YUCCA (AT4G32540): global tree
File name: FMO.njtree0.svg
269 aa residues 83 OTU included.

Assemble Job Id: wqyNxW
Tree job id: aFUgI7
BP values out of 100
Analyzed by shino@nibb.ac.jp
Date: Wed Oct 18 17:17:49 JST 2006

AT4G32540 = NP_194980 CAB43691 CAB79971 AAL23750 YUC (**YUCCA**); disulfide oxidoreductase/monooxygenase/oxidoreductase /dimethylaniline monooxygenase-like protein /dimethylaniline monooxygenase-like protein /flavin-containing monooxygenase YUCCA

AT5G11320 = NP_196693 NP_850808 CAB96667 disulfide oxidoreductase/monooxygenase/oxidoreductase /disulfide oxidoreductase/monooxygenase/oxidoreductase /putative protein

AAK74069 *Petunia x hybrida* flavin monooxygenase-like protein floozy

NP_917203 *Oryza sativa* (japonica cultivar-group) BAD68007 P0707D10.20/flavin-containing monooxygenase-like

NP_913428 *Oryza sativa* (japonica cultivar-group) BAB07916 BAB32703 dimethylaniline monooxygenase-like protein/putative flavin-containing monooxygenase YUCCA3 /putative flavin-containing monooxygenase YUCCA3

ABA99096 *Oryza sativa* (japonica cultivar-group) expressed protein

AAU43964 *Oryza sativa* (japonica cultivar-group) putative dimethylaniline monooxygenase

NP_916435 *Oryza sativa* (japonica cultivar-group) BAD87432 putative dimethylaniline monooxygenase/putative flavin monooxygenase-like protein floozy

AT5G25620 = NP_197944 AAL38705 AAM44899 disulfide oxidoreductase/monooxygenase/oxidoreductase /unknown protein /unknown protein

AT4G13260 = NP_193062 CAB41936 CAB78368 AAL23751 AAM91625 disulfide oxidoreductase/monooxygenase/oxidoreductase /putative protein /putative protein /flavin-containing monooxygenase YUCCA2 /unknown protein

NP_912652 *Oryza sativa* (japonica cultivar-group) AAN06861 Putative flavin-containing monooxygenase/Putative flavin-containing monooxygenase

XP_471144 *Oryza sativa* (japonica cultivar-group) CAE03813 CAE76085 B1340F09.23/OSJNBa0027H09.13 /B1340F09.23

BAD53070 *Oryza sativa* (japonica cultivar-group) dimethylaniline monooxygenase-like protein — (having only about 50 aa residues of alignable region)

XP_477812 *Oryza sativa* (japonica cultivar-group) BAC80117 putative dimethylaniline monooxygenase/putative dimethylaniline monooxygenase

AT2G33230 = NP_180881 AAC04900 disulfide oxidoreductase/monooxygenase/oxidoreductase /putative flavin-containing monooxygenase

AT1G04610 = NP_171955 AAB80641 AAL23752 AAR92277 AAS99690 disulfide oxidoreductase/oxidoreductase /Contains similarity to human dimethylaniline monooxygenase (gb|M64082). /flavin-containing monooxygenase YUCCA3 /At1g04610 /At1g04610

AT4G28720 = NP_194601 CAB81460 disulfide oxidoreductase/monooxygenase/oxidoreductase /putative protein /putative protein

AT5G43890 = NP_199202 BAA98069 AAZ93924 disulfide oxidoreductase/monooxygenase/oxidoreductase /dimethylaniline monooxygenase-like /putative flavin monooxygenase protein

AT1G04180 = NP_171914 AAC16744 disulfide oxidoreductase/monooxygenase/oxidoreductase /Contains similarity to myosin IB heavy chain gb|X70400 from Gallus gallus.

Ppa_FMO_12_1

Smo_FMO_31_1
Smo_FMO_7_1
Smo_FMO_29_1
Smo_FMO_40_1
Smo_FMO_33_1
Smo_FMO_44_2
Ppa_FMO_33_1
Ppa_FMO_5_1
Ppa_FMO_58_2
Ppa_FMO_2_1
Ppa_FMO_17_1

XP_493785 *Oryza sativa* (japonica cultivar-group) BAA88198 unnamed protein product/putative flavin-containing monooxygenase YUCCA3

XP_493782 *Oryza sativa* (japonica cultivar-group) BAA88195 unnamed protein product/putative flavin-containing monooxygenase YUCCA3

BAD28283 *Oryza sativa* (japonica cultivar-group) putative flavin-containing monooxygenase

AAF34433 *Oryza sativa* ABA92044 *Oryza sativa* (japonica cultivar-group) hypothetical protein, similar to flavin-containing monooxygenases/hypothetical protein LOC_Os11g10140

AAF34432 *Oryza sativa* ABA92047 *Oryza sativa* (japonica cultivar-group) hypothetical protein, similar to flavin-containing monooxygenases/hypothetical protein LOC_Os11g10170

ABA96025 *Oryza sativa* (japonica cultivar-group) hypothetical protein LOC_Os12g08780

AT1G48910 = NP_175321 AAG29745 AAY78644 disulfide oxidoreductase/monooxygenase/oxidoreductase /flavin-containing monooxygenase, putative /flavin-containing monooxygenase family protein

AT1G21430 = NP_173564 AAF87896 disulfide oxidoreductase/monooxygenase/oxidoreductase /Similar to flavin-containing monooxygenases

NP_108142 *Mesorhizobium loti* MAFF303099 BAB53603 similar to dimethylaniline monooxygenase/mll7934

ZP_01014973 *Rhodobacterales bacterium* HTCC2654 EAQ11344 monooxygenase domain protein/monooxygenase domain protein

ZP_01113475 *Reinekea* sp. MED297 EAR10751 monooxygenase domain protein/monooxygenase domain protein

YP_274963 *Pseudomonas syringae* pv. phaseolicola 1448A AAZ34172 monooxygenase, flavin-binding family/monooxygenase, flavin-binding family

YP_363819 *Xanthomonas campestris* pv. vesicatoria str. 85-10 CAJ23765 FAD containing monooxygenase/FAD containing monooxygenase

NP_989910 *Gallus gallus* CAD24095 flavin containing monooxygenase 6/flavin-containing monooxygenase 3

XP_579668 *Rattus norvegicus* AAH70883 PREDICTED: flavin containing monooxygenase 5/Flavin containing monooxygenase 5

NP_653340 *Rattus norvegicus* Q8K4C0 AAM46761 flavin containing monooxygenase 5/FMO5_RAT Dimethylaniline monooxygenase /flavin-containing monooxygenase 5

XP_428989 *Gallus gallus* PREDICTED: similar to Dimethylaniline monooxygenase

YP_497094 *Novosphingobium aromaticivorans* DSM 12444 ABD26260 Dimethylaniline monooxygenase (N-oxide forming)/Dimethylaniline monooxygenase (N-oxide forming)

NP_842204 *Nitrosomonas europaea* ATCC 19718 CAD86111 Flavin-containing monooxygenase (FMO)/Flavin-containing monooxygenase (FMO)

YP_094866 *Legionella pneumophila* subsp. pneumophila str. Philadelphia 1 YP_123221 *Legionella pneumophila* subsp. pneumophila str. Philadelphia 1 CAH12044 *Legionella pneumophila* str. Paris flavin contain

YP_126221 *Legionella pneumophila* str. Lens CAH15096 hypothetical protein lpl0862/hypothetical protein

ZP_00998249 *Oceanicola batsensis* HTCC2597 EAQ04185 monooxygenase/monooxygenase

NP_624461 *Streptomyces coelicolor* A3(2) CAB52349 flavin-containing monooxygenase (putative secreted protein)/putative flavin-containing monooxygenase (putative secreted protein)

YP_511652 *Jannaschia* sp. CCS1 ABD56627 flavin-containing monooxygenase FMO/flavin-containing monooxygenase FMO

NP_105404 *Mesorhizobium loti* MAFF303099 BAB51190 dimethylaniline monooxygenase/dimethylaniline monooxygenase

ZP_00671157 *Nitrosomonas eutropha* C71 EAO16315 FAD-dependent pyridine nucleotide-disulfide oxidoreductase/FAD-dependent pyridine nucleotide-disulfide oxidoreductase

NP_841963 *Nitrosomonas europaea* ATCC 19718 CAD85856 FAD-dependent pyridine nucleotide-disulfide oxidoreductase/FAD-dependent pyridine nucleotide-disulphide oxidoreductase

ZP_01193341 *Mycobacterium flavescens* PYR-GCK EAS10221 Flavin-containing monooxygenase FMO:FAD dependent oxidoreductase/Flavin-containing monooxygenase FMO:FAD dependent oxidoreductase

NP_628584 *Streptomyces coelicolor* A3(2) CAC08425 monooxygenase/putative monooxygenase

NP_825004 *Streptomyces avermitilis* MA-4680 BAC71539 monooxygenase/putative monooxygenase

ZP_00998291 *Oceanicola batsensis* HTCC2597 EAQ04227 dimethylaniline monooxygenase-like protein/dimethylaniline monooxygenase-like protein

XP_570814 *Cryptococcus neoformans* var. neoformans JEC21 EAL20714 *Cryptococcus neoformans* var. neoformans B-3501A AAW43507 *Cryptococcus neoformans* var. neoformans JEC21 flavin-containing monooxygenase/hypothetical protein CNBE0790 /flavin-containi

ZP_00570334 *Frankia* sp. EAN1pec EAN15447 flavin-containing monooxygenase/flavin-containing monooxygenase

XP_367718 *Magnaporthe grisea* 70-15 hypothetical protein MG07629.4

XP_681620 *Aspergillus nidulans* FGSC A4 EAA66913 hypothetical protein AN8351.2/hypothetical protein AN8351.2

BAE59140 *Aspergillus oryzae* unnamed protein product

XP_748309 *Aspergillus fumigatus* Af293 EAL86271 flavin-containing monooxygenase/flavin-containing monooxygenase, putative

XP_384091 *Gibberella zeae* PH-1 EAA73383 hypothetical protein FG03915.1/hypothetical protein FG03915.1

YP_495533 *Novosphingobium aromaticivorans* DSM 12444 ABD24699 flavin-containing monooxygenase FMO/flavin-containing monooxygenase FMO

NP_105317 *Mesorhizobium loti* MAFF303099 BAB51103 hypothetical protein mlr4448/mlr4448

NP_737222 *Corynebacterium efficiens* YS-314 BAC17422 putative monooxygenase protein/putative monooxygenase protein

NP_602077 *Corynebacterium glutamicum* ATCC 13032 YP_227126 BAC00281 CAF20910 predicted flavoprotein involved in K+ transport/Flavin-containing monooxygenase (FMO) /Predicted flavoprotein involved in K+ transport /Flavin-containing monooxygenase (FMO)

Smo_FMO_10_1

ZP_00378860 *Brevibacterium linens* BL2 COG2072: Predicted flavoprotein involved in K+ transport

YP_119159 *Nocardia farcinica* IFM 10152 BAD57795 hypothetical protein nfa29480/hypothetical protein

YP_486778 *Rhodopseudomonas palustris* HaA2 ABD07867 Flavin-containing monooxygenase FMO/Flavin-containing monooxygenase FMO

NP_774329 *Bradyrhizobium japonicum* USDA 110 BAC52954 putative monooxygenase protein/bll7689

ZP_01037765 *Roseovarius* sp. 217 EAQ23600 hypothetical protein ROS217_07979/hypothetical protein ROS217_07979

ZP_01144972 *Acidiphilium cryptum* JF-5 EAR40911 flavin-containing monooxygenase, putative/flavin-containing monooxygenase, putative

ZP_01144928 *Acidiphilium cryptum* JF-5 EAR40867 putative flavoprotein involved in K+ transport/putative flavoprotein involved in K+ transport

NP_983524 *Eremothecium gossypii* AAS51348 *Ashbya gossypii* ATCC 10895 ACR122Cp/ACR122Cp

XP_461557 *Debaryomyces hansenii* CBS767 CAG90003 hypothetical protein DEHA0G00781g/unnamed protein product

XP_456375 *Debaryomyces hansenii* CBS767 CAG84322 hypothetical protein DEHA0A01188g/unnamed protein product

0.100