A A P V A E P E A K P W C M W R G Q 320
961 cctctggaagaaagaccacaacgcgcccgtgcccctgagcccgcctcccaggtgtagaagcagcctagatgggtgcatgtg 1040
321 P C W K K T K R A A A P E P A P E A E N E P R W C M W 347
1041 gctggccagccatgctggaaggtaagcgcgacgctgctcccagccctgggtgatgtggcgaggacagccatgctgga 1120
348 R G Q P C W K A K R D A A P E P **W C M W R G Q P C W K** 374
1121 aagccaagcgtgatgcccgtcaagctctctccaacgcctccaacgcaactcgatctctcgacaccgatccgcccagcga 1200
375 A K R D A G Q A L S N A L H A T R S L D T R S A D A 400
1201 ccagcaccgctcaactcccccgagcgcgcccacaagcctaagcgcctccatcgctcagctcgcacaacctgatgccct 1280
401 P S T A H L P R D A A H K A K R S I V E L A N L I A L 427
1281 ctctgctggttagtcccagaggtacttcaagagcctcgagctcagactttctccccagcgtgctcctaagccta 1360
428 S A R G S P E E Y F K S L E L E T F F P D A A P N A T 454
1361 ccgccaagcgcgacctcaacacgcttcaggaggataagcgtggtgcaatggcgaggacaaccttggctggaaggccaag 1440
455 A K R D L N T L Q E D K R **W C M W R G Q P C W K A K** 480
1441 cgcgctgctgagggcagttcttggatgccgtcagtgccgacgagcgggtgctactggt 1494
481 R A A E A V L D A V D G D D G A T G 498

Fusarium_konzum_MRC8546 (Sequenced for the first time in this study)

1 tgcaacctcgattacaaggccaagccatgaggagatcggtgggaggcgacaagaatgctgatgccatctgcaaggc 80
1 C N L D Y K G K P C E E I V G K G D K N A D A I C K A 27
81 tggcgtgagcaactctgctggtcctcagaagcgtgatgctgctcctgagcctcagcccagcccgtcgtgatcccatgc 160
28 G R E H F C G P Q K R D A V P E P Q P D P V A D P M P 54
161 cctgggtgacttggcgtggacagccctgttggaggagaaggtgaaggccaacgtgaggctatccccgagcctgttga 240
55 **W C T W R G Q P C W K E K V K A K R E A I P E P V A** 80
241 gccctcaacctgatcctgttggcgcctcctatgccctgggtgcaacttggcgcggtcaaccttggctggaagaaaagatggc 320
81 A P Q P D P V A D P M P **W C T W R G Q P C W K E K M A** 107
321 taaacgagagccatcgccgagccagttgctgcaccccagcctgaccagttgctgagccgatccgtggtgcaacttggc 400
108 K R E A I A E P V A A P Q P D P V A E P M P W C T W R 134
401 gaggccaacctgctgcaagaaaagatgaagccaagcgtgtagctgaagctattccggagccatcgccgctcctcaa 480
135 G Q P C C K E K M K A K R E A E A I P E P I A A P Q 160
481 ccagatccctgtgctgacccatgcccctgggtgtaacctggcgtggtcagccatgctggaagaaaagatggccaacgcga 560
161 P D P V A D P M P **W C T W R G Q P C W K E K M A K R E** 187
561 ggctatccctgaaccagttgctgctcccccaaccgacctgctgcagccccatgccgtggtgcttggaggggccaac 640
188 A I P E P V A A P Q P D P V A D P M P W C L W R G Q P 214
641 cctgctggaaggagaagatggctaagcgtgaggtattgccgaaccgcttggcgtcctcagcctgatcctgtcgtgaa 720
215 C W K E K M A K R E A I A E P V A A P Q P D P V A E 240
721 cctatgccctgggtgtaacctggagaggtcagccttggctggaagaaaagatgcaaatgctaaccgtgaggtattcccaa 800
241 P M P **W C T W R G Q P C W K E K M R M A K R E A I P K** 267
801 acctgtgctgcccctaaacctgatcctgttggctgagccgatgccttgggtgcaatggcgaggtcagccttggctggaagg 880
268 P V A A P K P D P V A E P M P **W C T W R G Q P C W K D** 294
881 acaagatgaagctcaagaccgctgaagccgctcccgttggctgagccgaggccaagccttgggtgcaatggcgaggaaa 960
295 K M K L K T R E A A P V A E P E A K P W C M W R G Q 320
961 cctctggaagaaagaccacaacgcgcccgtgcccctgagcccgcctcccaggtgtagaagcagcctagatgggtgcatgtg 1040
321 P C W K K T K R A A A P E P A P E A E N E P R W C M W 347
1041 gctggccagccatgctggaaggtaagcgcgacgctgctcccagccctgggtgatgtggcgaggacagccatgctgga 1120
348 R G Q P C W K A K R D A A P E P **W C M W R G Q P C W K** 374
1121 aagccaagcgtgatgcccgtcaagctctctccaacgcctccaacgcaactcgatctctcgacaccgatccgcccagcga 1200
375 A K R D A G Q A L S N A L H A T R S L D T R S A D A 400
1201 ccagcaccgctcaactcccccgagcgcgcccacaagcctaagcgcctccatcgctcagctcgcacaacctgatgccct 1280
401 P S T A H L P R D A A H K A K R S I V E L A N L I A L 427
1281 ctctgctggttagtcccagaggtacttcaagagcctcgagctcagactttctccccagcgtgctcctaagccta 1360
428 S A R G S P E E Y F K S L E L E T F F P D A A P N A T 454
1361 ccgccaagcgcgacctcaacacgcttcaggaggataagcgtggtgcaatggcgaggacaaccttggctggaaggccaag 1440
455 A K R D L N T L Q E D K R **W C M W R G Q P C W K A K** 480
1441 cgcgctgctgagggcagttcttggatgccgtcagtgccgacgagcgggtgctactggt 1494

161 A E P M P W C T W R G Q P C W K E K M K A K R E A E A 187
561 tatccccgagcccatcgccgctcctcaaccgaccccggtgcccaccatgcccattggtgtacctggagaggtcagcctt 640
188 I P E P I A A P Q P D P V A D P M P W C T W R G Q P C 214
641 gctggaaggagaagatgagaatggctaagcgagagcctgagccggttgctgctcctcaacctgatcctgttctgagcct 720
215 W K E K M R M A K R E P E P V A A P Q P D P V A E P 240
721 atgccttggtgcacatggcgggacagccttggtaaaagaaagatgctgcatggccaagcgtgagccatcgctgaacc 800
241 M P W C T W R G Q P C W K E K M R M A K R E A I A E P 267
41 agttgctgctcctaagccgacccggtcgccgaacctatgcccctggtaactggcgaggtcagccttctggaagaaga 880
268 V A A P K P D P V A E P M P W C T W R G Q P C W K K T 294
881 ccaagcgtgatgctactcctgagccttggtgcatggtggcagccctgctggaaggctaagcgcaacgctgcccc 960
295 K R D A T P E P W C T W R G Q P C W K A K R N A A P 320
961 gagccctggtgtatggtggcggagcagccatgctggaagccaagcgtgatgcccgtcaagctctctccaacgcctcca 1040
321 E P W C M W R G Q P C W K A K R D A G Q A L S N A L H 347
1041 cgcaactcgatctctcgatacccgatccgcccagcaccgacccgctcatctcccccgatgcccgcccaaggcca 1120
348 A T R S L D T R S A D A P S T A H L P R D A A H K A K 374
1121 agcgcctccatcgctgagctcgccaacctgatgcctctctgctgagctgtagtcccagaggagtagcttcaagagcctcag 1200
375 R S I V E L A N L I A L S A R G S P E E Y F K S L E 400
1201 ctgagaccttcttccccgacgctgctcccaacgctaccgccaagcgcacctcaacactcttcaggaggataaagcgtg 1280
401 L E T F F P D A A P N A T A K R D L N T L Q E D K R W 427
1281 gtgcatggtggcagagacaaccttggtaagccaagcgcgctgctgagcagttctcgatgcccgtgagcgtgatg 1360
428 C M W R G Q P C W K A K R A A E A V L D A V D G D G 454
1361 gtgctactggtcctggaggtcccgcactcactacgatctgggatttcaagctgagaaccttggcgtcaagcgagat 1440
455 A T G P G G P D S H Y D T R D F K S E N F A A K R D 480
1441 ctcatgctatcaagcgagcagctcgagcattgcccagatgcccaggaa 1491
481 L I A I K A A A R S I A D M P E E 497

Fusarium oxysporum (Identified in this study, accession - AAXH01000548)

1 atgaaatactccttctgacttgccggtgcccggagcgcactcgagcgcctccgcccgtccgcatcgacaactt 80
1 M K Y S F V T L A A V A G A A L A A P P P S A I D N F 27
81 tggcccagatttcttcccccttctgcaacctcgactacaaggcaagcctgagcaggtcctggtgggaaggcgaca 160
28 G P D F F T P F C N L D Y K G K P C E E L V G K G D K 54
161 agaattgcccagatgccaatctgtaagcctgcccgtgagcacttctgcccctcagaagcgtgatgcccgttctgagcctcag 240
55 N A D A I C K A G R E H F C G P Q K R D A V P E P Q 80
241 cccgaccgctgctgctccgatccctggtgactggcgggacagccctggtggaaggagaagatgaagcctaagcg 320
81 P D P V A D P M P W C T W R G Q P C W K E K M K A K R 107
321 cgaggctatccccgagcctggtgagctcctcaaccgatccggttggcagcccatgcttgggtgactggcgggtc 400
108 E A I P E P V A A P Q P D P V A D P M P W C T W R G Q 134
401 aaccttggctggaaggaaaagatggctaaccgagagccatcgcccagccagttgctgagcccagccgagctcc 480
135 P C W K E K M A K R E A I A E P V A A A Q P D P V A 160
481 gagccaatgcccgtggtgactggcgtggcagccatgctggaaggaaaagatgaaggccaagcgtgagcgtgaagcct 560
161 E P M P W C T W R G Q P C W K E K M K A K R E A E A I 187
561 tcccagaccatcgccgctcctcaacctgatcccggttggcagcccatgcccgtggtgtacctggcgtggtcagccatgct 640
188 P E P I A A P Q P D P V A D P M P W C T W R G Q P C W 214
641 ggaaggagaagatggccaacgcgagcctcctgaaaccagttgctgctccccaccgaccctgctgcccagcccatg 720
215 K E K M A K R E A I P E P V A A P Q P D P V A D P M 240
721 ccttggtgcaactggagaggtcagccttggtaaggagaagatgagaatggccaagcgagagcctgagcctggtgctg 800
241 P W C T W R G Q P C W K E K M R M A K R E P E P V A A 267
801 cctcaacctgatcctggtgagcctatgcccctggtgacatggcgggacaaccgctggtggaagaagaccaagcgtg 880
268 P Q P D P V A E P M P W C T W R G Q P C W K K T K R A 294
881 ccgctgccccgaaaccgctcccagagcctgagaaacgaaacctagatggtgcttggcggaggtcagccgctgctggaagaag 960
295 A A P E P A P E A E N E P R W C L W R G Q P C W K K 320
961 accaagcgtgatgctactcctgagccttgggtgcttggcgtggccagccctgctggaaggctaagcgcgacgctgctcc 1040
321 T K R D A T P E P W C L W R G Q P C W K A K R D A A P 347
1041 cgagccctggtgtatggtggcagggacagccatgctggaaggctaagcgtgatgcccgtcaagctctctccaacgcctcc 1120
348 E P W C M W R G Q P C W K A K R D A G Q A L S N A L H 374
1121 acgcaactcgatctctcgacaccgatccgcccagcagcaccgctcatctccccgagcgcgcccaccacagcc 1200
375 A T R S L D T R S A D A P S T A H L P R D A A H K A 400
1201 aagcgcctccatcgctgagctcgccaacctgatgcctctctgctgagcgtgtagtcccagaggagtagcttcaagagcctcga 1280
401 K R S I V E L A N L I A L S A R G S P E E Y F K S L E 427
1281 gcttgaaaccttcttccccgatgctgcccccaacgctaccgccaagcgcgctctcaacactcttcaggaggataagcgtc 1360
428 L E T F F P D A A P N A T A K R D L N T L Q E D K R W 454
1361 ggtgcatggtggcagagacaaccttggtaaggccaagcgcgctgctgagcagttctcgatgcccgtgagcgtgat 1440
455 C M W R G Q P C W K A K R A A E A V L D A V D G D D 480
1441 ggtgctactggtcctggaggtcccgcactcactacgatctgggactttaagctgagaaccttggcgtcaagcgaga 1520
481 G A T G P G G P D S H Y D T R D F K S E N F A A K R D 507
1521 tctcattgcatcaagcgagcagctcgtagcattgcccagatgcccaggaa 1572
508 L I A I K A A A R S I A D M S E E 524

*Fusarium proliferatum*_MRC8549 (Sequenced for the first time in this study)

1 gacaagaatgcccgatgccaatctgcaaggctggcgtgagcacttctgcccctcagaagcgtgatgcaagttcctgagcc 80
1 D K N A A D A I C K A G R E H F C G P Q K R D A V P E P 27
81 tcagccagacctgctgaccctatgcccgtgacttggcgtggagcagccctgctggaaggagaagatgaaggcca 160
28 Q P D P V A D P M P W C T W R G Q P C W K E K M K A K 54
161 aacgtgaagctattcccagcctattgcagctcctcaacctgatccagttgctgagccaatgcccgtggtgcaacttggcga 240
55 R E A I P E P I A A P Q P D P V A E P M P W C T W R 80
241 ggccaaccttggtaaggaaaagatggctaagcgtgagcctattgccaaccgctgcccgctcctcaaccgatcccg 320
81 G Q P C W K E K M A K R E A I A E P V A A P Q P D P V 107
321 tggcagcccatgcccagcctggtgactggcgtgagccatgctggaaggagaagatggccaacgcgagcctatccctc 400
108 A D P M P W C T W R G Q P C W K E K M A K R E A I P E 134
401 aaccagttgctgctccccaccgaccctgctgcccgatcccagcctggtgtaactggaggggccaaccttggcga 480

135 P V A A P Q P D P V A D P M P W C T W R G Q P C W K 160
481 gaaaatggctaacgctgaggtatggccgaaccgctcgccgctcctcaacctgatcctgtcgctgaacctatgcttg 560
161 E K M A K R E A I A E P V A A P Q P D P V A E P M P W 187
561 gtgtacctggagaggtcagccttgctggaaggagaagatgagaatggccaagcgagagcctgagcccgttgctgcccc 640
188 C T W R G Q P C W K E K M R M A K R E P E P V A A P Q 214
641 aacctgatcctgttgctgagcctatgcttggtgcaacctggcgaggacaaccttggctggaagaaaagatgcgatggcc 720
215 P D P V A E P M P W C T W R G Q P C W K E K M R M A 240
721 aagcgtgagcccctgctgaaccagctgctgctcctaagcccgacctgtcgctgaacctatgcccctgggtgcaactggcg 800
241 K R E P I A E P V A A P K P D P V A E P M P W C T W R 267
801 cggacagcctgctggaagaaaagatgagaatggctaagcgtgagcctgaagctgtccccgaaccgctcgccgctcctc 880
268 G Q P C W K E K M R M A K R E P E A V P E P V A A P Q 294
881 aacctgatcccgttgccgacccatgcatgggtgtaacctggcggtggcagccatgctggaagagaagatggccaacgc 960
295 P D P V A D P M P W C T W R G Q P C W K E K M A K R 320
961 gaggctatcccctgaaccagttgctgctcctaagcccgacctgtcgctgaacctatgcccctgggtgcaactggcgaggaca 1040
321 E A I P E P V A A P K P D P V A E P M P W C T W R G Q 347
1041 gcccctgctggaagaaaagatgagaatggctaaagcgtgagcctgaagctgtccccgaaccgctcgctgccccaaagcctg 1120
348 P C W K E K M R M A K R E P E A V P E P V A A P K P D 374
1121 atcctgttgctgagcctatgcccctgggtgcaactggcggtggacagccctgctggaaggagaagatgaagctcaagactcgc 1200
375 P V A E P M P W C T W R G Q P C W K E K M K L K T R 400
1201 gaggcctcccgttgctgagcctgagcccaacctgggtgcatggtggcgagcaacctgctggaagagaagatggccaacgc 1280
401 E A A P V A E P E P K P W C M W R G Q P C W K K T K R 427
1281 cgccgctgccccctgaaccgcccccgaggtgagaaacagcctagatgggtgcatggtggcgaggcagccttggctggaaga 1360
428 A A A P E P A P E A E N E P R W C M W R G Q P C W K 454
1361 agaccaagcgtgatgctacacctgagcctgggtgcatggtggcgaggacaaccttggctggaaggtaagcgcgacgctgct 1440
455 T K R D A T P E P W C M W R G Q P C W K A K R D A A 480
1441 ccgagccctgggtgatggtggcgaggtcagccatgctggaagcaagcgtgatgcccgtcaagctcctccaacgcccct 1520
481 P E P W C M W R G Q P C W K A K R D A G Q A L S N A L 507
1521 ccgcaacctgatcctcgaacccgatccgagcagcaccagcaccgcccctcctcccagcgagcgcgcccacaagg 1600
508 R A T R S L D T R S A D A P S T A H L P R D A A H K A 534
1601 ccaagcctcctcctgagctcgccaacctagggcgcctcctcgtcccgggtagtcggagagtagtactcaagagcctc 1680
535 K R S I V E L A N L G A L S A R G S P E E Y F K S L 560
1681 gagctcgagaccttctcccagcgtgctcctaagcctaccgccaagcgcgacctcaacactctacaggaagataagcg 1760
561 E L E T F F P D A A P N A T A K R D L N T L Q E D K R 587
1761 ctgggtgatggtggcaggaacaaccttggctggaagccaagcgc 1803
588 W C M W R G Q P C W K A K R 601

Fusarium proliferatum_MRC8550 (Sequenced for the first time in this study)

1 nagaatgccgatgccatgcaagcgtgagcacttctcggtcctcagaagcgtgatgcaagttcctgagcctca 80
1 X N A D A I C K A G R E H F C G P Q K R D A V P E P Q 27
81 gcccgacctgtcgctgacctatgcccctgggtgtaacttggcggtggaacagccctgctggaaggagaagatgaagcccaac 160
28 P D P V A D P M P W C T W R G Q P C W K E K M K A K R 154
161 gtgaagctattcccagcctatgtagctcctcaacctgatccagttgctgagccaatgcccgtgggtgcaacttggcgaggc 240
55 E A I P E P I A A P Q P D P V A E P M P W C T W R G 80
241 caaccttggctggaagaaaagatggctaagcgtgaggtatggcgaacccgctcgccgctcctcaaccgctcctcccagc 320
81 Q P C W K E K M A K R E A I A E P V A A P Q P D P V A 107
321 cgaccccatgcatgggtgtaacctggcggtggcagccatgctggaagagaagatggccaacgcgaggtatccctgaac 400
108 D P M P W C T W R G Q P C W K E K M A K R E A I P K 134
401 cagttgctgctcccacccgacctgtcgccgatcccctgctgggtgtaacctggaggggccaaccttggctggaagaa 480
135 V A A P Q P D P V A D P M P W C T W R G Q P C W K E 160
481 aagatggcctaagcgtgaggtatggcgaacccgctcgccgctcctcaacctgatcctgtcgctgaacctatgcccctgggtgcaacttggcgaggc 560
161 K M A K R E A I A E P V A A P Q P D P V A E P M P W C 187
561 tacctggagaggtcagccttggcgaaggagaagatgagaatggccaagcgagagcctgagcccgttgctgcccctcaac 640
188 T W R G Q P C W K E K M R M A K R E P E P V A A P Q 214
641 ctgatcctgttgctgagcctatgcccctgggtgcaactggcgaggacaaccttggctggaagaaaagatgcgatggccaag 720
215 D P V A E P M P W C T W R G Q P C W K E K M R M A K 240
721 cgtgagccatgctggaaccagctgctgctcctaagcccgacctgtcgctgaacctatgcccctgggtgcaacttggcgaggc 800
241 R E P I A E P V A A P K P D P V A E P M P W C T W R G 267
801 acagccctgctggaagaaaagatgagaatggctaagcgtgagcctgaagctgtccccgaaccgctcgccgctcctcaac 880
268 Q P C W K E K M R M A K R E P E A V P E P V A A P Q 294
881 ccgatcccgttgccgacccatgcatgggtgtaacctggcggtggcagccatgctggaagagaagatggccaacgcgag 960
295 D P V A D P M P W C T W R G Q P C W K E K M A K R E 320
961 gctatcccctgaaccagttgctgctcctaagcccgacctgtcgctgaacctatgcccctgggtgcaacttggcgaggcagcc 1040
321 A I P E P V A A P K P D P V A E P M P W C T W R G Q P 347
1041 ctgctggaagaaaagatgagaatggctaagcgtgagcctgaagctgtccccgaaccgctcgctgccccaaagcctgatc 1120
348 C W K E K M R M A K R E P E A V P E P V A A P K P D 374
1121 ctggtgctgagcctatgcccctgggtgcaactggcgtggcagccctgctggaaggagaagatgaagctcaagactcgcgag 1200
375 V A E P M P W C T W R G Q P C W K E K M K L K T R E 400
1201 gccctcccgttgctgagcctgagcccaaccttgggtgcatggtggcgaggacaaccttggctggaagaaagaccaagcgcgc 1280
401 A A P V A E P E P K P W C M W R G Q P C W K K T K R A 427
1281 cgctgcccctgaaccgcccccgaggtgagaaacagcctagatgggtgcatggtggcgaggcagccttggctggaagaaga 1360
428 A A P E P A P E A E N E P R W C M W R G Q P C W K K T 454
1361 ccaagcgtgatgctacacctgagcctgggtgcaactggcggtggacaaccttggctggaaggtaagcgcgacgctgctccc 1440
455 K R D A T P E P W C M W R G Q P C W K A K R D A A P 480
1441 gagccctgggtgatggtggcaggtcagccatgctggaagcaagcgtgatgcccgtcaagctcctccaacgcccctcgg 1520
481 E P W C M W R G Q P C W K A K R D A G Q A L S N A L R 507
1521 cgcaactgatcctcgaacccgatccgagcagcaccgcccctcctcccagcgagcgcgcccacaaggcca 1600
508 A T R S L D T R S A D A P S T A H L P R D A A H K A K 534
1601 agcgtcctcctgagctcgccaacctaatgcctcctcgtcccgggtagtcggagagtagtactcaagagcctcgag 1680
535 R S I V E L A N L I A L S A R G S P E E Y F K S L E 560
1681 ctgagaccttctcccagcgtgctcctaagcctaccgccaagcgcgacctcaacactcttcaggaagataagcgcgtg 1760
561 L E T F F P D A A P N A T A K R D L N T L Q E D K R W 587

1761 gtgtatgtgctgagcagaacacttgcctggaagaccagcgcctgctgaggcggactcgcgatgccgtcgatggcgatgatg 1840
588 C M W R R G Q P C W K T K R A A E A V L D A V D G D G 614
1841 gtgctactggccctggaggcccgactctcactacgatactcaggatttcagggtgagaactttgctggcgaagcgagat 1920
615 A T G P G G P D S H Y D T Q D F R A E N F A A K R D 640
1921 ctcatgtatcaaggcagcagctcgagcattgcccagatgccggaggaa 1971
641 L I A I K A A A R S I A D M P E E 657

Fusarium_sacchari_MRC8551 (Sequenced for the first time in this study)

1 tgcaacctgcactacaagggcaagccatgaggagctcgttgggaagggcagaagaatgccgatgccatctgcaagcc 80
1 C N L D Y K G K P C E E L V G K G D K N A D A I C K A 27
81 tggcgtgagcactctgcccctcagaagcgtgatgcccgttctgagcctcagcccagccctgtcgtgatcctatgc 160
28 G R E H F C G G P Q K R D A V P E P Q P D P V A D P M P 54
161 cctggtgtacttggcgtggacagccctgttggaaagacaagatgaagggcaaacgtgaagctattcccagagcctgtcgcg 240
55 **W C T W R G Q P C W K D K M K A K R E A I P E P V A** 80
241 gccctcaaccgatcccgttgcctgatcctatgccttgggtgtacctggcggacagccgttggaaaggaagatgaa 320
81 A P Q P D P V A D P M P **W C T W R G Q P C W K E K M K** 107
321 ggctaaccgagagctatcccagagcctgtgcagcccacagcctgaccggttggcagcccagccctgggtgcaatt 400
108 A K R E A I P E P V A A P K P D P V A D P M P W C T W 134
401 **ggcggcgtcaaccttgcctggaaggaagagatggctaaacgagagccatcgccgagccagttgctgacccccaaacctg** 480
135 R G Q P C W K E K M A K R E A I A E P V A A P Q P D 160
481 ccagttgctgagcagcgtgcccgttggcacttggcggagccagccttgcctggaaggaagatgaagggcaagcgtgaa 560
161 P V A E P M P **W C T W R G Q P C W K E K M K A K R E A** 187
561 tgaagctattcccagagccatcgccgctcctcaaccgatcccgttggcagcccagccatggcgtgacccctggcgtg 640
188 E A I P E P I A A P Q P D P V A D P M P W C T C R G Q 214
641 **agccatgctggaagaaagatggctaaacgagagctatccctgaaccagttgctgctccccaaaccgagcctgtgcc** 720
215 P C W K E K M A K R E A I P E P V A A P Q P E P V A 240
721 gatcccatgccctgggtgtacctggaggggcaacctgctggaaggaagatggctaaagcgtgaggtattgccaagcc 800
241 D P M P **W C T W R G Q P C W K E K M A K R E A I A E P** 267
801 cgtcgcagcctcagcctgaccctgctggaacctatgcccctgggtgtacctggagaggtcagccttgcctggaagaga 880
268 V A A P Q P D P V A E P M P **W C T W R G Q P C W K E K** 294
881 agatgagaatggacaagcagagcctgagccgctgctgcccctcaacctgatcctgtgagagcctatgcccctgggtgc 960
295 M R M D K R E P E P V A A P Q P D P V A E P M P W C T 320
961 **acctggcggcagccttgcctggaagaaagatgctgagcctgagcctatcgctgaaccagttgctgctcc** 1040
321 T W R G Q P C W K E K M R M A K R E P I A E P V A A P 347
1041 taagcccgatcctgctgctgaaacctatgcccctgggtgacatggcgtggagagccctgctggaagaaagatgagaatt 1120
348 K P D P V A E P M P **W C T W R G Q P C W K E K M R M A** 374
1121 ctaagcgcgaggtattcccgaacctgtgcaagctcccagcctgaccccgctgctgagcctatgcccctgggtgacatgg 1200
375 K R E A I P E P V A A P K P D P V A E P M P W C T W 400
1201 **cgagggcagccttgcctggaagaaagatgctgagcctgagcctgagcctatccccgaaccgctcgtgcccc** 1280
401 R G Q P C W K E K M R M A K R E P E A I P E P V A A P 427
1281 aaagcctgaccocgttgcctgagcccaagccttgggtgacatggcgtggagagccctgctggaagaaagactaaagcgtg 1360
428 K P D P V A E P K P **W C T W R G Q P C W K K T K R A A** 454
1361 ctgcccctgaaccgctcccagagcctgagaacgaacctagatgggtgcatgtggcaggtcagccttgcctggaagaagacc 1440
455 A P E P A P E A E N E P R **W C M W R G Q P C W K K T** 480
1441 aagcgtgatgctactcctgagccttgggtgcatgtggcgtggacaaccttgcctggaaggtaaagcgcgctgctcccga 1520
481 K R D A T P E P **W C M W R G Q P C W K A K R D A A P E** 507
1521 gccctggtgtatgtggcagagcagcctgctggaagcctgagcggcgtgagcgggtcaagcctctcctcaaccgctgcagc 1600
508 P **W C M W R G Q P C W K A K R D A G Q A L S N A L H A** 534
1601 cgactgatctctcgacaccgatccgcccagcagcaccagcagcctatctccccgctgagcggcccacaaagggcaag 1680
535 T R S L D T R S A D A P S T A H L P R D A A H K A K 560
1681 cgtccatcgtgagcctgcacaacctgatgcctctctgcccgggtagctcccagagagacttcaagagcctcgagct 1760
561 R S I V E L A N L I A L S A R G S P E E Y F K S L E L 587
1761 cgagaccttctcccagcgtactcccacgctaccgccaagcgcagcctcaacctctcaggaggaataagcctgggt 1840
588 E T F F P D A T P N A T A K R D L N T L Q E D K R W C 614
1841 **gcactggcggagacaaccttgcctggaagccaagcgcctgctgagcagttctcgatgcccgtcgatggcgatgggt** 1920
615 M W R G Q P C W K A K R A A E A V L D A V D G D G 640
1921 gctactgctcctggagggcccagcctcactacgataccgggatttcaagcctgagaactttgctgggtaagcgagatct 2000
641 A T G P G G P D S H Y D T R D F K A E N F A A K R D L 667
2001 cattgccatcaagggcagcctcgagcattgcccagatgccggaggag 2049
668 I A I K A A A R S I A D M P E E 683

Fusarium_sacchari_MRC8552 (Sequenced for the first time in this study)

1 ctgctggaagggcagacaagaatgcccagatccatctgcaaggtgcccgtgagcacttctcggcccctcagaagcgtga 80
1 L V G K G D K N A D A I C K A G R E H F C G P Q K R D 27
81 tgccttctgagcctcagcccagcctgctgctgatcctatgcccctgggtgtacttggcgtggacagccctgttggaa 160
28 A V P E P Q P D P V A D P M P **W C T W R G Q P C W K D** 54
161 acaagatgaaagcaaacgtgaagctatcccagcctgtgcagcccctcaaccgatcccgttgcctgatcctatgcct 240
55 K M K A K R E A I P E P V A A P Q P D P V A D P M P 80
241 **tggtgtacctggcggcagcagccgttggaaaggaagatgaagggctaaacgagcgtatcccagagcctgtcgcagc** 320
81 **W C T W R G Q P C W K E K M K A K R E A I P E P V A** 107
321 ccccagcctgaccgggttggcagcccagcctgcccctgggtgacacttggcggcgtcaaccttgcctggaaggaagatggc 400
108 P K P D P V A D P M P **W C T W R G Q P C W K E K M A K** 134
401 aacgagagccatcgccagcagcagttgctgcaaccacactgatccagttgctgagcagcagcctgggtgcaactggcga 480
135 R E A I A E P V A A P Q P D P V A E P M P W C T W R 160
481 **ggcagccttgcctggaagaaagatgaagccaagcgtgagcgtgagcctatcccagagccatcgccgctcctcaacc** 560
161 G Q P C W K E K M K A K R E A I P E P I A A P Q P 187
561 cgatcccgttggcagcccagcctgcccagcctgggtgacacttggcgtggcagcctgctggaagaaagatggctaaacgcgag 640
188 D P V A D P M P **W C T W R G Q P C W K E K M A K R E A** 214
641 ctatcccgtgaaccagttgctgctccccaaaccgacccctgctgcccagcctgcccagcctgggtgacactggagggc 720
215 I P E P V A A P Q P D P V A D P M P **W C T W R G Q P** 240
721 **tgctggaaggaagatggcctaaagcgtgaggtattgcccgaaccgctcgagcctcctcagcctgacctgttgcctgaa** 800

1841 gctggaaggccaagcgctgctgagcggttctcgcgatgccgtcgatggcgacgagcggctgctactggctcctggaggtccc 1920
615 W K A K R A A E A V L D A V D G D D G A T G P G G P 640
1921 gactctcactacgacactcgggatttcaaggctgagaactttgcgctaaagcgagatctcattgctatcaaggcagcgc 2000
641 D S H Y D T R D F K A E N F A A K R D L I A I K A A A 667
2001 tcgcagcattgccgatgcccggagaa 2028
668 R S I A D M P E E 676

Fusarium subglutinans (grp1)_MRC1084 (Sequenced for the first time in this study)

1 tgcaacctcgactacaaggccaagccatgaggagatcggtgggaaggcgacaacaatgctgatgctatctgcaaggc 80
1 C N L D Y K G K P C E E I V G K G D N N A D A I C K A 27
81 tgccgagagcacttctcggtcctcagaagcgtgatgctgctcctgagcctcagcccaccctgctgctgatcccatgc 160
28 G R E H F C G P Q K R D A V P E P Q P D P V A D P M P 54
161 cttggtgtaacttggcgtggacagccctgctggaaggagaagatgaaggctaagcgtgaagctattcccagcctggtgca 240
55 W C T W R G Q P C W K E K M K A K R E A I P E P V A 80
241 gctcctcaacctgatcccgtcgctgatcccctgccaatgggtgtacctggcgggacagccttgttggaaagaaagatggc 320
81 A P Q P D P V A D P M P W C T W R G Q P C W K E K M A 107
321 caaacgagagccatgcccagcagttgctgcaacccagcctgatccagttgctgagccgatgctggtgcaactggc 400
108 K R E A I A E P V A A P Q P D P V A E P M P W C T W R 134
401 gagccagccttggcgtggaagaaaagatgaaggccaagcgtgaagctaatcccgaaccattgcccctcctcaa 480
135 G Q P C W K E K M K A K R E A E A I P E P I A A P Q 160
481 cccgatcccgttgccgatcccctgcttgggtgtacctggcgtggtcagccatgctggaaggagaagatggccaaacgcga 560
161 P D P V A D P M P W C T W R G Q P C W K E K M A K R E 187
561 ggctatcccgtgaaccagttgctgctcccacccgacctgctgcccaccctgcccctgggtgcaactggagggccaac 640
188 A I P E P V A A P Q P D P V A D P M P W C T W R G Q P 214
641 ctgctggaagaaaagatggcctaagcgtgaggtatgcccgaacccgttggcgtcctcagcctgatcctgctgctgaa 720
215 C W K E K M A K R E A I A E P V A A P Q P D P V A E 240
721 cctatgcccctgggtgtacctggagaggtcagccttggcgtggaagagaagatgaaaatggctaagcgagagcctgagcccgt 800
241 P M P W C T W R G Q P C W K E K M K M A K R E P E P V 267
801 tgctcccctcaacctgatcctgtgctgagcctatgcttgggtgcaatggcgggacagccctgctggaaggagaagaa 880
268 A A P Q P D P V A E P M P W C T W R G Q P C W K E K M 294
881 tgctatggccaagcgtgaacccatgctgaaccagttgctgccccgaagcctgatcctgctgctgaaccaaagcctgg 960
295 R M A K R E P I A E P V A A P K P D P V A E P M P W 320
961 tgcaactggcgtggacagccctgctggaaggaaaagatgagaatggctaaacgcgatgctcttccctgaaccagttgctgc 1040
321 C T W R G Q P C W K E K M R M A K R D A L P E P V A A 347
1041 ccctaaccctgatcctgttggctgagcctaagccttgggtgcaatggcgggacaacccctgctggaaggagaagatgcga 1120
348 P K P D P V A E P M P W C T W R G Q P C W K E K M R M 374
1121 tgccaagcgtgagcctgaagctatcccgaacccgtgctgccccgaacccctgatcctgctgctgaaccaaagcctgg 1200
375 A K R E P E A I P E P V A A P K P D P V A E P M P W 400
1201 tgcaatggcggcggacagccctgctggaaggacaagatgaagctcaagaccctggaagcggctcccgtcgtgaaactga 1280
401 C T W R G Q P C W K D K M K L K T R E A A P V A E P E 427
1281 accgaacccctgggtgcatgtggcgggacaacccctgctggaagaagaccagcggcggcctgcccctgagcccgctccc 1360
428 P K P W C M W R G Q P C W K K T K R A A A P E P A P E 454
1361 aggctgagaacgaacctagatgggtgcatgtggcggaggtcagccttggctggaagaagaccaagcgtgatgctactcctgag 1440
455 A E N E P R W C M W R G Q P C W K K T K R D A T P E 480
1441 ccctggctgatgtggcgtggcagccatgctggaaggctaagcgcgacgctgctcctgagccctgggtgatgtggcggag 1520
481 P W C M W R G Q P C W K A K R D A A P E P W C M W R G 507
1521 acagccatgctggaagccaagcgtgatgctggtcaagctctcctcaacccctccacgcaactcgatctctcgacaccc 1600
508 Q P C W K A K R D A G Q A L S N A L H A T R S L D T R 534
1601 gatccgacgacccccagcaccgctcatctccccgcgacgcgctcacaaggccaagcgtccatcgctgagctcggc 1680
535 S A D A P S T A H L P R D A A H K A K R S I V E L A 560
1681 aacctgatgccccctctgctgctggttagtcccagagtagtactcaagagcctcagctcagagactttctccccgacgc 1760
561 N L I A P S A R G S P E E Y F K S L E L E T F F P D A 587
1761 tgctcccacgctaccgccaagcgcgacctcaacactctcagggagataaagcgtgggtgcatgtggcgggacaacctt 1840
588 A P N A T A K R D L N T L Q E D K R W C M W R G Q P C 614
1841 gctggaaggccaagcgcgctgctgagcagttctcgcgatgccgtcgatggcgacgagcggctgctactgg 1908
615 W K A K R A A E A V L D A V D G D D G A T G 636

Fusarium subglutinans (grp1)_MRC7828 (Sequenced for the first time in this study)

1 tgcaacctcgactacaaggccaagccatgaggagatcggtgggaaggcgacaacaaatgctgatgctatctgcaaggc 80
1 C N L D Y K G K P C E E I V G K G D K N A D A I C K A 27
81 tgccgagagcacttctcggtcctcagaagcgtgatgctgctcctgagcctcagcccaccctgctgctgatcccatgc 160
28 G R E H F C G P Q K R D A V P E P Q P D P V A D P M P 54
161 cttggtgtaacttggcgtggacagccctgctggaaggagaagatgaaggctaagcgtgaagctattcccagcctggtgca 240
55 W C T W R G Q P C W K E K M K A K R E A I P E P V A 80
241 gctcctcaacctgatcccgtcgctgatcccctgccaatgggtgtacctggcgggacagccttgttggaaagaaagatggc 320
81 A P Q P D P V A D P M P W C T W R G Q P C W K E K M A 107
321 caaacgagagccatgcccagcagttgctgcaacccagcctgatccagttgctgagccgatgctggtgcaactggc 400
108 K R E A I A E P V A A P Q P D P V A E P M P W C T W R 134
401 gagccagccttggcgtggaagaaaagatgaaggccaagcgtgaagctaatcccgaaccattgcccctcctcaa 480
135 G Q P C W K E K M K A K R E A E A I P E P I A A P Q 160
481 cccgatcccgttgccgatcccctgcttgggtgtacctggcgtggtcagccatgctggaaggagaagatggccaaacgcga 560
161 P D P V A D P M P W C T W R G Q P C W K E K M A K R E 187
561 ggctatcccgtgaaccagttgctgctcccacccgacctgctgcccaccctgcccctgggtgcaactggagggccaac 640
188 A I P E P V A A P Q P D P V A D P M P W C T W R G Q P 214
641 ctgctggaagaaaagatggcctaagcgtgaggtatgcccgaacccgttggcgtcctcagcctgatcctgctgctgaa 720
215 C W K E K M A K R E A I A E P V A A P Q P D P V A E 240
721 cctatgcccctgggtgtacctggagaggtcagccttggcgtggaagagaagatgaaaatggctaagcgagagcctgagcccgt 800
241 P M P W C T W R G Q P C W K E K M K M A K R E P E P V 267
801 tgctcccctcaacctgatcctgtgctgagcctatgcttgggtgcaatggcgggacagccctgctggaaggagaagaa 880
268 A A P Q P D P V A E P M P W C T W R G Q P C W R E K M 294
881 tgccaatggccaacagcgtgaggtattcccgatcctggtgctgctcctaaagccgacccctgctgagcctatgcttgg 960

295 R M A K R E A I P D P V A A P K P D P V A E P M P W 320
961 tgacatggcggcagccctgctggaagagaagatgctgccaagcgtgaacccatcgctgaaccagtgtgtgc 1040
321 C T W R G Q P C W K E K M R M A K R E P I A E P V A A 347
1041 ccggaagcctgacctgtcgctgaaccaatgccctgggtgacatggcgtggacagccctgctggaaggaaaagatgagaa 1120
348 P K P D P V A E P M P W C T W R G Q P C W K E K M R M 374
1121 tggtctaaacgcgatgctcttctgaaccagttgtgcccctaaactgatcctgttgcagccaatgccttgggtgaca 1200
375 A K R D A L P E P V A A P K P D P V A E P M P W C T 400
1201 tgccgaggacaacccctgctggaaggagaagatgcccagcgtgagcctgaagctatccccgaaccgctcgctgc 1280
401 W R G Q P C W K E K M R M A K R E P E A I P E P V A A 427
1281 ccccagcctgacctgtcgctgaaccaatgccctgggtgacatggcggcagccctgctggaaggacaagatgaagc 1360
428 P K P D P V A E P M P W C T W R G Q P C W K D K M K L 454
1361 tcaagaccgctgaagccgctccgctcgctgaacctgaacccaagccttgggtgcatgtggcgggacaacccctgctggaag 1440
455 K T R E A A P V A E P E P K P W C M W R G Q P C W K 480
1441 aagaccaagcgcgcctgcccctgagcccgctcccagcgtgagacacgaacctagatggtgcatgtggcggaggtcagcc 1520
481 K T K R A A A P E P A P E A E N E P R W C M W R G Q P 507
1521 ttgctggaagaagcaagcgtgatgctactctgagccctgggtgcatgtggcgtggcagccatgctggaaggctaagc 1600
508 C W K K T K R D A T P E P W C M W R G Q P C W K A K R 534
1601 gcgagcgtgctcctgagccctgggtgatgtggcgggacagccatgctggaagccaagcgtgatgctggtcaagctctc 1680
535 D A A P E P W C M W R G Q P C W K A K R D A G Q A L 560
1681 tccaagccctccagcaactcgatctctgcaccccgatccgcccagcaccagcaccgctatcccccgccagcc 1760
561 S N A L H A T R S L D T R S A D A P S T A H L P R D A 587
1761 cgctcacaagccaagcgtccatctgctgagctcgccaacctgatcgccctctctgcccgtggtagctcccagagctac 1840
588 A H K A K R S I V E L A N L I A L S A R G S P E E Y F 1614
1841 tcaagaccctcgagctcgagactttctccccgacgctgctcccaagcctaccgccaagcggcagcctcaacactcttcag 1920
615 K S L E L E T F F P D A A P N A T A K R D L N T L Q 640
1921 gaggdaagcgtggtgcatgtggcgggacaacccctgctggaagccaagcgcgtgctgagcagttctcgatgcccgt 2000
641 E D A K R W C M W R G Q P C W K A K R A A E A V L D A V 667
2001 cgatggcgtgatggtgctactggt 2025
668 D G D D G A T G 675

Fusarium subglutinans (grp2)_MRC8553 (Sequenced for the first time in this study)

1 atgaaatactccttctgcttactctgcccgcggtggcggagcgcgactcgcggcctccgcccgtccgcatcgacaactt 80
1 M K Y S F V T L A A V A G A A L A A P P P S A I D N F 27
81 cgccccgacttcttccccccttctgcaacctgactacaagggaagccatgagcagagatcgttgggaagggcgaca 160
28 G P D F T P F C N L D Y K G K P C E E I V G K G D K 54
161 aaaatgctgatgctatctgcaaggctggcgtgagcacttctgcccctcagaagcgtgatgctgctcctgagcctcag 240
55 N A D A I C K A G R E H F C G P Q K R D A V P E P Q 80
241 cccgaccctgctcgctgacccatgcttgggtgacttggcgtggcagccctgctggaaggagaagatgaaggctaagcg 320
81 P D P V A D P M P W C T W R G Q P C W K E K M K A K R 107
321 tgaagctattcccagcctgtgcagccctcagcccgatcctgttgcgcagccctatgcccctgggtgacttggcgggtc 400
108 E A I P E P V A A P Q P D P V A D P M P W C T W R G Q 134
401 aaccttggctggaaggaaaagatggctaagcgtgaggtattgcccagcccgctgcccctcagcctgatcctgtcgct 480
135 P C W K E K M A K R E A I A D P V A A P Q P D P V A 160
481 gaacctatgcccctgggtgacccctggagaggtcagccttgcctggaagagaagatgaaaatggctaagcagagcctgagcc 560
161 E P M P W C T W R G Q P C W K E K M K M A K R E P E P 187
561 cgttgctgcccccaacctgatcctgttgcgcagcctatgcccctgggtgacatggcgggacagccctgctggaaggaca 640
188 V A A P Q P D P V A E P M P W C T W R G Q P C W K D K 214
641 agatgaagctcaagaccgctgaagccgctcccgtcgctgagcctgaacctaaagccttgggtgcatgtggcgggacaaccc 720
215 M K L K T R E A A P V A E P E P K P W C M W R G Q P 240
721 tgctggaagaagaccaagcgcgctgcccgtgagcccgctcccagagcgtgagacgaacctagatgggtgcatgtggcg 800
241 C W K K T K R A A A A E P A P E A E N E P R W C M W R 267
801 aggtcagccttgcctggaagaagaccaagcgtgatgctactctgagccctgggtgcatgtggcgtggcagccatgttga 880
268 G Q P C W K K T K R D A T P E P W C M W R G Q P C W K 294
881 aggctaagcgcgacgctgctcctgagccctgggtgatgtggcggagcagccatgctggaagccaagcgtgatgcccgt 960
295 A K R D A A P E P W C M W R G Q P C W K A K R D A G 320
961 caagctctccaaagccctccagcaactcgatctctgcacaccgatccgcccagcaccagcaccatcctatccc 1040
321 Q A L S N A L H A T R S L D T R S A D A P S T T H L P 347
1041 ccgagcgcgctcacaagccaagcgtccatctgctgagctcgccaacctgatcgccctctctgcccgtggtagctccc 1120
348 R D A A H K A K R S I V E L A N L I A L S A R G S P E 374
1121 aggagtacttcaagcctcgagctcgagactttctccccgacgctgctcccaagcctaccgccaagcgcgaccccaac 1200
375 E Y F K S L E L E T F F P D A A P N A T A K R D L N 400
1201 actcttcaggaggataagcgtgggtgcatgtggcgggacaacccctgctggaagccaagcgcgctgctgagggcagttct 1280
401 T L Q E D K R W C M W R G Q P C W K A K R A A E A V L 427
1281 cgatgccgtcgatggcgtgatggtgctattggctcctggaggtcccagactctcaactacgacactcgggatttcaaggctg 1360
428 D A V D G D D G A I G P G P D S H Y D T R D F K A E 454
1361 agaacttggcggccaagcgagatctcattgctatcaaggcagcagctcgcagcctcgcgacatgcccgaagaa 1434
455 N F A A K R D L I A I K A A A R S I A D M P E E 478

Fusarium subglutinans (grp2)_MRC8554 (Sequenced for the first time in this study)

1 atgaaatactccttctgcttactctgcccgcggtggcggagcgcgactcgcggcctccgcccgtccgcatcgacaactt 80
1 M K Y S F V T L A A V A G A A L A A P P P S A I D N F 27
81 cgccccgacttcttccccccttctgcaacctgactacaagggaagccatgagcagagatcgttgggaagggcgaca 160
28 G P D F T P F C N L D Y K G K P C E E I V G K G D K 54
161 aaaatgctgatgctatctgcaaggctggcgtgagcacttctgcccctcagaagcgtgatgctgctcctgagcctcag 240
55 N A D A I C K A G R E H F C G P Q K R D A V P E P Q 80
241 cccgaccctgctcgctgacccatgcttgggtgacttggcgtggcagccctgctggaaggagaagatgaaggctaagcg 320
81 P D P V A D P M P W C T W R G Q P C W K E K M K A K R 107
321 tgaagctattcccagcctgtgcagccctcagcccgatcctgttgcgcagccctatgcccctgggtgacttggcgggtc 400
108 E A I P E P V A A P Q P D P V A D P M P W C T W R G Q 134
401 aaccttggctggaaggaaaagatggctaagcgtgaggtattgcccagcccgctgcccctcagcctgatcctgtcgct 480
135 P C W K E K M A K R E A I A D P V A A P Q P D P V A 160

81 Q P D P V A D P M P W C T W R G Q P C W K E K M A K R 107
321 agaggccatcgccgagccagttgctgcacccagcctgatccagttgcccagcctatgcccgtggtgcaacttggcgagggc 400
108 E A I A E P V A A P Q P D P V A E P M P W C T W R G Q 134
401 agccatgctggaaggaaaagatgaagccaagcgtgaagctgaagctattcccagcctatcgccgctcctcaaccgat 480
135 P C W K E K M K A K R E A E A I P E P I A A P Q P D 160
481 ccogttgcccacccatgcccaggtgtaacctggcgtggtaagcctatgctggaagaaaagggccaaacgtgagggctat 560
161 P V A A D P M P W C T W R G Q P C W K E K R A K R E A I 187
561 ccctgaaccagttgctgctcccacccagcgtgctgctgaccccatgcccgtgtaacctggagggccaaacctgct 640
188 P E P V A A P Q P D A V A D P M P W C T W R G Q P C W 214
641 ggaagagagaagatggctaagcgtgaggtattgcccagccctgcccgtcctcagcctgaccctggtgtaacctatg 720
215 K E K M A K R E A E A I A E P V A A P Q P D P V A E 240
721 ccttgggtgtaactggagaggtcagccttggcgtggaaggagaagatgagaatggccaagcgagagcctgaccctgtt 800
241 P W C T W R G Q P C W K E K M R M A K R E P D P V A E 267
801 gcctatgcccgtggtgcaactggcgaggcagcctgctggaagaaaagatgagaatggcctaaacggatgctctcctg 880
268 P M P W C T W R G Q P C W K E K M R M A K R D A L P E 294
881 agccaatgctgcccctaaagcctgctgctgctgacccatgcccgtgtaacctggcctggaagaaagcctggtgga 960
295 P I A A P K P D P V A E P M P W C T W R G Q P C W K 320
961 gaaaagatgctgcatggcctaaagcgtgagcctgagctatccctgaacccctgctgctcccagcctgacccctgtg 1040
321 E K M R M A K R E P E A I P E P V A A P K P D P V A E 347
1041 gcctatgcccgtggtgcaactggcgaggcagcctggtggaaggagaagatgagaatgagaagcctgctgctccc 1120
348 P M P W C T W R G Q P C W K E K M K L K T R E A A P E 374
1121 aggctgagaacgcaactagatgggtgcaactggcgaggtcagccttggcgtggaagaaagcctgctgctactcctg 1200
375 A E N E P R W C M W R G Q P C W K K T K R D A T P E 400
1201 ccttgggtgcaactggcgtggcagcctgctggaaggcctaaagcgtgctgctcccagcctggtgtaactggcgagg 1280
401 P W C M W R G Q P C W K A K R D A A P E P W C M W R G 427
1281 acagcctgctggaagcctgctgctgctgctgctgctgctgctgctgctgctgctgctgctgctgctgctgctg 1360
428 Q P C W K A K R D A G Q A L S N A L H A T R S L D T R 454
1361 gatccgagcag 1440
455 S A D A P S T A H L P R D A A H K A K R S I V E L A 480
1441 aacctgctgcccctttctgcccgtggtgtagtcccagagagtagtctcaagagcctcgagctcgagaccttctccc 1520
481 N L I A L S A R G S P E E Y F K S L E L E T F F P D A 507
1521 tgctcctaagcctaccgccaagcgcgagcctcaacactcttcaggagataagcgtggtgcaactggcgagggc 1600
508 A P N A T A K R D L N T L Q E D K R W C M W R G Q P C 534
1601 gctggaagcgaagcgcgtgctgagcagttctcgatccgctgctgctgctgctgctgctgctgctgctgctgct 1680
535 W K A K R A A E A V D A V D G D D G A T G P G P G 560
1681 gactctcactacgatactcgggatttcaagctgagaacttggcctgtaagcgggatctcattgccatcaaggcagc 1760
561 D S H Y D T R D F K S E N F A A K R D L I A I K A A A 587
1761 tcgagcattgcccacatgcccagggaa 1788
588 R S I A D M P E E 596

Fusarium verticillioides (Identified in this study, accession - AAIM02000073)

1 atgaaatactccttctgctactctgcccggctggcggagccgactcggcgaacctccgcccgcctcgcacact 80
1 M K Y S F V T L A A V A G A A L A A P P P S A I D N F 27
81 cggcccggatttctcaccctttctgcaacctcgaactacaagggcaagcctgagagagctcgttggcaagggcaga 160
28 G P D F F T P F C N L D Y K G K P C E E L V G K G D K 54
161 agaagcgtgatgccatctgcaaggtgcccgtgagcacttctcggctcctaatacagaagcgtgatgctgctcctgagc 240
55 N A D A I C K A G R E H F C G P N Q K R D A V P P 80
241 cagcctgaccctggtgctgatccgatgcccgtggtgtaacttggcgtggagcagcctgctggaaggagaaaatga 320
81 Q P D P V A D P M P W C T W R G Q P C W K E K M K A K 107
321 gcgtgaagctattcccagcctatgcaagcctcaacctcagcctgctgctgctgctgctgctgctgctgctgctg 400
108 R E A I P E P I A A P Q P D P V A D P M P W C T W R G 134
401 gacagccttgggaaggagaagatgaagccaagcgcgaggtatccccagcctgctgagcctcctcaaccgatcct 480
135 Q P C W K E K M K A K R E A I P E P V A V P Q P D P 160
481 gtgcccagcccctgcccgtgcaacttggcggcgaaccttgggaagaaaagatggcctaaacgagagccatcgc 560
161 V A D P M P W C T W R G Q P C W K E K M A K R E A I A 187
561 ggagccagttgctgcaacccatcctgacccagttgcccagcgtgcccgtggtgcaactggcggagggcagcctgga 640
188 E P V A A P H P D P V A E P M P W C T W R G Q P C W K 214
641 aggaaaagatgaagcctaaagcgtgagctgaagctattcccagcctcctcagcctcctcaaccgacccctgtgccc 720
215 E K M K A K R E A E A I P E P I A A P Q P D P V A D 240
721 cccatgcaactggtgtaactggagggcgaacctgctggaaggagaagatggcctaaagcgtgaggtattgcccagc 800
241 P M P W C T W R G Q P C W K E K M A K R E A I A E P V 267
801 cggcctcctcagcctgctgctgctgctgctgctgctgctgctgctgctgctgctgctgctgctgctgctgct 880
268 A A P Q P D P V A E P M P W C T W R G Q P C W K E K M 294
881 tgagaatggccaagcagagcctgagcctgctgctgctgctgctgctgctgctgctgctgctgctgctgctgctg 960
295 R M A K R E P E P V A A P Q P D P V A E P M P W C T 320
961 tggcggggcagcctgctggaaggagaagatgaaactcaagcctgcaagcctgctgctgctgctgctgctgctgct 1040
321 W R G Q P C W K E K M K L K T R E A A P A A E P Q P K 347
1041 gccttgggtgcaactggcgtggcgaacctgctggaagaaagcgaagcgcctgcccctgacccgcccagggctg 1120
348 P W C M W R G Q P C W K K T K R A A A P E P A P E A E 374
1121 agaatgaacctagatgggtgcaactggcggagcagcctgctggaagaaagcgaagcgtgctgctgctgctgctg 1200
375 N E P R W C M W R G Q P C W K K T K R D A T P E P W 400
1201 tgcatggtggcgtggcagcctgctggaagactaagcgcagcgtgctcccagcctggtgtaactggcgaggacagc 1280
401 C M W R G Q P C W K T K R D A A P E P W C M W R G Q P 427
1281 atgctggaagcgaagcgtgatgcccgtcaagctctctccaagcctcagcgcgactcgatcccttgacccgactc 1360
428 C W K A K R D A G Q A L S N A L H A T R S L D T R S A 454
1361 ccgacccccagcagcctcactcctcccagcagcgcgcccacaagcgaagcctcctcagcagcctcctgcccagc 1440
455 D T P S T A H L P R D A A H K A K R S I V E L A N L 480
1441 atocccctgctgcccgtggtgtagtcccgaagagtagtctcaagcctcgagctcgagaccttctcccctgatgct 1520
481 I A L S A R G S P E E Y F K S L E L E T F F P D A A P 507
1521 caacgctaccgccaagcgcagcctcaacactcttcaggagataagcgtggtgcaactggcgagggcagccttgg 1600
508 N A T A K R D L N T L Q E D K R W C M W R G Q P C W K 534

241 R D P Q V C N M R L H P K K V C W K R D A S P E A A C 267
801 caacgctcccagggctcctgcaccaaggctaccgctgacttgcaagcctatgacaacgtggctcgtgccatcctcactg 880
268 N A P D G S C T K A T R D L H A M Y N V A R A I L T A 294
881 ctcaactccgatgagaactag 900
295 H S D E N * 299

Penicillium_chrysogenum (Hoff, Pöggeler, and Kuck 2008); accession - AM920429)

1 atgaagttcacctccgctcgtcgtcgcgcttatcgccgctggcaccgctccagcgcgctcttgcctcccagcgagaccct 80
1 M K F T S V V V A V I A A G T V Q A A A L A P S E T L 27
81 ccccaagtgggtggccacattggccagggctgcaagcgaaccaccgctgctccctcgcagctcaagcgtcctcgtgatg 160
28 P K W C G H I G Q G C K R T T D A S L D V K R S A D A 54
161 ctctcgcgagggccatggccggaggcttgcctcctcagaagtgggtggccacatcggtcagggttgcatacaag 240
55 L A E A M A G G L P L V L Q K W C G H I G Q G C Y K 80
241 gccaagcgtccgctgctcgtcgtgaggtcaagcgtaccagcgtatgctcctcgtcgtcctcgtcgtcctcgagga 320
81 A K R A A D A V D E V K R T S D A L A R A F A A L E E 107
321 agaggatgacagtaaa 336
108 E D D E * 111

Phaeosphaeria_nodorum (Identified in this study, accession - AAGI01000073)

1 atgaggttcaacgcagttatcgccgctcattcttgcggtcaccgctcagcgtgcccgtctcctaccgagcagctgc 80
1 M R F N A V I A A C I L A V T V S G A A L P T E D A A 27
81 catcaccgacgcccaccatcaccacccaagcagatcaccgagccgagatcatcaagccgctcctgagga 160
28 I T T D A A T I T T E A E I T E A E I I K A A P E E D 54
161 acgacttcttcgacgacgagcaggttggagaagcgtgatgcccaagtgggaagtacaacggatggcgtaccgcccc 240
55 D F F D D D E Q F E K R D A A S W K Y N G W R Y R P 80
241 tacggtctcccgggtggcaagcgtgatgcccagcgtgagccgctggcgtaccgcccctaccgctcccgggcaa 320
81 Y G L P V G K R D A D A E A G W R Y R P Y G L P V G K 107
321 gcgtgagcgtcctcgtgagcagatgctgagcgaagtacaacggctggagataccgcccatacggctcccgggtggca 400
108 R E A A P E A D A E A K Y N G W R Y R P Y G L P V G K 134
401 agcgtgagccgagcgaagtacaacggctggcgtaccagccttaccgctcccgggtggcaagcgtgaggtgaagct 480
135 R E A E A K Y N G W R Y R P Y G L P V G K R E A E A 160
481 gatgcttccgctgagcaggtacaacggctggcgtaccagccttaccgctcccggctcggcgt 546
161 D A S A E A R Y N G W R Y R P Y G L P V G R 182

Pichia_stipitidis (Identified in this study, accession - NC_009046)

1 atgcatttactgtccactgccatcttctcgtcgtcgttccactcagttgctcttctcgtcctacttccaggacagaa 80
1 M H L R S T A I L S A V V F T S V A L S A P T S G Q N 27
81 catcgactcagcttccctgatgaatctattgcaggtgcaatccctcttcttatgacttagttccaattatggttctt 160
28 I D I D F P D E S I A G A I P L S Y D L V P I I G S Y 54
161 atcaaggacaaaatgtcattcttattgtcaacagctaccatgctcgtcctcagaagcgtgctcctcagaagcgaagct 240
55 Q G V I L I V N S T I A A A S E A A A S E G K S 80
241 aagagagatgccaacgcctggcattggaccagttacggcgtcttgcgaacctggtaaaagagacgccaacgctaagtcagc 320
81 K R D A N A W H W T S Y G V F E P G K R D A N A N A A 107
321 cccatggcattggaccagttacgggtggtttttgagcctggaagagagacgctaagcagcagcagcccatggcattgga 400
108 P W H W T S Y G V F E P G K R D A N A D A A P W H W T 134
401 ccagctacgggtgtttttgaaacctggcaag 429
135 S Y G V F E P G K 143

Pichia_guilliermondii (Identified in this study, accession - AAFM01000021)

1 atgaagttctcaactgccttctcacttttatttgcaacctacgctgccgcccacctcttgcctgacgactcctgataa 80
1 M K F S T A F V S T L F A T Y A A A P L A A A S D K 27
81 gattccagttccctcccaagagtgctgctcaaccaaattgtgactattgacgaaaccaatgctccaatttacctcaaca 160
28 I P V P P P K S A V N Q I V T I D E T N A P I Y L N N 54
161 acagtggaactatcacccttctcgtggaacaccaccgcttaagaggaaagctccagaaaaacgtgagcgttgggtgaagt 240
55 S G T I T L F L V N T T V K E E S P E K R E L G E V 80
241 gcaacccgctcagaattcaatgctcagctatgaagcgggaaagctttccattgaaaacttgggtgcctgagtcgag 320
81 A T G Y E F N A A Q Y M K R E S F P I E N L V P E S S 107
321 ccttgagaagagagaagacaagaagaactcagagattttgacttattggtttttccaaccaattatgaagagaggagag 400
108 L E K R E D K K N S R F L T Y W F F Q P I M K R G E E 134
401 aagagacctcggaagtagtgaagagagaagctaaagaaaaattccagatttttgacctactggttctccagccaattatg 480
135 E T S E V V K R E A K K N S R F L T Y W F F Q P I M 160
481 aagagagaagaagatcgttgcgtgagacgagatggtcaagagagaagccaagaaaaactctagatttttgacctactg 560
161 K R E E D I V A G D E M V K R E A K K N S R F L T Y W 187
561 gttctttcaaccaattatgaaaagagagggaggtaatgaagtggaaaagagagatgcaagaaaaactccagattcttga 640
188 F F Q P I M K R G G N E V E K R D A K K N S R F L T 214
641 cttaactggttcttccaaccaattatg 666
215 Y W F F Q P I M 222

Podospora_anserina (Coppin, de Renty, and Debuchy 2005)

1 atgaagttttccacccccctcgtctcctcgcgctcgtcgcgctcagcgcgctggtgctccagaggacaagcgtggtg 80
1 M K F S T P L A L A V A A V D A A V V Q E D K R W C 27
81 caacaccgagggccagggctgcaacaccggttcccgcgcccagggctttcaccacgccatcaagcctcggcgtcg 160
28 N T E G Q A C N T V A R A E A F T N A I K A S G V 54
161 ttgcccgtgacgactccgcccgcctcaggtcgcgcccaggtcagaccagctcgcctcgcctatctccgctcccag 240
55 A R D D S A A A Q V A A R Q V D Q L A L A I S A S Q 80
241 gccagcccatcacttctacaccgcccctcgcctcgtgaccagttccacctcagggagaagccccacgcccaggaagc 320
81 A D P I T F Y T A L G L G D Q F T L E E K P H A E K R 107
321 cgagccgccccccagtggtgctcctcgttgcggccagtcctgctggaagcgcgaacgcccggagggagcgtcaagc 400
108 E A A Q W C L R F V G Q S C W K R N A A P E D V K R 134
401 ggtgacccgcccagggagggcctgcaccaagccaagcgcgcccagggcgtcatcaacgccatcagggcttccgcc 480
135 C T A E D G A C T K A K R A A E A V I N A I E A S A 160

481 gacaacctcgcaagcgtgagccgccccccagtggtgctccgcttctgctgcccagtcctgctggaagcgcacacgcgc 560
161 D N L A K R E A A P Q W C L R F V G Q S C W K R N A A 187
561 ccccgagctgctgcaacgccccgacggcctgcaaccaaggccaccgacatccacgcatgacaacgctgccc 640
188 P E A A C N A P D G A C T K A T R D I H A M Y N A A R 214
641 gccacatcatgatgctccgcttaa 666
215 H I I D A S A * 221

Pyrenophora tritici-repentis (Identified in this study, accession - NW_001939245)

1 atgagattcaacgcttatcgctccgcttctggcgttaccgcttccggtgctgcttccagcaccgctgaaac 80
1 M R F N A V I A S A I L A F T V S G A A I P A P A E T 27
81 taccacccccaccatcgctgagggcggcgtcgatcgaggttctcttgaggatgaagtcgaaaagcgttcttggcac 160
28 T T P T I V E E P A S I E V S L E D E V E K R S W T Q 54
161 agaagcgtccttacggaatgcccgttggcaagcgtgaagcgtgaagcgtgcccagtcacctggaccaacatcgcccc 240
55 K R P Y G M P V G K R E A E A D A R V T W T Q H R P 80
241 tacggaatgccccgttggaaaacgtgaggcagaggcagaggcagaccctgagccaggataactggactcagcaccgccc 320
81 Y G M P V G K R E A E A E A D P E A R I T W T Q H R P 107
321 ctacggcatgctgctgccaagcgtgaggcagagcagagcagagggccagtgactcagaagcgccttatggtagc 400
108 Y G M P V G K R E A D A D A E A S W T Q K R P Y G M P 134
401 cagtcggaacacgagcagaggccagttggagacaaaagcgtccctacggaatgctgctggcaagcgtgagctgac 480
135 V G K R E A E A S W R Q K R P Y G M P V G K R E A D 160
481 gagcagtaa 489
161 E Q *

Saccharomyces bayanus_1 (Identified in this study, accession - AACG02000017)

1 atgaaattctcaacaatttaccgctgttttggttacagcttcttccgcttttagccgccccagtcacataccaccacca 80
1 M K F S T I I T A V L F T A S S V L A A P V N T T T E 27
81 aaatgaaactgctcaagttcctgctgaagctatcattggctacttagatttggagggtgattctgattgtgtgtttgc 160
28 N E T A Q V P A E A I I G Y L D L E G D S D V A V L P 54
161 cttttgcaaacagcaccacactggttactataaataactactgctgtaacctgctgtaaggaaagagatgct 240
55 F A N S T N T G L L F I N T T V A N L A A K E R D A 80
241 tcattgaaacagagagaagctgatgctgaagctggcactggttgaattgaagcccggtcaaccaatgtacaagagaga 320
81 S L N K R E A D A E A W H W L Q L K P G Q P M Y K R D 107
321 cgctgaagcggatgcccgatgctgaagctggcactggttgaattgaagcctggtcaaccaatgtacaagagagatgctg 400
108 A E A D A D A E A W H W L Q L K P G Q P M Y K R D A E 134
401 aagccgatgcccgatgctgaagctggcactggtgcaattgagacctggtcaaccaatgtac 462
135 A D A D A E A W H W L Q L R P G Q P M Y 154

Saccharomyces bayanus_2 (Identified in this study, accession - AACG02000017)

1 atgaaattatcttctggtattttactattgcccagctgcccgttccgctgctgacttccagtgacgatatcgccaa 80
1 M K L S S V I F T I A L A A A S V V A T S S D D I A K 27
81 agtcccggccgagggcgttatcgctacttggatctagagggtgacattgctgctcctaccatcagcaattcta 160
28 V P A E A V I G Y L D L G G D H D I A V L P F S N S T 54
161 ctgcccagtgctactattcatcaatcagaccattgctgatgcccgtcaaggggaagaaaatggtactctggcaaaaagg 240
55 A S G L L F I N T T I A D A A Q R E E N G T L A K R 80
241 gaagcgtgcccgatgctggcactggctgaaattgagacctggtcaaccaatgtacaaaagagatgctgaagcagatgc 320
81 E A V A D A W H W L K L R P G Q P M Y K R D A E A D A 107
321 agaagcagatgcagaagctggcactggtgcaattgagacctggtcaaccaatgtacaaaagagatgcccgatgctggc 400
108 E A D A E A W H W L Q L R P G Q P M Y K R D A D A W H 134
401 attggttgaactaaagccagcccaaccaatgtac 435
135 W L Q L K P G Q P M Y 145

Saccharomyces castellii_1 (Identified in this study, accession - AACF01000002)

1 atgaaattatctgctcttttatacagcttggcttcaacatcttctgctgaccaatgtatacaaccgcttcaaa 80
1 M K L S A L L S T V A L A S T S F A A P I D T T A S N 27
81 tgaanaactgaaattctactgatattctctgagaagctgctattgggtacttagatttgggttccgactcagatgttgca 160
28 E A N L S T D I P A E A V I G Y L D L G S D S D V A M 54
161 tgctaccattccaaaatagtagatccaacgggttatttattgttaataaccaccattgttcaacaagctgctcaagaaaat 240
55 L P F Q N S T S N G L L F V N T T I V Q Q A A Q E N 80
241 gatgactctgttggctagctaaagagagaagcaatgctgaagctggatggcactggttgagattggaccaggtcaaac 320
81 D D S V G L A K R E A N A E A G W H W L R L D P G Q P 107
321 attgtacaagagagaagctgacgctgatgctgaagctaaactggcactggttgagattggaccaggtcaaccattgtaca 400
108 L Y K R E A D A D A E A N W H W L R L D P G Q P L Y K 134
401 agagagaagctgaagctgatgctgaagctaaactggcactggttgagattggaccaggtcaaccattgtacaagaggaa 480
135 R E A E A D A E A N W H W L R L D P G Q P L Y K R E 160
481 gctgacgctgatgctgaagctaaactggcactggttgagattggaccaggtcaaccattgtacaagaggaaagctgacgc 560
161 A D A D A E A N W H W L R L D P G Q P L Y K R E A D A 187
561 tgatgctgaagtaactggcactggttaagattggaccaggtcaacctatata 615
188 D A E A N W H W L R L D P G Q P L Y 205

Saccharomyces castellii_2 (Identified in this study, accession - AACF01000002)

1 atgaaattctcagcattttatccactattgcccattctctgcttccacttttagcaactgacatcgaaactgaagatgc 80
1 M K F S S I L S T I A L F S A S T L A T D I E T E D A 27
81 cactatgccacaagttccagctgaagctgctattggctacttagatttgcagatgacatgacattgctattgtaccat 160
28 T M P Q V P A E A V I G Y L D F D G D N D I A M L P F 54
161 ttgccaatgctacttctcaggtttactcttctgcaaacactacccttgcgaacaagctaaatgaagaaggtccatt 240
55 A N L T S S G L F V N T T L V E Q A N N E E G S I 80
241 tcttttagctaagagagaagcgaagctgctgtaactggcattgggttgagattggaccctggccaaccattatacaaaag 320
81 S L A K R E A E A A N W H W L R L D P G Q P L Y K R 107
321 agaagcgtgaagctgatgcagaagcgaactggcactggttgagattggaccaggtcaaccattatacaagagagaagctg 400
108 E A E A D A E A N W H W L R L D P G Q P L Y K R E A D 134
401 atgccaactggcactggttgagattggaccaggtcaaccattatata 447

Saccharomyces_castellii_3 (Identified in this study, accession - AACF01000002)

1 atgcaactagcatcaattatcctagctttccttatagcctcattttttctattgcccgtccaatccaattatctgacaa 80
1 M Q L A S I I L A F L I A S F F S I A V P I Q L S D N 27
81 tcttgccaattccaggcaagaattccgaaagaagctgtcattggttatttagattttggtagtcaactgatatcaactg 160
28 L A N S R Q E I P K E A V I G Y L D F G S Q R D I T L 54
161 tgctaccctttgcaaatagtactactagcgggctattatttgcacaacagcagcttcttgaacaagcttctgtggggaac 240
55 L P F A N S T T S G L L F A N S T L L E Q A S V G N 80
241 aatcgcaacttgtaaaagagagaagcacaattggcattggttaagtttggatgctggcaaccattatataagagagatgc 320
81 N R T L L K R E A K W H W L S L D A G Q P L Y K R D A 107
321 taagcctccaaatggggaatttcaaattctggaatcctacaccagtgaatacgttcttccctgatgaccgatggcag 400
108 K P P K W G N F K F W N P T P V N T F F P D D P M A D 134
401 acatc 405
135 I 135

Saccharomyces_cerevisiae_1 (Kurjan and Herskowitz 1982; Singh et al. 1983); accession - NC_001136)

1 atgagatttcttcaatttttactgcagttttattcgcagcatcctccgattagctgctccagtcacactacaacaga 80
1 M R F P S I F T A V L F A A S S A L A A P V N T T T E 27
81 agatgaaacggcacaattccgggctgcatcggttagatttagaaggggatttcgatgttctgttttgc 160
28 D E T A Q I P A E A V I G Y L D L E G D F D V A V L P 54
161 cattttccaacagcacaataaacgggttattgtttataaatactactattgcccagcttctgctgtaaaagaaggggta 240
55 F S N S T N N G L L F I N T T I A S I A A K E E G V 80
241 tctttggataaaagagagctgaagcttggcattggttgcactaaaacctggccaaccaatgtacaagagagaagcga 320
81 S L D K R E A E A W H W L Q L K P G Q P M Y K R E A E 107
321 agctgaagcttggcattggtgcaactaaagcctggccaaccaatgtacaagaagagaagccgacgctgaagcttggcatt 400
108 A E A W H W L Q L K P G Q P M Y K R E A D A E A W H W 134
401 ggctgcaactaaagcctggccaaccaatgtacaaaagagaagccgacgctgaagcttggcattggttgcagttaaaacc 480
135 L Q L K P G Q P M Y K R E A D A E A W H W L Q L K P 160
481 ggccaaccaatgtactaa 498
161 G Q P M Y * 165

Saccharomyces_cerevisiae_2 (Kurjan and Herskowitz 1982; Singh et al. 1983); accession - NC_001136)

1 atgaaattcatttctaccttttctcacttttatttttagcggcgtttctgtcactgctagttccgatgaagatattcgctca 80
1 M K L F T T L S A S L I F I H S L G S T R A A P V T G 27
81 ggtgccagccgagggcattattggatacttggatttccggaggtgatcatgacatagctttttaccattcagtaacgcta 160
28 V P A E A I I G Y L D F G G D H D I A F L P F S N A T 54
161 ccgccaagtggctattgtttatcaacaccactattgctgagcggcgtgaaaagagcaaacaccactttggcgaaaaga 240
55 A S G L L F I N T T I A E A A E K E Q N T T L A K R 80
241 gaggctgttgcgcagcgttggcactggtttaaatttgagaccagggccaaccaatgtacaagagagagggccaacgctgatgc 320
81 E A V A D A W H W L R P G Q P M Y K R E A N A D A 107
321 ttggcactggttgcactcaagccagggccaaccaatgtactga 363
108 W H W L Q L K P G Q P M Y * 120

Saccharomyces_kluyveri (Egel-Mitani and Hansen 1987); accession - ACE03000009)

1 atgaaacttactactttgtccgcttcattaatctttatccattccttagggctgcacacgcgctgctccagttactgg 80
1 M K L F T T L S A S L I F I H S L G S T R A A P V T G 27
81 cgatgaatcatctgttgagattccggaagagctctctgctgctggtttcttggatttagcaggtgatgatatctccggttttc 160
28 D E S S V E I P E E S L I G F L D L A G D D I S V F P 54
161 cagtttctaacgagactcattacgggttgatgttggcaattccacgattgcaaatcttgcctcagagagagtgccaat 240
55 V S N E T H Y G L M L V N S T I V N L A R S E S A N 80
241 ttcaagggaaagagagagctgatgctgagccatggcactggttctcattttccaaggtgagccaatgtacaagagaga 320
81 F K G K R E A D A E P W H W L S F S K G E P M Y K R E 107
321 ggccgatgctgaaccaatggcactggttctcattttccaagggcagccaatgtactaa 378
108 A D A E P W H W L S F S K G E P M Y * 125

Saccharomyces_kudriavzevii_1 (Identified in this study, accession - ABP001001303)

1 atgagatttcttccattattacggcagtggttgcagcttctcctccgcttggcagctccagttataaccactttcgaag 80
1 M R F S S I I T A V F A A S S A L A A P V N T T S E S 27
81 cgaaaacggtccaatttcccgctgaagccatcatcggttacttagatttagaggggtgattttgatgttgcgttttgccat 160
28 E T V Q I P A E A I I G Y L D L E G D F D V A V L P F 54
161 ttgctaaccagcagaacaatggcttattgttcataaataactaccattgcaaatcttgcactaaggaagaaggtttcca 240
55 A N S T N N G L L F I N T T I A N L A T K E E S V P 80
241 ttaagcaaaagagaagctgaagccgacgcccagggcttggcactggttgcattgaaacccggctcaaccaatgtataaaag 320
81 L S K R E A E A D A E A W H W L Q L K P G Q P M Y K R 107
321 agaagctgaagctgacgccaagcttggcactggttgcattgaaacccggctcaaccaatgtacaaaagagaagctgcag 400
108 E A E A D A E A W H W L Q L K P G Q P M Y K R E A A 134
401 ccgacgccaagcttggcactggttgcattgaaacccggctcaaccaatgtacaaaagagaagctgaagctgaagccgac 480
135 D A E A W H W L Q L K P G Q P M Y K R E A E A E A D 160
481 gccgaagcttggcactggttgcattgaaacccggctcaaccaatgtat 528
161 A E A W H W L Q L K P G Q P M Y 176

Saccharomyces_kudriavzevii_2 (Identified in this study, accession - ABP001001303)

1 atgaaagcctcttctatggtttccatgaccattctagcggcacttctgtcttttctagtttctaacgacgatattgtcca 80
1 M K A S S M V S M T I L A A T S V F A S S N D D I V Q 27
81 ggttccagctgaggtgttatagatacttggatctcggacgtgatcatgacatcgctgctctaccatttagcaatagta 160
28 V P A E A V I G Y L D L G R D H D I A A L P F S N S T 54
161 ctaccagtggtctatttctcgaataactaccatcgtaagtgtgctgaaaaaaacgaaaacgctaccttgacaaaaaga 240
55 T S G L L F V N T T I V N V A E K K R N A T L T K R 80
241 gatgcagctgctggcgcctggcactggttgcattgagacctggtcagccaatgtacaagagggatgctgacgctgacgc 320
81 D A V A G A W H W L Q L R P G Q P M Y K R D A D A D A 107

321 ttggcactggttgcactaaagccaggtcaaccaatgtac 360
108 W H W L Q L K P G Q P M Y 120

Saccharomyces_mikatae_1 (Identified in this study, accession - AACH01001097)

1 atgagattttctcaattttaccgcagttttatttgggcttctccaccttagcccccagtcataaccactaccga 80
1 M R F S S I F T A V L F G A S S T L A A P V N T T T E 27
81 agacgaaacggctcacattccgggtgaagccatcattggttacttggatttagaaggtgatcgtgatgttctgttttgc 160
28 D E T A H I P A E A I I G Y L D L E G D R D V A V L P 54
161 cattttccaatgacacaaacagtggttgggttcataaataactactattgctgatattgccactaaagaagggcatt 240
55 F S N S T N S G L L F I N T T I A D I A T N E E G I 80
241 tcattaacaaagagagcagaagcctggcattgggtgcaactgggtcagccaatgtacaagagagaagccga 320
81 S L N K R E A E A W H W L Q L K P G Q P M Y K R E A D 107
321 cgctgagcctggcattgggttacagttgaaacctggcagccaatgtacaagagagaagccgatgctgagcctggcatt 400
108 A E A W H W L Q L K P G Q P M Y K R E A D A E A W H W 134
401 ggttacagttgaaacctggccaacctgtac 432
135 L Q L K P G Q P M Y 144

Saccharomyces_mikatae_2 (Identified in this study, accession - AACH01001097)

1 atgaaagtacttctattcttccactgttctagcgggtacttttgcgcttgcgactccgatgaaatgctgctcaagt 80
1 M K V T S I L S T V L A V T F A V A T S D E N V A Q V 27
81 cccagctgaagctgttattggctacttggatttgggaggtgacatgacatcgccgtttaccattcagtaagtctactg 160
28 P A E A V I G Y L D L G G D H D I A V L P F S N A T A 54
161 cgatggattacttcatcaataactaccattgctgatgaagcgaagagaacttaacaccactctgacgaaaagaa 240
55 S G L L F I N T T I A D E A K R E L N T T L T K R E 80
241 gcaagggcggatgctggcactgggttaagcttgagaccagccaacaaatgtacaagagagaagccagcccaacgcttg 320
81 A R A D A W H W L S L R P G Q P M Y K R E A S P N A W 107
321 gcattgggttgcactcaagccagccaaccaatgtac 357
108 H W L Q L K P G Q P M Y 119

Saccharomyces_naganishi (Kodama et al. 2003); accession - AB086431)

1 atgaaattttccactattttatccgctgcccgtctagccgctctgcattcgcagctcccattgaacagccagaacaaga 80
1 M K F S T I L S A A A L A A S A F A A P I E Q P E Q 27
81 ttgaaactccaactacaattcctgcggaagccatcatttcttacttggacttggaaagtgacaaagatattgcagtagttc 160
28 L N S T T I P A E A I I S Y L D L E G D K D I A V V P 54
161 cttttccaacgctacagacagcgggttggatttgcacaccaccatacttgcacaagctaaacaaggaagctggact 240
55 F S N A T D S G L L F V N T T I L A Q A N K E A G T 80
241 ccgctacaaaagaggggagctgacgccgacgctaagcctggcactgggtgaggttgcctacggctcagcctatctacaa 320
81 P L Q K R E A D A D A N A W H W L R L S Y G Q P I Y K 107
321 gagagacgcaagcgtgatgctgacgctgatgccgatggcactgggtgaggttgcataatggccaaccaatttaca 400
108 R D A N A D A D A D A D A W H W L R L S Y G Q P I Y K 134
401 agagagatgccaaagcgtgatgccgacgctgacggcagccttggcattgggtgagattgcctcagcccaacctatctac 480
135 R D A N A D A D A D A D A W H W L R L S Y G Q P I Y 160
481 taa 483
160 * 160

Saccharomyces_paradoxus_1 (Johnson et al. 2004); accession - AJ515205)

1 atgagattttgttcgggttttactcattttcatttgcagcttccctccgcttagctgctccagttataccaccactga 80
1 M R F C S V F T A F S F A A S S A L A A P V N T T T E 27
81 agacgaaatggctcaaatccgggtgaagccatcattggttacttggatttagaagggcattttgatgttctgttttgc 160
28 D E M A Q I P A E A I I G Y L D L E G D F D V A V L P 54
161 cattttccaacagcacaataacggctattgttcataaataactactattgtaaacattgctgctgaagaagaaggggtg 240
55 F S N S T N S G L L F I N T T I A N I A A E E E G V 80
241 actttaacaaaagagagggctgatgcttggcactgggtgcaactgaaacctggcacaacaaatgtacaagagagaagccga 320
81 T L N K R E A D A W H W L Q L K P G Q P M Y K R E A E 107
321 agctgaagccaatgctgaagcttggcactgggtgcaactgaaacctggcacaacaaatgtacaagagagaagctgaagccg 400
108 A E A N A E A W H W L Q L K P G Q P M Y K R E A E A E 134
401 aagccgatgctgaagccttggcactgggtgcaattaaaacctggcacaacaaatgtacaagagagaagctgaagccgaagcc 480
135 A D A E A W H W L Q L K P G Q P M Y K R E A E A E A 160
481 gaagctgaagccttggcactgggttgaattaaaacctggcacaacaaatgtactag 534
161 E A E A W H W L Q L K P G Q P M Y * 177

Saccharomyces_paradoxus_2 (Johnson et al. 2004); accession - AJ515205)

1 atgaaactcatttctatccttctcacttctgttttagcggctgttctgtcttttgcagtttggaggaagatgtcactca 80
1 M K L I S I L L T S V L A A V S V F A S L E E D V T H 27
81 cgtcccagctgagccattattggctacttggatttggaggtgacatgacatcgtttttaccattcagtaagtacta 160
28 V P A E A I I G Y L D F G G D H D I A F L P F S N A T 54
161 ccgctagtggttattgtttatcaataaccactatcggcagggcggctggaagaacaaaacactactatggtgaaaaga 240
55 A S G L L F I N T T I A E A A G K E Q N T T M V K R 80
241 gaggccgttgcgacgcttggcactgggttgaatttggagacctggcacaacaaatgtacaagagagatgccaacgctgacgc 320
81 E A V A D A W H W L N L R P G Q P M Y K R D A N A D A 107
321 ttggcattgggttgcactcaaacggccaaccaatgtac 360
108 W H W L Q L K P G Q P M Y 120

Saccharomyces_pastorianus_1 (Identified in this study, accession - ABP001001569)

1 atgataacggcacaattccggctgaagctgtcagcttacttagatttagaaggggatttgcgattgctgttttgc 80
1 M I T A Q I P A E A V I G Y L D L E G D F D V A V L P 27
81 attttccaacagcacaataacgggttattgtttataataactactattgcccagcattgctgctaaagaagaaggggtat 160
28 F S N S T N N G L L F I N T T I A S I A A K E E G V S 54
161 ctttggataaaaagagagcctgaagcttggcattgggttgcactaaagcctggccaacaaatgtacaagagagaagccga 240
55 L D K R E A E A W H W L Q L K P G Q P M Y K R E A D 80
241 gctgaagccttggcattgggttgcactaaacctggccaacaaatgtacaagagagaagccgacgctgaagccttggcattg 320

81 A E A W H W L Q L K P G Q P M Y K R E A D A E A W H W 107
321 gctgcaactaaagcctggccaaccaatgtacaaaagagaagccgacgctgaagcttggcattggtgagcttaaaagcctg 400
108 L Q L K P G Q P M Y K R E A D A E A W H W L Q L K P G 134
401 gccaaccaatgtacaaaagagaagccgacgctgaagcttggcattggtgacgtttaaacccggccaaccaatgtac 477
135 Q P M Y K R E A D A E A W H W L Q F K P G Q P M Y 159

Saccharomyces pastorianus_2 (Identified in this study, accession - ABPO01001569)

1 atgaaactctcaacaattgttacagctgtttgtttacagcttcttccgttttagccgccccagttataaccactaccga 80
1 M K L S T I V T A V L F T A S S V L A A P V N T T T E 27
81 aaatgaaacagctcaaatctcctgcccgaagctatcattggtacttggatttggagggtgattctgacgttgcgttttgc 160
28 N E T A Q I P A E A I I G Y L D L E G D S D V A V L P 54
161 catttgcaaacagcaccacactggtttactgttcataaatactactatttcaaacctgtgccaaggaagaaggtgtt 240
55 F A N S T N T G L L F I N T T I S N L A A K E E G V 80
241 tcattaagcaagagagaagccgatgctgaagcttggcactggttgaattgagacctggtcaaccaatgtacaaaagaga 320
81 S L S K R E A D A E A W H W L K L R P G Q P M Y K R E 107
321 agctgaagccgatgcccgatgctgaagcttggcactggttgaattaagacctggtcaaccaatgtacaagagagaagctg 400
108 A E A D A D A E A W H W L K L R P G Q P M Y K R E A E 134
401 aagccgatgcccgatgctgaagcttggcactggttgaactgagacctggtcaaccaatgtac 462
135 A D A D A E A W H W L T L R P G Q P M Y 154

Saccharomyces pastorianus_3 (Identified in this study, accession - ABPO01001569)

1 atgaaattgtctctgtgatttccactattgcccagcgcgcttctgtcgcgctgcttccagcgcagatgtcgccaa 80
1 M K L S T I V T A V L F T A S S V L A A P V N T T T E 27
81 ggtcccagccgagggccgttatcgggtacctggtatcagagggtgatcatgacatcgctgttctaccattcagcaattcta 160
28 V P A E A V I G Y L D L G G D H D I A V L P F S N S T 54
161 ctgccaatggtccattattcatcaatcagaccattggtgacgcgctcaaaaggaagaaatagctacttggcaaaaaga 240
55 A S G L L F I N T T I V D A A Q R E E N S T L A K R 80
241 gaagccgtcgccgatgcttggcactggttgaagcttggcactggttgaactgagacctggtcaaccaatgtacaagagggatgctgaagcaaatgc 320
81 E A V A D A W H W L K L R P G Q P M Y K R D A E A N A 107
321 agaagcagaagcttggcactggttgaactgagacctggtcaaccaatgtacaagagagaagctgacgcttggcattggt 400
108 E A E A W H W L Q L R P G Q P M Y K R E A D A W H W L 134
401 tgcaactaaggccaggccaaccaatgtac 429
135 Q L R P G Q P M Y 143

Saccharomyces pastorianus_4 (Identified in this study, accession - ABPO01001569)

1 atgaaattcatttctacctttctcacttttatttttagcggccgcttctgtcactgctagtccgatgaagatcgcctca 80
1 M K F I S T F L T F I L A A V S V T A S S D E D I A Q 27
81 ggtgccaatgagccattattggaacttggatttccgagggtgatcagatagctttttaccattcagtaagctta 160
28 V P A E A I I G Y L D F G G D H D I A F L P F S N A T 54
161 ccgctagtggttattgtttatcaacaccactattgctgagggcgctgaaaagagcaaaaaccactttggcgaagaa 240
55 A S G L L F I N T T I A E A A E K E Q N T T L A K R 80
241 gagctgttccgacgcttggcactggttgaactgagacctggtcaaccaatgtacaagagagagggccaacgctgatgc 320
81 E A V A D A W H W L N L R P G Q P M Y K R E A N A D A 107
321 tggcactggttgaactcaagccaggccaaccaatgtac 360
108 W H W L Q L K P G Q P M Y 120

Saccharomyces uvarum (Kitada and Hishinuma 1988); accession - M55013, M35518)

1 atgagatttccttcaatttttactgcagttttattgcagcatcctccgattagctgctccagtcacactacaacaga 80
1 M R F P S I F T A V L F A A S S A L A A P V N T T T E 27
81 agatgaaaccgcacaaattcccgctgaagctgtcatcggttacttggatttagaaggggatttcgatgttgcgttttgc 160
28 D E T A Q I P A E A V I G Y L D L E G D F D V A V L P 54
161 cattttcaacagcacaataacgggtattgtttataaatactactattgccagcattgctgctaaagaagaagggta 240
55 F S N S T N N G L L F I N T T I A S I A A K E E G V 80
241 tctttgataaaagagagctgaagcttggcattggttgaactaaagcctggccaaccaatgtacaagagagaagccga 320
81 S L D K R E A E A W H W L Q L K P G Q P M Y K R E A D 107
321 cgctgaagcttggcattggttgaactaaacactggccaaccaatgtacaagagagaagccgacgctgaagcttggcatt 400
108 A E A W H W L Q L K P G Q P M Y K R E A D A E A W H W 134
401 ggttgcagttaaaacccggccaaccaatgtactaa 435
135 L Q L K P G Q P M Y * 144

Schizosaccharomyces japonicus (Identified in this study, accession - ?)

1 atgaaattctctgctattttcattttctcttttctgcttctgcttctgctccagttcctagttctgatgccgttga 80
1 M K F S A I F I L S L F A S A F A A P V P S S D A V E 27
81 agctgctgctctattattctgaacttcttctactgaacaagttgtcttggaggctggttagtgaccgcttgaagc 160
28 A A A P I I P E L L T I A E Q V V L E G R V S D R V K Q 54
161 agatgttgcagctggttgaacttccgtaaccctgacactgccaatttgaagcgttctgagcctgagccgctgttagc 240
55 M L S H W W N F R N P D T A N L K R S E P E R R V S 80
241 gaccggtttaaagcaaatgctttctcactggttgaatttccgtaaccctgacactgccaacttgaagcgttctgagcctga 320
81 D R V K Q M L S H W W N F R N P D T A N L K R S E P E 107
321 gcgccgctgacgaccgctcaagcagatgttgcactggttgaacttccgtaaccctgacactgccaatttgaagc 400
108 R R V S D R V K Q M L S H W W N F R N P D T A N L K R 134
401 gttctgagcctgagcgcgctgttagcagccgcttaagcaaatgctttctcactggttgaatttccgtaaccctgacact 480
135 S E P E R R V S D R V K Q M L S H W W N F R N P D T 160
481 gccaacttgaagaagcgtgcttgaactgctcaagaagaagagctgagctgaaatggatcttcttctcactcctct 560
161 A N L K K R A L T D A Q E E E A E S E M D L L S Y L L 187
561 ttattcgaatgatacagatcgcctcctgctcaactgagatgagacctgagacaattcttaagactacag 639
188 Y S N D T S I A A S G L N A T E M V E T I L K D Y E 213

Schizosaccharomyces octosporus (Identified in this study, accession - ABHY02000011)

1 atgaaattcttctcttctgcttcttcttcttctgcttctgcttctgctccgctcctattctgctaccagcaagactctgg 80
1 M K F F S L V A L L F A L A S A A P I P A T S K D S G 27

135 C W K K A K R E A E A Q W C R I H G Q S C W K K R D 160
481 gctgctcccaggtgctcctgagccaaccgcaatggtgcccgatccatggccagtctgctggaaggccaagcgcg 560
161 A A P E A A P E A N P Q W C R I H G Q S C W K A K R A 187
561 cgccagggcctcatgaccgcatccagtcgccaagccgagtcgctctcctcctcctgacaccaccttcagccccg 640
188 A E A V M T A I Q S A E A E S A L L L R D T T F S P V 214
641 tcgaccgtgttggaagcgagccatcccccagtggtgcccagtcacccgcccagtcctgctggaagcgctatgctccc 720
215 D R V G K R E A D P Q W C R I H G Q S C W K R Y A S 240
721 cccgagggcgttgcacgccccgagcggtcttgcaccaaggccaccgctgacttgcacgcatgtacaacgctcgctcg 800
241 P E A A C N A P D G S C T K A T R D L H A M Y N V A R 267
801 tgccatcctcactgctcactctgatgagaac 831
268 A I L T A H S D E N 277

Trichoderma atroviridae (Identified in this study, accession - ABDG01000148)

1 atgaagttcctcaccgcatcaccctctctgctactgcccagtcgcccaccctgagccctggtgctggcgct 80
1 M K F L T A I T L F A T A A M A A P N P E P W C W R V 27
28 cgccgagctctggtggaaggccaagcgcccaacgagccctgaccctgcccgtccgatcattcgatggcatcgaggctc 160
28 G E S C W K A K R A N E A L T L A V R S F D G I E A R 54
161 gggcgagcgaccacggcatccccacgagctcgcctacaaggccattggcggtctcgagaacctcgccatccttctg 240
55 G D A P N G I P N E L A Y K A I G G L E N L A I L V 80
241 gcccagccctgaggaaccttccaccttcttcgcaaccaactgagcccgaagcggcagcctccaggaggagaagcg 320
81 A Q A S E D P S T F F G N Q T E P A K R D L Q E E K R 107
321 ctggtgctggagagtcggcgagtcgctggaaggccaagcgaactgaggagattcaagaggacaagcgctggtgctggc 400
108 W C W R V G E S C W K A K R T E E I Q E D K R W K R 134
401 gtgctggcgagtcctgctggaaggccaagcgctgctgcatggtcttctcgatgccaactatcgaggcgatgtgaagcga 480
135 V G E S C W K A K R V A M A V L D A T I E G D V K R 160
481 agcgtcgaaactgaagagccttcccaagcgctggtgctggcgagtcggcgagctcttctggaaggccaagcgcgct 560
161 S V E T E E P L A K R W C W R V G E S C W K A K R S V 187
561 tgagttatccaggaccaggtcgcgagcctcattgagctctggag 606
188 E F I Q D Q A R S L I E S L E 202

Trichoderma reesii (Identified in this study, accession - AAIL01000483)

1 atgaagttcctcgcgcccgcctcaccgtgttgcctccgcccctcgcggcgcccaaccgagcggctggtgctaccgcat 80
1 M K F L A A V T V F A S A A L A A P N P E P W C Y R I 27
81 cgccgagccctgctggaagctcaagcgccagggccttcaacctcgcgctccgctcgacacgctgaccaccccgcg 160
28 G E P C W K L K R T A E A F N L A V R S H D L T T R A 54
161 cccagggcgagggccatccccgagaggtggccctgtccgcatcgaggcctggaccagctcaagaagctgatcctggtg 240
55 Q G E A I P D E V A L S A I E G L D Q L K K L I L V 80
241 tcgaccgagggaccacgagcctgctgcccgaagcggcagggagccgagagcgaagcggcagctcgaggtcgagggaga 320
81 S T E D P S S L L P P N A T E P E S K R D V E V E E D 107
321 caagcgctggtgctaccgcatcgccgagccctgctggaaggccaagcgcgagggcggagggccgagggccgcccggaggag 400
108 K R W C Y R I G E P C W K A K R E A E A E A A A E E 134
401 agaagcgttggctaccgcatcgccgagccctgctggaaggccaagcgcaccgagcaaatctcagaggagagcgctgg 480
135 K R W C Y R I G E P C W K A K R T D E I S E E K R W 160
481 tgctgagctcctcgaggaaagtgctggaagccaagcgctgcccggagggcctcctgagcgccaccattgagggcgagca 560
161 C W I L G G K C W K T K R V A E A V L S A T I E G D E 187
561 gaagcgagcgtcgaggccgagggcaacgcccagcagagaagcgatggtgctaccgcatcgccgagccttctggaaggcca 640
188 K R S V E A E G N A D E K R W C Y R I G E P C W K A K 214
641 agcggacctcgagaccatccaggagctgctcgagcgtcatcgagctccatgcag 696
215 R D L E T I Q D V A R S V I E S M Q 232

Trichoderma virens (Identified in this study, accession - ABDF01000230)

1 atgaagttcctcgcgcccactgtcaccgctcctgcccactgcagctctggtgctcccccaaccggcagcctgagcaaccaat 80
1 M K F L A T V T V L A T A A L A A P N P E P E C N Q I 27
81 cgccagccctggtggaaggtcaagcgtgagactgaggttttctctagcagctcgatccatcgccacccgctcgagaccg 160
28 G Q P C W K V K R A T E V F S S A V R S I G T V E T E 54
161 agcaccagggcatccccacgaggttgcctcctcctcctcctcctcctcctcctcctcctcctcctcctcctcctcctc 240
55 H Q G I P N E V A L S A L Q G L D Q L S S L L L Y A 80
241 tccgaggaccgctgctccttctccagaagcgttaaccgacacttcgaccgccaagcggcagctgctgaggtacagggagaa 320
81 S E D P S A F L Q N V T D T S T A K R D V E V Q E E K 107
321 gcgatggtgctaccgctcggtatgacttggcggtggaagaagaagcagctgccaagatccccgaggagaagcagatggt 400
108 R W C Y R V G M T C G W K K K R A A K I P E E K R W C 134
401 gctaccgcttggatgacttggcgctggaagaagaagagatgaggagatccaagaggagaagcggatgctgaagtc 480
135 Y R V G M T C G W K K K R D E E I Q E E K R D V E V 160
481 caggaggagaagcggatgccaagtcaggaggagaagcagatggtgctaccgctcggtatgacttggcgctggaagaa 560
161 Q E E K R D A E V Q E E K R W C Y R V G M T C G W K N 187
561 caagcgatgaggtatcgaggaggagaagcaatggtgctaccgcccggctgagccctgctggaaggccaagcgaaccg 640
188 K R Y E D L E E E K Q W C Y R A G E P C W K A K P T D 214
641 atgagatccaggaggacaagagatggtgctacaaaccgctcagccctgctggaaggccaagcagctgctgccaaggcgct 720
215 E I Q E D K R W C Y K P G Q P C W K A K H V A K G V 240
721 ctcaagtccaccattgaagcgatgagaagcgaagcgtcgaggagatttctgagaagtcaggtgctaccaaacggcca 800
241 L S A T I E G D E K R S V E E I S E K S W C Y Q T G Q 267
801 gcttggctggaaggccaagcgaacctcgaggtatccaaaacgggctcgagcgttatcgaggcgatgtac 873
268 P C W K A K R N L E A I Q N G A R S V I E G M Y 291

Vadnerwaltozyma polyspora_1 (Identified in this study, accession - NW_001834693)

1 atgaagtttaactatgttttaccgctgcttggcttactgctttagctgctccagtcgtaaggtgctactaa 80
1 M K L T N V L S A V A L A S T A L A A P V A K D A T N 27
81 caccactagcctcttctgttcaaatccagctgaagctgctcagctacttagacttgaacaatcctaagctgtg 160
28 T T D A S S V Q I P A E A V I G Y L D L E Q S N D V A 54
161 ctatggtgcaattctcactcaccacaatggtatttggctcagcagcactatcttaaggctgcttaccgctgaa 240
55 M L Q F S N S T N N G I L F V N S T I L K A A Y A E 80

241 gctaacgctaactctaactctaaccacaagagagaagctaaggctgatgcttggcactgggtggaattggacaatggca 320
81 A N A N S N S N S N T K R E A K A D A W H W L E L D N G Q 107
321 accaatctacaagagagaagctaagctgaagctaacatggcactgggtggaattggacaacgggcaaccaatttaca 400
108 P I Y K R E A N A E A K P W H W L E L D N G Q P I Y K 134
401 agagagaagctaaggccgaagctaaggctgacgcttggcactgggtggaattagacaacgggcaaccaatctacaagaga 480
135 R E A K A E A K A D A W H W L E L D N G Q P I Y K R E A 160
481 gaagctaaggctgaagctaaggctgatgcttggcactgggtggaattggacaacgggcaaccaatctacaagagagaagc 560
161 E A K A E A K A D A W H W L E L D N G Q P I Y K R E A 187
561 tgaagctaaggctggcttggcactgggtggaattggacaacgggcaaccaatctactaa 621
188 E A K A G A W H W L E L D N G Q P I Y * 206

Vanderwaltozyma polyspora_2 (Identified in this study, accession - NW_001834693)

1 atgaagttttctactgtttatccactgttgcttagctgccactgcccgtttccgctgctcctatctcaagactcttaa 80
1 M K F S T V L S T V A L A A T A V S A A P I S R A S N 27
81 tgaactgttgaatctgttgaatccgggtttaatgtaccagctgaagctgtccttgggttacttggactttgtgaaaaag 160
28 E T V E S V E S G L N V P A E A V L G Y L D F G E K D 54
161 atgatgctgatgttaccctttcaaatggtacctccaatggtttattattgttaacactaccatttacgacgccc 240
55 D V A M L P F S N G T S N G L L F V N T T I Y D A A 80
241 ttgctgactcagatgatgaatctgctcttttagctaagagagagcgtgaagcttggcactgggtgagactaagatgg 320
81 F A D S D D S A S L A K R D A E A W H W L R L R Y G 107
321 tgaaccaatctacaaaagagaagactctgaaggtgtgaaaagagagaagccgctgctgaacctggcactgggtgagat 400
108 E P I Y K R E D S E G V E K R E A A A E P W H W L R L 134
401 tgagatacggtgaaccaatctacaagagagagattccgaatctgttgaagagagaagctgctgacacatggcac 480
135 R Y G E P I Y K R E D S E S V E K R E A A A E P W H 160
481 tggttagatgaagatacgggtgaaccaatctacaagagagaagactccgaatctgttgaagagagaagctaatgctga 560
161 W L R L R Y G E P I Y K R E D S E S V E K R E A N A D 187
561 tgctgacgcttggcactgggtgagattgagatacgggtgaaccaatctactaa 612
188 A D A W H W L R L R Y G E P I Y * 203

Verticillium albo-atrum (Identified in this study, accession - ABPE01002130)

1 atgaagttcctcctttacgcccgtctgctgcccgtcgccaacgctgcagcgtccccttgcggagcccggcaagcc 80
1 M K F L L Y A A V V A A V A N A A A L P F A E P G K P 27
81 gtgccccgactggacagggctgctggaagccagcgtgccccgagcccattgccaatgcccgaacctgaggtgttg 160
28 C P R P G Q G C W K A R R A P E P I A M P E P E A V A 54
161 ccgagccgagcctggcaagccatgccccctcccggacagggctgctggaagcccaagcgtgccccgagcccattgccc 240
55 E A E P G K P C P R P G Q G C W K A K R A P E P I A 80
241 atgcccagccagagcctgaggtgtgctgaggtgacccctcagaagccctgccccgacctggacagggctgctgga 320
81 M P E P E A V A E A D P Q K P C P R P G Q G C W K P 107
321 gaacaagaagcgcacgcccagcccgtgcccagccagagcctgaggtgttggcagggtaacctcagaagc 400
108 N K K R T P E P V A M P E P E P E A V A E A N P Q K P 134
401 cctgccccgacctggacagggctgctggaagaacaagcagcagccgagccgagctcgtgcccagccagctgccc 480
135 C P R P G Q G C W K N K R S A E P E S V A S Q C T S 160
481 tttctctcctgctgatgtccaaggaacgaacctgcccgttgcggggggcacaagcagcgggtgataggtgatc 560
161 F L C R L M S K G T N P A V A R G A Q A A V D R L I 187
561 tcatactgacgctggtatcgacagagaactagacgctttccaacatggatcgtactcggacggacatcttgttgagag 640
188 H T D A G I D R E T R R V S N M D R T R T D I L L R A 214
641 cccccgtagg 651
215 P G R 217

Verticillium dahliae (Identified in this study, accession - ABJE01001512)

1 atgaagttcctccttacgcccgtctgctgcccgtcgccaacgctgcagcgtccccttgcggagcccggcaagcc 80
1 M K F L L Y A A V V A A V A N A A A L P F A E P G K P 27
81 atgccccgacctggacagggctgctggaagccagcgtgccccgagcccattgccaatgcccgagcctgaggtgtg 160
28 C P R P G Q G C W K A K R A P E P I A M P E P E A V A 54
161 ccgagccgagcctggcaagccatgccccctggacagggctgctggaagcccaagcgtgccccgagcccattgccc 240
55 E A E P G K P C P R P G Q G C W K A K R A P E P I A 80
241 atgcccagcctgaggtgtgcccagccagcctgacaagccatgccccgacctggcagggctgctggaagaacaa 320
81 M P E P E A V A E A E P D K P C P R P G Q G C W K N K 107
321 gaagcgcagcccagcccgtgcccagcccagcccagggctgtggtgaggtgacctcagaagccctgccc 400
108 K R T P E P V A R P E P E P E A V A E A D P Q K P C P 134
401 cccagcctggacagggctgctggaagaacaagaagcgcgcccagcccgtgcccagcccagcctgaggtg 480
135 R P G Q G C W K N K R A P E P V A M P E P E P E A 160
481 gttgcccagccgagcccgaagccatgccccctgctggacagggctgctggaagaacaagaagcgcagcccagcc 560
161 V A E A E P D K P C P R P G Q G C W K N K K R T P E P 187
561 cgtgcccagcccagcccagcctgaggtgttgtgaggtgacccccagaagccctgccccgacctggacaggtt 640
188 V A M P E P E P E P E A V A E A D P Q K P C P R P G Q G C 214
641 gctggaagaacaagcgcagcgcagcctgagttcgtgcccagcgtgacgtccttctctgcccgtgctgatgtccaag 720
215 W K N K R S A E P E F V A S E C T S F L C R L M S K 240

Yarrowia lypolytica_1 (Identified in this study, accession - NC_006071)

1 ATGAAGTTCCTACTATTGCTCTTGCCGAGTGCCTGCCTGGTTTTCAGCTGCCCTGCTGCCCCCGTGGTACCGGCTC 80
1 M K F S T I A L A A V A C L V S A A P A A P V G T G S 27
81 CCATGGCCCTCAGTCCATTCCTGAGGAGCCATTTGCGCGGCTCCAGGGTACAGAGAACGAAATCTTTGTCTTTCA 160
28 H G P Q S I P E E A I V G G L Q G T E N E I F V F T F N 54
161 ATGATGACGAGTCTGGAAGCAGGGAATTGCTATCATTTGACCCCAAGAGGCCAGGAGGCTTATGGACCCCCAG 240
55 D D S E G K Q G I A I D A K K A Q E A G F M D P Q 80
241 CCTGATCCGAGGTTGCTGCTGGCAACGCTAAGCGAGAGGCTTCTCCTGAGGCTGGCGATGGTTCTGGCTCCCTGGATA 320
81 P D S E V A A G N A K R E A S P E A W R W F W L P G Y 107
321 CGGCGACCCCAACTGGAAGCGAGACGCCATGCCCGTATATGGACAAGGAGCGTGGAGCCAAACCCGAGGCTGGC 400
108 G E P N W K R D A M P A D M D K E K R E A N P E A R 134
401 GATGGTTCTGGCTCCCGGCTACGGCGAGCCCAACTGGAAGCGAGACGCCATGCCCGTATATGGACAAGGAGAAGCGT 480

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Appendix B. Accession numbers for Elongation Factor 1- α and Beta Tubulin gene sequences used in this study

Species	TEF	BT
<i>Alternaria brassicicola</i>		Y17084
<i>Aspergillus clavatus</i>	XM_001269545	XM_001269169
<i>Aspergillus flavus</i>	XM_002380857	ASNBETTUB
<i>Aspergillus fumigatus</i>	XM_745295	XM_747363
<i>Aspergillus nidulans</i>	XM_656730	XM_653694
<i>Aspergillus niger</i>		DQ768450
<i>Aspergillus oryzae</i>	XM_001823791	AF036805
<i>Aspergillus terreus</i>	XM_001212188	XM_001210373
<i>Botryotinia fuckeliana</i>	XM_001551736	XM_001560987
<i>Candida albicans</i>	YSAEF1B	XM_713801
<i>Candida dubliniensis</i>	XM_002417390	XM_002416698
<i>Candida glabrata</i>	AF402029	
<i>Candida tropicalis</i>	XM_002547480	XM_002550030
<i>Chaetomium globosum</i>	XM_001222638	AY780110
<i>Clavispora lusitaniae</i>	DQ447237	
<i>Cryphonectria parasitica</i>	DQ862033	DQ368754S2
<i>Fusarium circinatum</i>	AF333930	AF333946
<i>Fusarium fujikuroi</i>		U34415
<i>Fusarium konzum</i>	EU220235	EU220234
<i>Fusarium mangiferae</i>	HM068871	FSU61561
<i>Fusarium nygamai</i>	DQ854866	U34426
<i>Fusarium oxysporum</i>	DQ220144	EF450110
<i>Fusarium proliferatum</i>	GU377297	U34416
<i>Fusarium sacchari</i>	GU377296	U34414
<i>Fusarium Steriliihyphosum</i>	GU737415	FSU61558
<i>Fusarium subglutinans Grp1</i>		AF160317
<i>Fusarium subglutinans Grp2</i>	HM057336	U34417
<i>Fusarium thapsinum</i>	FJ603506	U34418
<i>Fusarium verticillioides</i>	GU377299	U34413
<i>Gibberella zeae</i>	XM_388987	AY303689
<i>Kluyveromyces delphensis</i>	AF402030	
<i>Kluyveromyces lactis</i>	AF402084	
<i>Kluyveromyces waltii</i>	AF402078	
<i>Lachanceae thermotolerans</i>	AF402077	
<i>Lodderomyces elongisporus</i>	XM_001525732	XM_001526608
<i>Magnaporthe grisea</i>	XM_361098	XM_368640
<i>Neosartorya fischeri</i>	XM_001265027	XM_001264677
<i>Neurospora crassa</i>	XM_959775	XM_952576
<i>Penicillium chrysogenum</i>		DQ285611
<i>Phaeosphaeria nodorum</i>	XM_001801850	AY786332
<i>Pichia stipitis</i>	XM_001382650	XM_001385725
<i>Podospora anserina</i>	XM_001907402	
<i>Pyrenophora tritici-repentis</i>	XM_001930596	XM_001931145
<i>Saccharomyces bayanus</i>	AF402012	FJ238316
<i>Saccharomyces cerevisiae</i>	NC_001148	V01296
<i>Saccharomyces kluyveri</i>	AF402079	
<i>Saccharomyces kudriavzevii</i>	AF402010	FJ238337
<i>Saccharomyces mikatae</i>	AF402008	FJ238338
<i>Saccharomyces paradoxus</i>	AF402007	FJ238330
<i>Saccharomyces pastorianus</i>	AY130808	FJ238326

<i>Schizosaccharomyces japonicus</i>	XM_002173053	XM_002175088
<i>Schizosaccharomyces pombe</i>	NM_001022750	NM_001022572
<i>Sclerotinia sclerotiorum</i>	XM_001594041	XM_001594794
<i>Sordaria macrospora</i>	X96615	AY780140
<i>Trichoderma atroviride</i>	FJ629374	
<i>Trichoderma reesei</i>	Z23012	
<i>Trichoderma virens</i>	AF534631	AY158203
<i>Vanderwaltozyma polyspora</i>	AF402047	
<i>Verticillium albo-atrum</i>		DQ166897
<i>Verticillium dahliae</i>	AY489632	DQ166861
<i>Yarrowia lipolytica</i>	AF054510	AY944854
<i>Zygosaccharomyces rouxii</i>	AF402054	
