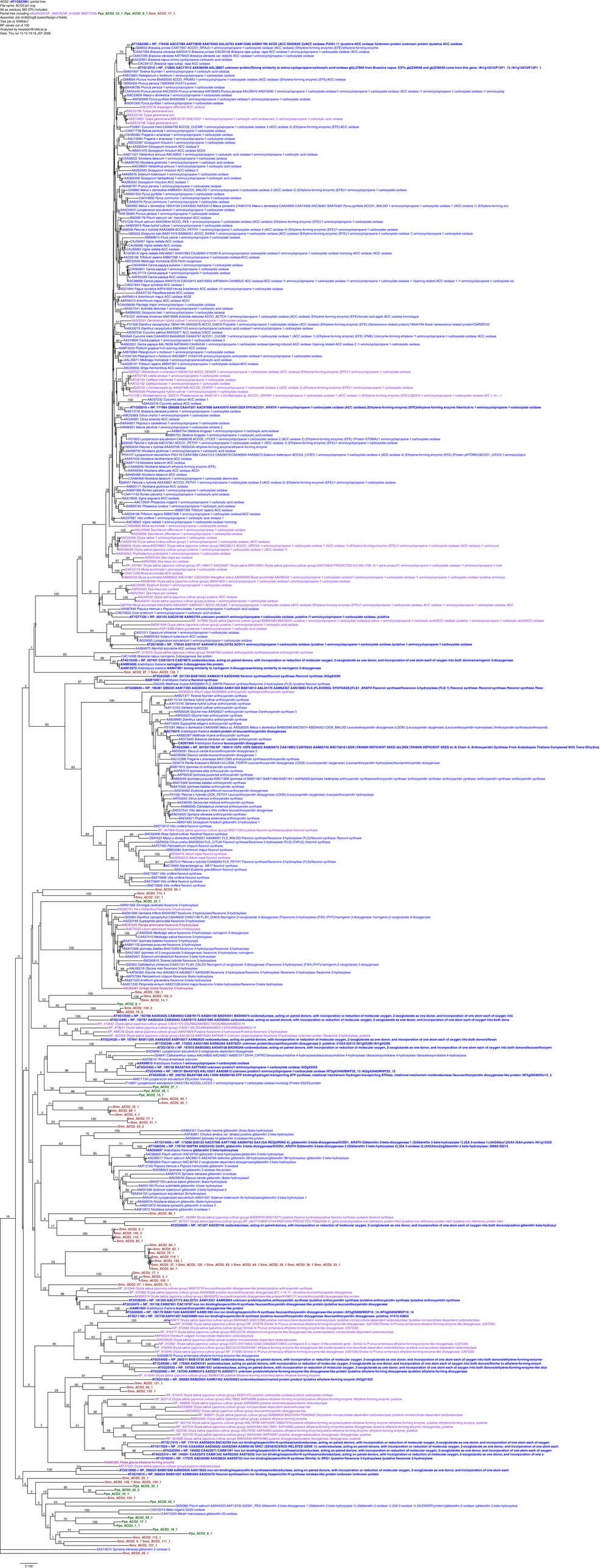
ACO2 (ATI0G03360): partial tree
File name: ACO2.prt.tre
99 aa residues 383 OTU included.
Parsimony tree by PHYLIP3.50c (c) 1993-2004 by Joseph Felsenstein
Assemble Job 00 Wt2Hng8 (selectNalign=Y/a94t)
Job started: Thu Jul 13 15:18:16 JST 2006
BP values out of 100
Analyzed by hiwatash@nibb.ac.jp
Date: Thu Jul 13 15:19:16 JST 2006


AT1G62380 = NP_179428 AAC27484 AAF70838 AAK76550 AAL32763 AAM13380 AAM81785 ACO2 (ACC OXIDASE 2)/ACC oxidase /P2481.11 /putative ACC oxidase /Unknown protein /unknown protein /putative ACC oxidase
Q39552 Brassica juncea CAA73807 ACO21_BRAJU 1-aminocyclopropane-1-carboxylate oxidase (ACC oxidase) (Ethylene-forming enzyme) (EFE)/ethylene-forming enzyme
CAA57284 Brassica oleracea AAF65472 Brassica juncea CAC39106 Brassica rapa subsp. rapa ACC oxidase/1-aminocyclopropane-1-carboxylate oxidase /ACC oxidase
CAA57285 Brassica oleracea AAF73420 Brassica oleracea var. botrytis ACC oxidase/1-aminocyclopropane-1-carboxylate oxidase /ACC oxidase
CAC39107 Brassica rapa subsp. rapa ACC oxidase
AT1G12010 = NP_172565 AAC17613 AAX90598 AAL39607 unknown protein/Strong similarity to amino-cyclopropane-carboxylic acid oxidase gbIL27664 from Brassica napus. ESTs gbZ48548 and gbZ48549 come from this gene. /at1g12010/F12F1_12 /At1g12010/F12F1_1
BAA61807 Triteria fiurnieri 1-aminocyclopropane-1-carboxylic acid oxidase
AAD70803 Pelargonium x hortorum 1-aminocyclopropane-1-carboxylic acid oxidase
Q96MB4 Prunus mume BAA90550 ACCO_PRUMU 1-aminocyclopropane-1-carboxylate oxidase (ACC oxidase) (Ethylene-forming enzyme) (EFE)/ACC oxidase
100 1900340A Prunus persica 1900340A PUV313 protein
BAA94786 Prunus persicia 1-aminocyclopropane-1-carboxylate oxidase
CAA54448 Prunus persica AAC32824 Prunus armeniaca AAF36483 Prunus persica AAL26910 AAQ10260 1-aminocyclopropane-1-carboxylate oxidase/1-aminocyclopropane-1-carboxylate oxidase; ACC oxidase /1-aminocyclopropane-1-carboxylate oxidase /1-aminocyclop
BAC53656 Malus x domestica 1-aminocyclopropane-1-carboxylate oxidase
BAD60098 Pyrus pyrifolia BAD60999 1-aminocyclopropane-1-carboxylate oxidase/1-aminocyclopropane-1-carboxylate oxidase
BAD61000 Pyrus pyrifolia 1-aminocyclopropane-1-carboxylate oxidase
CAC05578 Asparagus officinalis ACC oxidase
BAE20196 Tulipa gesneriana aco
BAD31985 Tulipa gesneriana aco
BAD10965 Tulipa gesneriana BAD33197 BAE20331 1-aminocyclopropane-1-carboxylic acid oxidase/aco /1-aminocyclopropane-1-carboxylic acid oxidase
BAE20198 Tulipa gesneriana aco
P54647 Cucumis melo CAA64799 ACCO3_CUCME 1-aminocyclopropane-1-carboxylate oxidase 3 (ACC oxidase 3) (Ethylene-forming enzyme) (EFE)/ACC oxidase
CAA77138 Betula pendula 1-aminocyclopropane-1-carboxylate oxidase
CAH65482 Fragaria x ananassa 1-aminocyclopropane-1-carboxylate oxidase
AAU10090 Fragaria x ananassa 1-aminocyclopropane-1-carboxylate oxidase
ABD03297 Gossypium hirsutum 1-aminocyclopropane-1-carboxylate oxidase
AAZ83344 Gossypium hirsutum ACC oxidase 3
ABA01476 Gossypium hirsutum ACC oxidase ACO4
AAB71421 Helianthus annuus AAC49833 1-aminocyclopropane-1-carboxylic acid oxidase/1-aminocyclopropane-1-carboxylic acid oxidase
AAO83632 Nicotiana tabacum 1-aminocyclopropane-1-carboxylic acid oxidase
AAW90793 Nicotiana glutinosa 1-aminocyclopropane-1-carboxylic acid oxidase
AAW90794 Nicotiana glutinosa 1-aminocyclopropane-1-carboxylic acid oxidase
AAZ83345 Gossypium hirsutum ACC oxidase 1
AAK98078 Solanum tuberosum 1-aminocyclopropane-1-carboxylic acid oxidase
AAQ84309 Gossypium barbadense 1-aminocyclopropane-1-carboxylic acid oxidase
AAZ83342 Gossypium hirsutum ACC oxidase 1
AAX98787 Prunus persicia 1-aminocyclopropane-1-carboxylate oxidase
O48882 Malus x domestica AAB84031 ACCO2_MALDO 1-aminocyclopropane-1-carboxylate oxidase 2 (ACC oxidase 2) (Ethylene-forming enzyme) (EFE)/1-aminocyclopropane-1-carboxylic acid oxidase
BAD61004 Pyrus pyrifolia 1-aminocyclopropane-1-carboxylate oxidase
CAH19500 Pyrus communis 1-aminocyclopropane-1-carboxylate oxidase
CAA60576 Pyrus communis 1-aminocyclopropane-1-carboxylate oxidase
Q00985 Malus x domestica 19954164 CAA43662 AAA33412 Malus sylvestris CAA67216 Malus x domestica CAA04895 CAA74328 AAC36461 BAA76387 Pyrus pyrifolia ACCO1, MALDO 1-aminocyclopropane-1-carboxylate oxidase 1 (ACC oxidase 1) (Ethylene-forming enz
BAA34404 Lycopersicon esculentum 1-aminocyclopropane-1-carboxylate oxidase
AAA73684 Prunus persica 1-aminocyclopropane-1-carboxylate oxidase
BAD08178 Rumex palustris 1-aminocyclopropane-1-carboxylic acid oxidase
P12236 Petunia hybrida AAA32640 ACCO_PETHY 1-aminocyclopropane-1-carboxylate oxidase (ACC oxidase) (Ethylene-forming enzyme) (EFE)/1-aminocyclopropane-1-carboxylic acid oxidase
CAA58284 Petunia x hybrida AAA33768 ACCO2_PETHY 1-aminocyclopropane-1-carboxylate oxidase 2 (ACC oxidase 2) (Ethylene-forming enzyme) (EFE)/1-aminocyclopropane-1-carboxylic acid oxidase
Q65932 Diospyros kaki BAB11918 BAB86351 ACCO_DIOKA 1-aminocyclopropane-1-carboxylate oxidase (ACC oxidase) (Ethylene-forming enzyme) (EFE)/1-aminocyclopropane-1-carboxylate oxidase /1-aminocyclopropane-1-carboxylic acid oxidase
AB899910 Ficus carica 1-aminocyclopropane-1-carboxylic acid oxidase
CAJ56067 Vigna radiata ACO oxidase
CAJ56096 Vigna radiata ACO oxidase
CAJ56065 Vigna radiata ACC oxidase
S10261A Vigna radiata AAC49521 AAK07883 CAJ56064 2102361A aminocyclopropane carboxylate oxidase/1-aminocyclopropane-1-carboxylate oxidase homolog /ACC oxidase /ACC oxidase
AAD28196 Triticum repens ABB97396 1-aminocyclopropane-1-carboxylate oxidase/ACC oxidase
ABD28349 Medicago truncatula 2OG-Fe(II) oxygenase
CAD44994 Carica papaya putative 1-aminocyclopropane-1-carboxylate oxidase
AAK31714 Carica papaya 1-aminocyclopropane-1-carboxylic acid oxidase
AAK31715 Carica papaya 1-aminocyclopropane-1-carboxylic acid oxidase
AAC08808 Carica papaya AAK07516 CAE25415 AAS16933 AAT76444 CAH66522 ACC oxidase/1-aminocyclopropane-1-carboxylate oxidase /1-ripening related ACC oxidase 1 /1-aminocyclopropane-1-carboxylate oxi
CAD21843 Fagus sylvatica ACC oxidase 1
BAD31844 Fagus sylvatica AAP41950 Hevea brasiliensis ACC oxidase 1/1-aminocyclopropane-1-carboxylate oxidase
BAA33133 Passiflora edulis ACC oxidase
AAP84014 Antirrhinum majus ACC oxidase ACO2
AAP84013 Antirrhinum majus ACC oxidase ACO1
CAH58646 Phalaenopsis hybrid cultivar 1-aminocyclopropane-1-carboxylate oxidase
BAA21541 Actinidia deliciosa 1-aminocyclopropane-1-carboxylic acid oxidase
AAB88062 Diospyros kaki 1-aminocyclopropane-1-carboxylic acid oxidase
P31237 Actinidia chinensis AAA18566 Actinidia deliciosa ACCO_ACTCH 1-aminocyclopropane-1-carboxylate oxidase (ACC oxidase) (Ethylene-forming enzyme) (EFE)/tomato and apple ACC oxidase homologue
AAS00041 Dianthus caryophyllus 1-aminocyclopropane-1-carboxylic acid oxidase
P31526 Dianthus caryophyllus 1804419A AAA33276 ACCO_DIACA Probable 1-aminocyclopropane-1-carboxylate oxidase (ACC oxidase) (Ethylene-forming enzyme) (EFE) (Senescence-related protein)/1804419A flower senescence-related protein/CARSR120
AAO73773 Dianthus caryophyllus BAB91122 1-aminocyclopropane-1-carboxylic acid oxidase/1-aminocyclopropane-1-carboxylic acid oxidase
AAC27234 Cucumis sativus AAD37740 ACO_CUCSA ACC oxidase/ACC oxidase
Q96444 Cucumis melo AAB65033 AAC49121 ACCO1_CUCME 1-aminocyclopropane-1-carboxylate oxidase 1 (ACC oxidase 1) (Ethylene-forming enzyme) (EFE) (PMEL1)/enzyme-forming ethylene /1-aminocyclopropane-1-carboxylate oxidase /ACC oxidase
AAS14934 Carica papaya 1-aminocyclopropane-1-carboxylic acid oxidase 2
AAB20051 Carica papaya AAL78558 AAT99448 CAH46549 1-aminocyclopropane-1-carboxylic acid oxidase/ripening-induced ACC oxidase /ripening related ACC oxidase 2 /1-aminocyclopropane-1-carboxylate oxi
AAM74322 Psidium guajava fruit ripening-related ACC oxidase
AAD70894 Pelargonium x hortorum 1-aminocyclopropane-1-carboxylate oxidase
Q1844124 Pelargonium x hortorum ACCA69977 Q1844124 aminocyclopropane carboxylate oxidase/1-aminocyclopropane-1-carboxylate oxidase
AAL35971 Medicago truncatula 1-aminocyclopropanecarboxylic acid oxidase
AAD28197 Triticum repens ABB97397 1-aminocyclopropane-1-carboxylate oxidase/ACC oxidase
BAC56950 Stinga hermorrhoida ACC oxidase
Q02Q21 Dendrobium crumenatum AAO50104 ACCO_DENCR 1-aminocyclopropane-1-carboxylate oxidase (ACC oxidase) (Ethylene-forming enzyme) (EFE)/1-aminocyclopropane-1-carboxylate oxidase
AAT02194 Laelia anceps 1-aminocyclopropane-1-carboxylate oxidase
AAT02150 Cattleya intermedia 1-aminocyclopropane-1-carboxylate oxidase
AAT02192 Cattleya bicolor 1-aminocyclopropane-1-carboxylate oxidase
Q2QQ21 Phalaenopsis hybrid cultivar ACCO_PHAHY 1-aminocyclopropane-1-carboxylate oxidase 2 (ACC oxidase 2) (Ethylene-forming enzyme) (EFE)/1-aminocyclopropane-1-carboxylate oxidase
AAS00056 Phalaenopsis hybrid cultivar 1-aminocyclopropane-1-carboxylic acid oxidase
P31238 x Dorithaenopsis sp. JQ2274 Phalaenopsis sp. AAA21811 x Dorithaenopsis sp. ACCO1_DORSP 1-aminocyclopropane-1-carboxylate oxidase 1 (ACC oxidase 1) (Ethylene-forming enzyme) (EFE)/JQ2274 1-aminocyclopropane-1-carboxylate oxidase (EC 1.14.-.-)
AAO72702 Cucumis sativus ACC oxidase 1
BAA33378 Cucumis sativus ACC oxidase
AT1G05010 = NP_171994 Q06588 CAA47231 AAC97998 AAK43970 AAN13929 EFE/ACCO1_ARATH 1-aminocyclopropane-1-carboxylate oxidase (ACC oxidase) (Ethylene-forming enzyme) (EFE)/ethylene-forming enzyme /identical to 1-aminocyclopropane-1-carboxylate oxidase
AAO13735 Brassica oleracea putative 1-aminocyclopropane-1-carboxylate oxidase
ABD28699 Citrus unshiu 1-aminocyclopropane-1-carboxylate oxidase
AAS49361 Citrus sinensis ACC oxidase
BAA94601 Populus x canadensis 1-aminocyclopropane-1-carboxylate oxidase
AAN06821 Betula pendula 1-aminocyclopropane-1-carboxylate oxidase
AAM65754 Stellaria longipes 1-aminocyclopropane-1-carboxylic acid oxidase
AAB65703 Stellaria longipes 1-aminocyclopropane-1-carboxylic acid oxidase
P81800 Lycopersicon esculentum P05116 CAA41689 CAA41212 CAA28479 CAA90904 AAK68075 Solanum tuberosum ACCO4_LYCES 1-aminocyclopropane-1-carboxylate oxidase 4 (ACC oxidase 4) (Ethylene-forming enzyme) (EFE) (Protein pITOM5)/ACCO1_LYCES 1-aminocyclopro
P12236 Petunia x hybrida AAC37967 ACCO1_PETHY 1-aminocyclopropane-1-carboxylate oxidase 1 (ACC oxidase 1) (Ethylene-forming enzyme) (EFE)/1-aminocyclopropane-1-carboxylic acid oxidase
Q1844124 Pelargonium x hortorum ACCA69977 Q1844124 aminocyclopropane carboxylate oxidase/1-aminocyclopropane-1-carboxylate oxidase
AAL35971 Medicago truncatula 1-aminocyclopropanecarboxylic acid oxidase
AAD28197 Triticum repens ABB97397 1-aminocyclopropane-1-carboxylate oxidase/ACC oxidase
BAC56950 Stinga hermorrhoida ACC oxidase
AAB07126 Nicotiana tabacum ACC oxidase
AAA91426 Nicotiana benthamiana ACC oxidase
AAE71119 Nicotiana tabacum ACC oxidase
CAA62646 Nicotiana tabacum ethylene forming enzyme (EFE)
AAR93934 Nicotiana attenuata ACC oxidase ACO1
AAA53466 Nicotiana tabacum ACC oxidase
CAA56468 Nicotiana tabacum 1-aminocyclopropane-1-carboxylate deaminase
Q93507 Petunia x hybrida AAA33907 ACCO3_PETHY 1-aminocyclopropane-1-carboxylate oxidase 3 (ACC oxidase 3) (Ethylene-forming enzyme) (EFE)/1-aminocyclopropane-1-carboxylic acid oxidase
AB051171 Nicotiana glutinosa ACC oxidase
BAB91068 Rumex palustris 1-aminocyclopropane-1-carboxylate oxidase
BAA31140 Rumex palustris 1-aminocyclopropane-1-carboxylic acid oxidase
BAA31141 Rumex palustris 1-aminocyclopropane-1-carboxylic acid oxidase
AAC13934 Phaseolus vulgaris 1-aminocyclopropane-1-carboxylic acid oxidase
BAB83762 Phaseolus lunatus 1-aminocyclopropane-1-carboxylic acid oxidase
ABB97399 Triticum repens ACC oxidase
AAD28198 Triticum repens ABB97396 1-aminocyclopropane-1-carboxylate oxidase/ACC oxidase
AAO27687 Vitis vinifera 1-aminocyclopropane-1-carboxylic acid oxidase 1
AAC49802 Vigna radiata 1-aminocyclopropane-1-carboxylate oxidase homolog
CAA64856 Musa acuminata 1-aminocyclopropane-1-carboxylate oxidase
AAL40948 Saccharum officinarum 1-aminocyclopropane-1-carboxylate oxidase
AAS20958 Saccharum officinarum 1-aminocyclopropane-1-carboxylate oxidase
AAC05306 Oryza sativa 1-aminocyclopropane-1-carboxylate oxidase
CAA59749 Oryza sativa (indica cultivar-group) 1-aminocyclopropane-1-carboxylate oxidase (ACC oxidase)
Q00934 Oryza sativa BAD36007 Oryza sativa (japonica cultivar-group) BAD08213 ACCO1_ORYSA 1-aminocyclopropane-1-carboxylate oxidase 1 (ACC oxidase 1) (Ethylene-forming enzyme) (EFE)/1-aminocyclopropane-1-carboxylate oxidase (ACC oxidase) /1-aminocycl
AAT09663 Phyllostachys pubescens 1-aminocyclopropane-1-carboxylic acid oxidase
AAR05564 Zea mays acc oxidase
AAR05565 Zea mays acc oxidase
NP_507001 Oryza sativa (japonica cultivar-group) XP_468017 AAO55007 Oryza sativa BAD16853 Oryza sativa (japonica cultivar-group) BAD16858 PREDICTED OJ1353_F08.16:1 gene product/1-aminocyclopropane-1-carboxylate oxidase homolog /1-carb
AES1174 Musa acuminata 1-aminocyclopropane-1-carboxylate oxidase
CAA11200 Musa acuminata ACC oxidase
AAB60006 Musa acuminata AAB68662 AAC31967 CAD41264 Mangifera indica AAR09030 Musa acuminata AAW66542 1-aminocyclopropane-1-carboxylic acid oxidase /1-aminocyclopropane-1-carboxylate oxidase /1-aminocyclopropane-1-carboxylate oxidase /putative aminocyc
AAX96340 Oryza sativa (japonica cultivar-group) ABA91820 1-aminocyclopropane-1-carboxylic acid oxidase/1-aminocyclopropane-1-carboxylate oxidase
AAC28448 Sorghum bicolor 1-aminocyclopropane-1-carboxylate oxidase
AAR05562 Zea mays acc oxidase
AAR05561 Zea mays acc oxidase
AAU44030 Oryza sativa (japonica cultivar-group) putative ACC oxidase
AAT09662 Phyllostachys pubescens 1-aminocyclopropane-1-carboxylic acid oxidase
CAP7959 Musa acuminata AAD43597 AAD43601 ACC1_MUSAC 1-aminocyclopropane-1-carboxylate oxidase (ACC oxidase) (Ethylene-forming enzyme) (EFE)/1-aminocyclopropane-1-carboxylic acid oxidase; ACC oxidase /1-aminocyclopropane-1-carboxylic acid oxidase; ACC
AAN07846 Populus tremula x Populus tremuloides 1-aminocyclopropane-1-carboxylic acid oxidase
CAD76627 Cicer arietinum 1-aminocyclopropane-1-carboxylic acid oxidase
AT1G77330 = NP_565154 AAG29196 AAN63764 unknown protein/1-aminocyclopropane-1-carboxylate oxidase, putative /1-aminocyclopropane-1-carboxylate oxidase, putative
NP_917808 Oryza sativa (japonica cultivar-group) BAB64860 BAC05831 putative 1-aminocyclopropane-1-carboxylic acid oxidase/putative 1-aminocyclopropane-1-carboxylic acid(ACC) oxidase (putative 1-aminocyclopropane-1-carboxylic acid(ACC) oxidase
BAD61846 Oryza sativa (japonica cultivar-group) putative 1-aminocyclopropane-1-carboxylic acid oxidase
AAF13056 Elaeis guineensis 1-aminocyclopropane-1-carboxylic acid oxidase
AAD51311 Capsicum chinense 1-aminocyclopropane-1-carboxylic acid oxidase
AAN29183 Solanum tuberosum ACC oxidase
CAA20095 Lycopersicon esculentum 1-aminocyclopropane-1-carboxylate oxidase
AT5G01600 = NP_179569 AAG51672 AAL34709 AAL33793 ACO1/ACO1_ARATH 1-aminocyclopropane-1-carboxylate oxidase /putative 1-aminocyclopropane-1-carboxylate oxidase /putative 1-aminocyclopropane-1-carboxylate oxidase
AAN34675 Mangifera indica ACC oxidase
CAC14586 Citrus sinensis Orysa sativa (japonica cultivar-group) BAB61862 putative anthocyanidin synthase/putative anthocyanidin synthase
AT4G03330 = NP_567491 CAB10410 CAB79825 oxidoreductase, acting on paired donors, with incorporation or reduction of molecular oxygen, 2-oxoglutarate as one donor, and incorporation of one atom each of oxygen into both donors/naringenin 3-dioxygenase
AAM65009 Arabidopsis thaliana 2-oxoglutarate-dependent dioxygenase, putative
AAM12973 Arabidopsis thaliana AAM67461 strong similarity to naringenin 3-dioxygenase/strong similarity to naringenin 3-dioxygenase
Smo_ACO2_87.1 Smo_ACO2_133.1
AT5G63590 = NP_201164 BAB10452 AAM63319 AAD24566 flavonol synthase/flavonol synthase /flavonol synthase (At5g63590
BAB61464 Ipomoea batatas flavonol synthase
AT5G08640 = NP_196481 Q96320 AAB17193 AAD55392 AAD55393 AAB51050 BAB10012 AAL24176 AAM65397 AAN13063 FLS (FLAVONOL SYNTHASE)/FLS1, ATFLS1 flavonol synthase/flavanone 3-hydroxylase (FLS 1) /flavonol synthase /flavonol synthase /flavo
AAO63024 Allium cepa AAS09804 anthocyanidin synthase/anthocyanidin synthase
BAB21477 Torenia fournieri anthocyanidin synthase
AAR15724 Gerbera hybrid cultivar anthocyanidin synthase
AAR15725 Gerbera hybrid cultivar anthocyanidin synthase
AAR15743 Gerbera hybrid cultivar anthocyanidin synthase
AAT09664 Phyllostachys pubescens 1-aminocyclopropane-1-carboxylic acid oxidase 2/anthocyanidin synthase 3
AAR05325 Glycine max anthocyanin synthase
AAB53995 Dianthus caryophyllus anthocyanidin synthase
AAF13054 Gypsophila elegans anthocyanidin synthase
P51091 Malus x domestica CAA53496 Malus sp. AAD26205 Malus x domestica BAB92098 AAZ79374 ABD04052 LDOX_MALDO Leucoanthocyanidin dioxygenase (LDOX) (Leucocyanidin oxygenase) (Leucoanthocyanidin hydroxylase) (Anthocyanidin synthase)/anthocyanidi
AC70819 Arabidopsis thaliana mutant protein of leucoanthocyanidin dioxygenase
AAB82087 Matthiola incana anthocyanidin synthase
AAO73440 Brassica oleracea var. capitata anthocyanidin synthase
CAD91994 Arabidopsis thaliana leucocyanidin dioxygenase
AT4G22880 = NP_193517/NP_193519 1GPI 1GPJ 1GPN Q96323 AAB06572 CAA15803 CAB78243 AAM65745 BAC75418 LDOX (TANNIN DEFICIENT SEED 4)/LDOX (TANNIN DEFICIENT SEED 4) /A Chain A, Anthocyanidin Synthase From Arabidopsis Thaliana Complexed With Trans-Dihydroq
AAO56581 Daucus carota leucoanthocyanidin dioxygenase 2
AAO56580 Daucus carota leucoanthocyanidin dioxygenase 1
AAU12368 Fragaria x ananassa AAU12369 anthocyanidin synthase/anthocyanidin synthase
AAL92151 Vitis labrusca x Vitis vinifera leucoanthocyanidin dioxygenase (LDOX) (Leucocyanidin oxygenase) (Leucoanthocyanidin hydroxylase)/leucoanthocyanidin dioxygenase
BAB11810 Vitis vinifera anthocyanidin synthase
AAF82018 Ipomoea purpurea anthocyanidin synthase
AAF82030 Ipomoea purpurea anthocyanidin synthase
AB084049 Ipomoea purpurea BAB71806 Ipomoea nil BAB71807 BAB71809 BAB71811 AAP82029 Ipomoea hederacea anthocyanidin synthase/anthocyanidin synthase /anthocyanidin synthase /anthocyanidin synthase /anthocyanidin synthase
BAA75306 Ipomoea batatas anthocyanidin synthase
AAA75305 Ipomoea batatas anthocyanidin synthase
BAD34462 Eustoma grandiflorum leucoanthocyanidin dioxygenase
P51092 Petunia x hybrida LDOX_PETHY Leucoanthocyanidin dioxygenase (LDOX) (Leucocyanidin oxygenase) (Leucoanthocyanidin hydroxylase)
AAS48200 Saussurea medusa anthocyanidin synthase
AAB66500 Callistephus chinensis anthocyanidin synthase
BAD07545 Vitis labrusca x Vitis vinifera leucoanthocyanidin dioxygenase
BAE54320 Spinacia oleracea anthocyanidin synthase
BAE54321 Phytolacca americana anthocyanidin synthase
AAB87092 Eustoma grandiflorum gibberellin 3-hydroxylase 1
BAE71810 Vitis vinifera flavonol synthase
NP_497968 Oryza sativa (japonica cultivar-group) BAD17324 putative flavonol synthase/putative flavonol synthase
BAD64648 Rosa hybrid cultivar 'Karintha' flavonol synthase
Q0WX52 Malus x domestica AAD52631 AAX89421 FLS_MALDO Flavonol synthase/flavanone 3-hydroxylase (FLS)/flavonol synthase /flavonol synthase
Q0WX09 Citrus unshiu BAA36054 FLS_CITUN Flavonol synthase/flavanone 3-hydroxylase (FLS) (CitFLS) /flavonol synthase
AAP57395 Petroselinum crispum flavonol synthase
ABB53380 Antirrhinum majus flavonol synthase
AAT68476 Allium cepa flavonol synthase
AAO63023 Allium cepa flavonol synthase
Q07512 Petunia x hybrida CAA80264 FLS_PETHY Flavonol synthase/flavanone 3-hydroxylase (FLS)/flavonol synthase
AC10995 Nierembergia sp. AB017 flavonol synthase
BAD34463 Eustoma grandiflorum flavonol synthase
BAE71807 Vitis vinifera flavonol synthase
BAE71808 Vitis vinifera flavonol synthase
BAE71809 Vitis vinifera flavonol synthase
BAE71808 Vitis vinifera flavonol synthase
Smo_ACO2_94.1
Smo_ACO2_113.1
Smo_ACO2_131.1
Ppa_ACO2_33.1
AAR01566 Sinningia cardinalis flavanone 3-hydroxylase
AAC68781 Iris x hollandica Flavanone 3-hydroxylase
BAD91800 Gentiana triflora BAD91807 flavanone 3-hydroxylase/flavanone 3-hydroxylase
Q05664 Dianthus caryophyllus CAA68839 CAA11180 FLH_DIACA Naringenin,2-oxoglutarate 3-dioxygenase (Flavanone-3-hydroxylase) (F3H) (FHT)/naringenin 3-dioxygenase /naringenin,2-oxoglutarate 3-dioxygenase
AAS20189 Gypsophila paniculata flavanone 3-hydroxylase
AAO73525 Persea americana flavanone 3-hydroxylase
AAO73526 Persea americana flavanone 3-hydroxylase
CAA55629 Medicago sativa flavanone 3-hydroxylase; naringenin 3-dioxygenase
ICA42741/3 Medicago sativa flavanone 3-hydroxylase
BAA75307 Ipomoea batatas flavanone 3-hydroxylase
BAA41102 Ipomoea purpurea flavanone 3-hydroxylase
BAA75308 Ipomoea batatas BAA75309 flavanone 3-hydroxylase/flavanone 3-hydroxylase
BAA21897 Ipomoea nil 2-oxoglutarate 3-dioxygenase; flavanone 3-hydroxylase; naringenin
AAX63401 Solanum pinnatisectum flavanone 3-hydroxylase
BAD56810 Torenia hybrida flavanone 3-hydroxylase
Q05903 Callistephus chinensis CAA11191 FL3H_CALCH Naringenin,2-oxoglutarate 3-dioxygenase (Flavanone-3-hydroxylase) (F3H) (FHT)/naringenin,2-oxoglutarate 3-dioxygenase
AAU06218 Glycine max flavanone 3-hydroxylase
AAT94365 Glycine max AAU06216 AAU06217 AAY60265 flavanone 3-hydroxylase/flavanone 3-hydroxylase /flavanone 3-hydroxylase /flavanone 3-hydroxylase
AAP57394 Petroselinum crispum flavanone 3beta-hydroxylase
AAX21540 Anethum graveolens flavanone-3-beta-hydroxylase
AAX21538 Ammi majus AAX21539 Ammi majus flavanone-3-beta-hydroxylase/flavanone-3-beta-hydroxylase
AAS01547 Ginkgo biloba flavanone 3-hydroxylase
Smo_ACO2_102.1
Smo_ACO2_102.2
Smo_ACO2_14.1
Ppa_ACO2_8.1
Smo_ACO2_134.2
Ppa_ACO2_75.2
AT4G15500 = NP_192788 AAO03425 CAB40043 CAB78173 AAG50160 BAD44461 BAD44674 oxidoreductase, acting on paired donors, with incorporation or reduction of molecular oxygen, 2-oxoglutarate as one donor, and incorporation of one atom each of oxygen into
AT4G15490 = NP_567062 AAO04242 CAB40042 CAB78172 AAD13990 AAD55553 oxidoreductase, acting on paired donors, with incorporation or reduction of molecular oxygen, 2-oxoglutarate as one donor, and incorporation of one atom each of oxygen into both dono
NP_473642 Oryza sativa (japonica cultivar-group) CAD41170 OSJNBa0064M23.13 OSJNBa0064M23.13 OSJNBa0064M23.14
NP_188578 Oryza sativa (japonica cultivar-group) AAM18609 Putative flavanone 3-hydroxylase/Putative flavanone 3-hydroxylase
AT5G24530 = NP_197841 BAB11200 AAD22351 AAF08317 AAM91273 unknown protein/Strong similarity to gb|AAD22351 from Arabidopsis thaliana. unknown protein /flavanone 3-hydroxylase, putative
AT5G24530 = NP_197841 BAB11200 AAD22351 AAF08317 AAM91273 oxidoreductase, acting on paired donors, with incorporation or reduction of molecular oxygen, 2-oxoglutarate as one donor, and incorporation of one atom each of oxygen into both donors/flavan
AT1G55290 = NP_175925 AAG51560 AAP82264 AAD76231 unknown protein/leucoanthocyanidin dioxygenase 2, putative; 51304-52313 /At1g55290 /At1g55290
AT5G39870 = NP_199156 CAB78181 CAC19797 AAD10957 AAS49108 BAD92049 oxidoreductase, acting on paired donors, with incorporation or reduction of molecular oxygen, 2-oxoglutarate as one donor, and incorporation of one atom each of oxygen into both donors/leucoanthocyani
BAD98961 Lycopersicon esculentum 2-oxoglutarate-dependent dioxygenase
Q04667 Catharanthus roseus AAC49826 AAC49827 AAB97311 DIVA1_CATRO Deacetylvindoline 4-hydroxylase/deacetylvindoline 4-hydroxylase /deacetylvindoline 4-hydroxylase /deacetylvindoline 4-hydroxylase
AAD36147 Prunus armeniaca unknown
AAX68810 Arabidopsis thaliana 1-aminocyclopropane-1-carboxylate oxidase
AT5G03400 = NP_199158 BAA97424 AAT70493 unknown protein/1-aminocyclopropane-1-carboxylate oxidase /At5g03400
AT5G03440 = NP_199157 BAA97423 AAL10012 unknown protein/1-aminocyclopropane-1-carboxylate oxidase /AT5g03440/MNP20_15 /At5g03440/MNP20_15
AT5G59540 = NP_200762 BAA97468 AAL11609 ABD85106 ATP binding/hydrogen-transporting ATP synthase, rotational mechanism /hydrogen-transporting ATPase, rotational mechanism /oxidoreductase /leucoanthocyanidin dioxygenase-like protein /AT5g59540/f2d15_2
AAT71189 Lycopersicon esculentum E8 protein homolog
P10967 Lycopersicon esculentum CAA31789 ACCO3_LYCES 1-aminocyclopropane-1-carboxylate oxidase homolog (Protein E8)/E8 protein
Ppa_ACO2_37.1
Ppa_ACO2_39.1
Ppa_ACO2_40.1
Smo_ACO2_65.1
Smo_ACO2_32.1
Smo_ACO2_68.1
Smo_ACO2_4.1
Smo_ACO2_77.1
Smo_ACO2_41.1
Smo_ACO2_43.2
AAB66347 Cucurbita maxima gibberellin 2beta,3beta-hydratase
AAF90661 Citrullus lanatus var. lanatus putative gibberellin 3 beta hydroxylase
BAD06804 Oryza sativa (japonica cultivar-group)
AT1G15990 = NP_173508 Q9FJ30 AAD27506 AAF71900 AAO64762 GA4 (GA REQUIRING 4), gibberellin 3-beta-dioxygenase/GA3OX1, ARATH Gibberellin 3-beta-dioxygenase 1 (Gibberellin 3 beta-hydroxylase 1) (GA 3-oxidase 1)/AtGA3ox1/GA4 /GA4 protein /At1g15550
AT1G80330 = NP_177599 Q9SAK3 AAD25811 AAF87305 gibberellin 3-beta-dioxygenase/GA3OX2, ARATH Gibberellin 3-beta-dioxygenase 2 (Gibberellin 3 beta-hydroxylase 2) (GA 3-oxidase 2) (AtGA3ox2)/gibberellin 3 beta-hydroxylase; 29683-28215
AAC68820 Pisum sativum AAC49703 gibberellin 3 beta-hydroxylase/gibberellin 3 beta-hydroxylase
AAC98017 Pisum sativum AAC98015 AAC49754 defective gibberellin 3B-hydroxylase/gibberellin 3B-hydroxylase /gibberellin 3 beta-hydroxylase
AAB58629 Pisum sativum AAC49792 2-oxoglutarate-dependent dioxygenase/gibberellin 3 beta-hydroxylase
AAR21992 Populus tremula x Populus tremuloides gibberellin 3-oxidase
BAD66943 Ipomoea nil gibberellin 3-oxidase-like protein
AAM97570 Spinacia oleracea gibberellin 3-oxidase
BAD30036 Daucus carota gibberellin 3beta-hydroxylase2
BAA37139 Lactuca sativa gibberellin 3beta-hydroxylase
BAD91162 Prunus subhirtella gibberellin 3-beta hydroxylase
AAN01506 Solanum tuberosum gibberellin 3-beta-hydroxylase 2
AAA34120 Lycopersicon esculentum 3b-hydroxylase
AAA34119 Lycopersicon esculentum CAA43507 CAA43508 Solanum tuberosum 3b-hydroxylase/gibberellin 3-beta-hydroxylase 1
AAM90014 Nicotiana tabacum gibberellin 3beta-hydroxylase
AAM12973 Nicotiana sylvestris gibberellin 3-oxidase 1
AAM12972 Nicotiana sylvestris gibberellin 3-oxidase 2
Smo_ACO2_98.1
XP_482984 Oryza sativa (japonica cultivar-group) BAD09760 BAD13270 putative flavonol synthase/putative flavonol synthase /putative flavonol synthase
XP_507337 Oryza sativa (japonica cultivar-group) XP_483774 BAD13144 BAD13265 PREDICTED:P0682A08.31 gene product/putative iron deficiency protein ids3 /putative iron deficiency protein ids3
AT2G36690 = NP_181207 AAO01405 oxidoreductase, acting on paired donors, with incorporation or reduction of molecular oxygen, 2-oxoglutarate as one donor, and incorporation of one atom each of oxygen into both donors/putative gibberellin beta-hydroxyl
Smo_ACO2_5.1
Smo_ACO2_146.2
Smo_ACO2_110.1
Smo_ACO2_95.1
Smo_ACO2_60.1
Smo_ACO2_62.1
Smo_ACO2_7.1
Smo_ACO2_138.1
Smo_ACO2_142.1
Smo_ACO2_37.1 Smo_ACO2_120.1 Smo_ACO2_63.1 Smo_ACO2_84.1 Smo_ACO2_39.1 Smo_ACO2_36.1 Smo_ACO2_33.1
Smo_ACO2_64.1
Smo_ACO2_17.1
Smo_ACO2_3.1
Smo_ACO2_199.1
Smo_ACO2_67.1 Smo_ACO2_72.1
NP_915344 Oryza sativa (japonica cultivar-group) BAD73770 leucoanthocyanidin dioxygenase-like protein/putative anthocyanidin synthase
NP_479566 Oryza sativa (japonica cultivar-group) AAS90988 putative leucoanthocyanidin dioxygenase (EC 1.14.11.-)/putative leucoanthocyanidin dioxygenase
AAS93134 Oryza sativa (japonica cultivar-group) BAA93253 leucoanthocyanidin dioxygenase-like protein/AT5G01310 leucoanthocyanidin dioxygenase-like protein
AT2G38240 = NP_181359 AAC27173 AAL31291 AAM63920 unknown protein/putative anthocyanidin synthase /putative anthocyanidin synthase /putative anthocyanidin synthase
AT3G59970 = NP_191156 CAB67881 CAC19797 iron ion binding/isopenicillin-N synthase /leucoanthocyanidin dioxygenase-like protein /putative leucoanthocyanidin dioxygenase
AT4G10500 = NP_192778 CAB45644 AAD00024 AAM29164 unknown protein/Strong similarity to gb|AAD00024 from Arabidopsis thaliana. unknown protein /putative anthocyanidin synthase /putative anthocyanidin synthase
AT5G05600 = NP_196178 AAM13297 AAM91465 AAN31991 iron ion binding/isopenicillin-N synthase /leucoanthocyanidin dioxygenase-like protein /AT5g05600/MOP10_14 /AT5g05600/MOP10_14
AT3G11180 = NP_187728 AAF01507 AAD50980 iron ion binding/isopenicillin-N synthase /putative leucoanthocyanidin dioxygenase /leucoanthocyanidin dioxygenase, putative; 41415-43854
AT