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CYP76C2      1  -----MDIIFEQALFPLFCFVLSFFIIFFTTTRPRS-SRKVVPSPPGPPRLPIIGN-----IHLVG
CYP76C4      1  -----MDIISGQALFLLFCFISSCFLISTTARSRRS-SGRAATLPPGPPRLPIIGN-----IHQVG
CYP76C1      1  -----MDIISGQALLLLFCFILSCFLIFTTTRSGRI-SRGATALPPGPPRLPIIGN-----IHLVG
CYP76C5      1  -----MDIISGQPMFLLFCFILSCFLFFTAARSRRSPTQVLSKSPPGPPRLPIIGN-----IHLVG
CYP76C6      1  -----MDIISGQPLFLIFCFILSCLLFFTTARSRRSPCQLS-KSPPGPPRLPIIGN-----IHLVG
CYP76C3      1  -----MSLPLYFLLTLFFFFFATAKTRR-SSSTGTLPPGPPILPLVGN-----IFQIG
CYP76C7      1  -----MDIVAVLSLLFIFFLFFFYTTGKS-CPGAKNPPGPKLSLLRN-----ILQTV
CYP76G1      1  -----MINQLTKNELIGLFTSIAVLIYVTCFLFYTKRCRTRLPPGPNPWPVIGN-----IFQLA
CYP75B1      1  -----MATLFIITILLATVLFILIRIFSHRRNRSHNNRLLPPGPNPWPVIGN-----LPHMG
CYP705A1     1  -----MDAIVVDSQNCFIIILLCSFSLISYFVFFKK-----PKVNFDLPPSPPSLPIIG-----HLHLL
CYP705A24    1  -----MTVMVSFDLLNCFIFTLIFLITLFLFVLFYKK-----PNDGFDVPPSPPSLPIIG-----HLHLL
CYP705A12    1  -----MAELIIVDFQNISIFILLCLFSFLCYALFFKKP-----KGFDLPPSPPSLPIIG-----HLHLLS
CYP705A13    1  -----MATIVVDFQKIHFPQILLSIFTVICIFVFFFKPKGS--RGCDLPPSPPSLPIIG-----HLHLLF
CYP705A15    1  -----MAAMNIVDFQNCFFVLLSLFSLCYSLFFRK---PKEPRLHYDLPPSPPSLPIIG-----HLHLL
CYP705A4     1  -----MIDFQNCFIFILLCLFSRLCYSHFFKK---PKDPRLHFDLPPSPPSLPIIG-----HLHLL
CYP705A16    1  -----MAAMINVEFQNCFIFMLLCLFSLLCYSLFFRK-PSSRQNSYDCDLPPSPPSMPVIG-----HLHLL
CYP705A19    1  -----MTTTEFQSCFIFLLCLFSLVCYSLFFRK-PSSRRDAHGCDLPPSPPSLPVIG-----HLHLL
CYP705A28    1  -----MAAMITVDFQNSFAFIFLCLFSLLCYSLFFRK-AKGSRA--GRDLPPSPPSFPVIG-----HLHLL
CYP705A30    1  -----MAAMITVDFQNSFIFILFFLFSLLCYSLFFRK-PKGSRA--GRDLPPSPPSFPVIG-----HLHLL
CYP705A32    1  -----MAAMITVDFQNSFIFILFCLFSLICYSLLFFRK-PKDSRA--GRDLPPSPPSFPVIGSPQSNLHLL
CYP705A2     1  -----MAVLIIFILLCLLSFLCYSLFFMK-PKDSRD--GRDLPPSPPSLPIIG-----HLHLL
CYP705A5     1  -----MITVDFENCIFILLCLFSRLSYDLFFRK-TKDSRA--GCALPPSPPSLPIIG-----HLHLL
CYP705A23    1  -----MAAMLTVDFQNCIFILLCILLLLCYPLFFKK-PKVSQD--GFGLPPSPLSLPIIG-----HLHLLF
CYP705A20    1  -----MLTVDSQHCFSFILLCFFSLLCYSLFFKCLKDS---HVGRDLQSQPPSLPIIG-----HLHLL
CYP705A21    1  -----MAAIGDCFIFILLCLFSLLFYLIIFRKPKNSRLVAYGCDLPPSPPSLPIIG-----HVHLL
CYP705A18    1  -----MATLISVDFQHCIFYIILLCLFSLLCYSLFFRKPKGTRVG--CDLPPSPPSLPIIG-----HLHLL
CYP705A6     1  -----MAAILSVDFQNCFIFIVLCLFS-LFCYSLFFKKPKHPRG---CDLPPSPPSLPIIG-----HLHLLF
CYP705A33    1  -----MAAFISVDFQNCFIFILLCFFS-LLCYSLFFKKPKDSRG---CDLPPSPPSLPIIG-----HLHLL
CYP705A3     1  -----MIAIIVEFQNFIFILLCLFS-LLCHSLFFKKPKDSRS---FVLPSSPPSLPIIG-----HLHLL
CYP705A22    1  -----MEAVISVDFQNCFIFILIFLLT-FLCFFFFFKPKDSRVN--FDLPPSPPSLPIIG-----HVHLL
CYP705A8     1  -----MGEIMNVDFVNCLILILLCLLSILCYSFFFKK-----PKDGFNLPPSPPSLPIIG-----HLHLL
CYP705A9     1  -----MNVDFQNCILILLCLLSFLCYSFFFKK-----PKDGFNLPPSPPSLPIIG-----HLHLL
CYP705A25    1  -----MAAISVDFQLCFIFILLAIFFSLFCFSAFFFK-KPKDPQLQGCGLPPSPPSLPIIG-----HLHLL
CYP705A27    1  -----MAAITVDFQLCFIFILLGIFSLFCLSAFFFK-KPKDPQLQGCGLPPSPPSLPVIG-----HLHLL
CYP712A1     1  -----MDLKLNTKLIILITSLAFPFLYALFKWFLKEQGLAATKLPQSPPALPFI-----HLHLI
CYP712A2     1  -----MFTLNLDMNYTSCSYLFFTLVTIFLLHRLFSSSSRRGLPPGPRGLPVIG-----HMHL
CYP93D1      1  -----MVDLQYFSVILVCLGITVLIQAITNR-----LRDRLPPLPPSPALPIIG-----HIHL
CYP81D6      1  -----MHVSIQHIYKFLDLNMETYFLLLSLAFFLFI SVKLLFGKRLSKFNLPSPARPLPIIGH--LHLKLP
CYP81D7      1  -----METHFLILSLAFLFFISLKLFGKRHSKFNLPSPARPLPIIGH--LHLKQP
CYP81D11     1  -----MSSTKTIMETIYLILSLFFFFIFLSLKLFGPRPRKLNLPSPSRPPIIGH--LHLKLP
CYP81D2      1  -----MEALMLIFTFCFIVLSLIFLIGRIKRLNLPSPAWALPIIGH--LRLKPP
CYP81D3      1  -----MEGQTLIFTFLFISLSLTFIIGRIKRRPNLPSPSWALPIIGH--LRLKPP
CYP81D8      1  -----METKTLIFSILFVVLISLIYLIGLKRKPNLPSPAWSLPVIGH--LRLKPP
CYP81D4      1  -----MDLNQILILSFLSLFTLAIFLLTRSKRKLNLPSPAISLPVIGH--LHLKPP
CYP81D5      1  -----MDLTQILLLSFLFLTISIKLLLLTKSNRKNLPSPAYPLPVIG-----HHLKQP

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CYP81D1 1 -----MEETNIRVVLYSIFSLIFLIISFKFLKPKKQNLPPSPPGWLPPIIGH--LRLLKPP
CYP81F3 1 -----MFYVIVLPLALFLAYKLFFTSKTKRFNLPPSPPYSLPIIGH--HNLKPP
CYP81F4 1 -----MFNYVILPLALFLAYKFFFSTKQRYLPPSPSYSLPPIIGH--HLIKPP
CYP81F2 1 -----MDYVIVLPLALFLAYKFLFSSKTQGFNLPPGP-TPFPVIGH--LHLVKPP
CYP81F1 1 -----MLYFILLPLFLVLSYKFLYS-KTQRFNLPPGP-PSRPFVIGH--LHLMKPP
CYP81H1 1 -----MDCILLILTTLVAIFIVKIVLLVTKPNKNLPPSPNICFPPIIGH--LHLKKP
CYP81G1 1 -----MRLVSRIMCSRGMIDLFLALMAGFIAVAVVFRSKQKKNLPPNP-VGFPVIGH--LHLKKEP
CYP81K1 1 -----MEDLWFIFFSFLTATLITFFITKFLWSLNSKLPSP-TPLPIIGH--LHLIKKY
CYP81K2 1 -----MENLWVIFLLTATLITFFITKFLWSQNPKLPPSP-TPLPIIGH--LHLINKY
CYP82C3 1 -----MDTSLFSLFVSIILVVFIALFKKSKKPK--YVKAPAPSGAWPIIGH--LHLGGK
CYP82C4 1 -----MDTSLFSLFVPIILVVFIALFKKSKKPK--YVKAPAPSGAWPIIGH--LHLGGK
CYP82C2 1 -----MDTSLFSLFVPIILVVFIALFKKSKKPK--HVKAPAPSGAWPIIGH--LHLGSK
CYP82F1 1 -----MDLIMFLLSALFIFPVILIKSRLRPNKKNSTAPMVEGAWPIIGH--LHLFDTV
CYP82G1 1 -----MTFLFSTLQLSLFLSALVIFGYIFLRKQLSRCEVDSSTIPEPLGALPIIGH--LHLRKG
CYP71A12 1 -----MEMILMVSLCLTTLITLFLKQFLKRTANKVNLPPSPWRLPIGN--LHQLS
CYP71A13 1 -----MEMILSISLCLTTLITLFLLRFLKRTATKVNLPSPWRLPIGN--LHQLS
CYP71A18 1 -----MEMTLMVSLCLTTLITLFLLRFLKRTAKKVNLPSPWRLPIGN--LHQLS
CYP71A14 1 -----MEMIISLCLATILALLLKLQFLNRTYAKVNLPPSPWRLPIGN--LHQLS
CYP71A15 1 -----MEIISLCLATILAFLLKPLLN-RTVAKDNLPPSPWRLPIGN--LHQLS
CYP71A19 1 -----MEIILVTLCLTTLALLLKSILKRTTNNLNLPPSPWRLPIGN--LHQLS
CYP71A20 1 -----MILITLCLTTLALLLKS-ILKRTATKNFNLPSPWRLPIGN--LHQLS
CYP71A27 1 -----MEMILISLCLTTLAFLLKPLLRITTTKPKLPPSPWRLPIGN--LHQLG
CYP71A16 1 -----MEMMILISLCLTTLTLLFFKSLKRPNS--NLPPSPWRLPIGN--LHQLS
CYP71A28 1 -----MILISLCLTTLAFLLNPLLKRTTTTKPNQPPSPWRLPIGN--LHQLS
CYP71A21 1 -----MESMTMIIQLSLIIFITILFFKKQKRGKKSNTPRSPRPLPIGN--LHQLG
CYP71A22 1 -----MESMIRIILLSLIIFITILFFIKQKKGKKSNTPASPRPLPIGN--LHQLG
CYP71A24 1 -----MMMMIILLCSIILITILFFKKQSRGKKSNAAPPSPRPLPIGN--LHQLG
CYP71A26 1 -----MMIMFFLLCSIIFVVTIIFRQKRGKRRNTLPPSPGLPIGN--LHQLG
CYP71A25 1 -----MMMIIILLWSIIFMTILFLKQLSGKKGKTPSPSPGLPIGN--LHQLG
CYP71A23 1 -----MILFLCLTILFIIITILFFKHKTVNKIINFSPRPLPIGN--LHQLS
CYP71B36 1 -----MATILFLSLLFLSCLLAAAFTHKKRQHQKPPSPPGFPIGN--LHQLG
CYP71B37 1 -----MATIWFPLFLFLSCLLAAALRLKRRQHQKPPSPPGFPIGN--LHQLG
CYP71B9 1 -----MATIWFSLFLFLCCLLAAAFKHKRRTNQQPPSPPGFPIGN--LHQLG
CYP71B10 1 -----MTVLWVSLILLISILLVAVKHSKRR-WVRQPPSPGLPIGN--LHQLG
CYP71B26 1 -----MDSIWLSSLFFIIFLLAAAFKRKNHGKRRIPSPPGFPIGN--LHQLG
CYP71B33 1 -----MVNIIILSLLFLVILLLLTAFAKRRQHRPIPSPPGFPIGN--LHQLG
CYP71B34 1 -----MTNIWLLSLIFVICILVAVFNHKNRRNYQRTPPSPPGCPPIGN--LHQLG
CYP71B35 1 -----MAHIWLLPLIFLVCILLAVFNHKKHPKYRQFP-CPPGFPPIGN--LHQLG
CYP71B11 1 -----MSLWYIIVAVVFFSTIIVRNTRKTKKNLPPGPPRLPIGN--LHQLG
CYP71B12 1 -----MSLWYIIVAVVFFSSMIIVRIIRKTKKNLPPGPPRLPIGN--LHQLG
CYP71B14 1 -----MIWWFIVGASFFFAFILIADTRTTKKNLPPGPPRLPIGN--LHQLG
CYP71B13 1 -----MSLWYIIVVVFVFFASIFIAKNTRKTKKNLPPGPPRLPIGN--LHQLG
CYP71B6 1 -----MSLFSFPISTELLPWLLLLLIPPLLIFFLLRSPKNLPPGPPRLPIGN--LHQLG
CYP71B28 1 -----MSVFLCFLCLLPLILIFL---KNLKP SKWKLPPGPKLPIGN--LHQR
CYP71B29 1 -----MAIILCFLILPLILIFL---KCLKH SKWKLPPGPKLPIGN--LHQLG

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CYP71B7      1 -----MSILLCFLCLLPVFLVSLVSLSKRLKPSKWKLPPEGKTLPIIGN-----LHNLIT
CYP71B15     1 -----MSVFLCFLVLLPLILIFLN---VLKPSKYKLPPEGKLPPIIGN-----LHQRR
CYP71B23     1 -----MSIFLCFLLLLLLLLVTTIIFT-RKSQSSKLLKLPPEGPKLPPIIGN-----LHYLN
CYP71B16     1 -----MAISLLCLFLITLVSLI--FVVKKIKHSKWDLPSPPTFPVIGN-----LHQVG
CYP71B17     1 -----MAISLLCLFLITFVSLT--IVGCKIKRSIWNLPSPPKLPVIGN-----LHQVG
CYP71B18     1 -----MAISLLLSFLIAFASLI--FLGKKIKRSKWNFPSPPKFPVIGN-----LHQIG
CYP71B19     1 -----MAISFLCVFLITFVSLI--FFAKKIKRSKWNLPSPPKFPVIGN-----LHQIG
CYP71B20     1 -----MAISFLCFCLITLASLI--FFAKKIKHLKWNLPSPPKFPVIGN-----LHQIG
CYP71B2      1 -----MTIILCFFFLVSLLTIVSSIFLQNKTSKFNLPSPSSLPPIIGN-----LHHLA
CYP71B27     1 -----MAILFCFFFLVSLVTLVSSIFFKQIKNTKFNLPSPPSLPPIIGN-----LHHLT
CYP71B21     1 -----MSIFLCFLLLLPLFLVfy---KRLLPKSGKLPPEGPIISLPPIIGN-----LHQIG
CYP71B22     1 -----MSISLYFLLLLPLFLIFF---KLLSPKSGKLPPEGPLGLPIIGN-----LHQIG
CYP71B38     1 -----MSIFLCFLLLLPLSLILF---KLLPSKSGKLPPEGPIGLPIIGN-----LHQIG
CYP71B5      1 -----MSIFLCFLLLLPLSLIFL---KLLPSKSGKLPPEGPKGLPIIGN-----LHQFG
CYP71B31     1 -----MSMFLGLLFLFPLFFILF---KNLLPPRKKLPPEGPTGLPIIGN-----LHQIG
CYP71B8      1 -----MIKSILLCFFFLFPLLLTLF---KLLPSKWKLPPEGTGLPIIGN-----LHQIG
CYP71B32     1 -----MSIFLLCILFLFPLFQIIF---KLLPSKSKLPPEGTGLPIIGN-----LHQIG
CYP71B24     1 -----MSILLYFIALLSLIIKKIKDSNRNLPSPKLPVIGN-----LYQLR
CYP71B3      1 -----MSILLYFFFLPVILSLIFMKKFKDSKRNLPSPPKLPPIIGN-----LHQLR
CYP71B25     1 -----MAILQSFLLLSLPFLFTLIYTKMKESKRNLPSPAKLPVIGN-----LHQIQ
CYP71B4      1 -----MVSLLSFFLLLVPFFLLIFTKKIKESQNLPSPAKLPPIIGN-----LHQIQ
CYP83A1      1 -----MEDIIGVVALAAVLLFFLYQPKTKRYKLPSPSPLPPIIGN-----LLQLQ
CYP83B1      1 -----MDLLLIAGLVAAAAFFFLRSTTKKSLRNPSPKGLPIIGN-----LHOM
CYP84A1      1 -----MESSISQTLSKLSDPTTSLVIVVSLFIFISFITRRRRPPYPGPRGWPPIIGN-----MLMMD
CYP84A4      1 -----MLTLMTLIVLVPLLLFLFPHLLRRQMLLKPYPPGPKGLPPIIGN-----ILMMN
CYP706A1     1 -----METASSNFSLSQILNIEEPYSSVMLGVAALLAVVCYFWIQGKSKSKNGPPLPPGPWPLPIVGN-----LPFLN
CYP706A2     1 -----MGTASSKSNINLSQVLNTEEPYSSVMLAVAALLAVVCYLWIQGKSKSKKEPPLPPGPWPLPIVGN-----LPFLN
CYP706A3     1 -----MTDISSLFRNRSRKDQLDYGLTVIVISTLCWCLWLYAKCKRRSPPLPPGPWGLPIIGN-----LPFLQ
CYP706A7     1 -----MTDIFTFFFTIQNRNDHFDVFLATIVISSVFWYIWVYVSKRFLPPLPPGPRGLPIVGN-----LPFLH
CYP706A5     1 -----MSMLSNLFPDNAIS--LTPYAYAVLILTATFSILWYIFKRSPQPLPPGPRGLPIVGN-----LPFLD
CYP706A6     1 -----MSPISNLFAGNTIN--LTP--YAILILIAIFSILWYLFKRSPQPHLPPEGPRGLPIVGN-----LPFLD
CYP706A4     1 -----MSPISNLFPDNTIN--LTP--YAIVILTTFVFSILWYIFKRSPQPSLPPGPRGLPIVGN-----LPFLD
CYP79B2      1 -----MNTFTSNSSDLTTT-ATETSSFSTLYLLSTLQAFVAITLVMLLKKLMDTP-NKKKPYLPPGPTGWPPIGM-----IPT
CYP79B3      1 -----MDTLASNSSDLTTKSSLSGMSFTNMVLLTTLQALAAALCFMLILNKIKSSRNKKLHPLPPGPTGFPVGM-----IPA
CYP79A2      1 -----MLAFIIGLLLLALTMKRKEKKKTMLISPTRNLSLPPGPKSWPIIGN-----LPE
CYP79C1      1 -----MDYYLNNVIFSVVTFSTITLNVFLIKSVVARFLGRRKKLPCCPRGFPPIIGN-----LVG
CYP79C2      1 -----MTIITNPSSFTLVLLSITLVLALARRFSRFMKPKGQLPPGPRGWPPIVGN-----MLQ
CYP79F1      1 -----MMSFTTSLPYPFHILLVFIILSMASITLLGRILSRPTKTKDRSCQLPPGPPGWPPIIGN-----LPE
CYP79F2      1 -----MMMKISFNFCFQILLGFIVFIASITLLGRIFSRPSKTKDRCRQLPPGRPGWPPIIGN-----LPE
CYP703A2     1 -----MILVLASLFAVLILNVLLWRWLKASACKAQRLLPPGPPRLPIIGN-----LLQ
CYP98A8      1 -----MIYLLISLLPIIVATLMLYQRWRSNIPPCKPKPKFLLGN-----LHQM
CYP98A9      1 -----MDLLLSLTTTIIAAYMQNLRRRGNSNIPPGPTRFLVGN-----LHQL
CYP98A3      1 -----MSWFLIAVATIAAVVSYKLIQRLRYKFPPEGPSPKPIVGN-----LYDI
CYP78A10     1 -----MTIDMYLSFASRSGSSPFLSLELCLSIFLFLISLFFVFWLTPGGFAWALYKARF---HTRPESKTGPALPPGSLPIIFCL---ILAFVN
CYP78A5      1 -----MSPEAYVLFFN---SFNLVTFEAFASVSLIIATVAFLLSPPGGLAWAGPGS-----SKSRVSIPIPGSGS-----LSVFS

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CYP78A6      1  -----MATKLESSLIFALLSKCSVLSQTNLAFSLLAVTIIWLAIISLFLWTPGGPAWGKYLFR---LISGSYKTGNVIPGPKGFPLVG-----SMSLMS
CYP78A9      1  -----MATKLDTSLLLALLSKCSLLTQTNLALSLLVASLASLALSFLFFWSHPGGPAWGKYFLHR---RRQ-----TTVIPGPRGLPFVQ-----SMSLMS
CYP78A8      1  -----MRTEIESLWVFALASKFNIMQOHFASLLVAIAITWFTITIVFWSHPGGPAWGKYFFTRRFISLDYNRKYKNLIPGPRGFPLVG-----SMSLRS
CYP78A7      1  MELMNLASKETS YWMIALPAGFGSONLHDVSTLGYLFLAVVFLSIVTWALAGGGGVAVKNGRNRLG-----RVAIPGPRGIPVFG-----SLFTLS
CYP77A4      1  -----MFPLISFSPTSLDFTFFFAIIISGFVFIITRWNSNSKKRLNLPPGPPGWPVVGNI-LFQFARS-
CYP77A6      1  -----MSILSFPHTFFFNISPSLFYTIILISSLVLLILTRRSKSKIVKLPFGPPGWPVVGNI-LFQFARS-
CYP77A7      1  -----MSFLSFSPISLDLLSSNVFLTILALIIISGLLKITIYRKHNSNHLNLPPGPPGWPVVGNI-LFQFTRS-
CYP77A9      1  -----MLDISNYVFFFTLVITILLSCLVYILTRHSHNPKCANLPPGPKGWPVVGNI-LLQFARS-
CYP77B1      1  -----MDLTDVIIIFLFAFYFINLWRRYFSAGSSQCSLNIPGPKGWPVVGNI-LLQVIFQ-
CYP89A4      1  -----MEIWLLILGSLFSLNLLNLLFFRRRD-SSSLPLPPDPNFFPFLGT-LQWLRQG-
CYP89A5      1  -----MEIWLLILGSLFSLNLLNLLFFRRLD-SSSLPLPPDPNFFPFLGT-IQWLRQG-
CYP89A6      1  -----MEIWLLILGSLFSLNLLNLLFFRRRDSFSSPLPLPPDPNFFPFLGT-LKWLRKG-
CYP89A7      1  -----MEIWLLILGSLFSLNLLNLLFFRRLD-SSSLPLPPDPNFFPFLGT-LQWLRQG-
CYP89A2      1  -----MEIWLLILASLSGSLLFHLLLRNRNS--SSPPLPPDPNFFPFLGT-LQWLRQG-
CYP89A3      1  -----MATWFHIFCVSFTVNFLLYLFFRRTN--NNLPLPPDPNFFPMPGP-FQWLRQG-
CYP89A9      1  -----MEITTIIFLIISLTFSLFKLIFFFSTH-----KLPPGPRFPVVGNI-IWLRKKN
CYP73A5      1  -----MDLLLLLEKSLIAVFVAVILATVISKLRGKKLKLPFGPIPIFCN-----WLQVG
CYP701A3     1  -----MAFFSMISILLGFVIFSSFIFFFKKLLSFSRKNMSEVSTLPSVIVVPGFPVVGNI-LLQIK
consensus   1  .....

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CYP76C2 56 -RNP~~PHS~~FADL~~SK~~TYGP-----IMSLK~~FG~~SLN---TVV~~VT~~SPEAAREVLR~~TYD~~QILSSRTP--TNSIRSINHDKVSVVWLP~~PPSSSR~~WRLLRKL~~SATQ~~LF
 CYP76C4 56 -KNP~~HSS~~FADL~~AK~~TYGP-----IMSLK~~FG~~C~~LN~~---SVV~~IT~~SPEAAREVLR~~THD~~QILSGRKS--NDSIRCFGHEEVSVIWL~~PPSSAR~~WRMLRKL~~SVTL~~MF
 CYP76C1 56 -KHP~~HS~~F~~AE~~L~~SK~~TYGP-----VMSL~~KL~~G~~SLN~~---TVV~~IAS~~SPEAAREVLR~~THD~~QILSARSP--TNAVRSINHQDASLVWLP~~SSSAR~~WRLLRRL~~SVTQ~~LL
 CYP76C5 57 -KNP~~HSS~~F~~TD~~L~~SK~~TYGP-----VMSL~~KL~~G~~YLN~~---SVV~~IT~~SRDAAREVLR~~KAHD~~QILSGRYI--TQATKSNNHHEF~~SVGW~~IHP~~SSPR~~FRKVEEMT~~FTQ~~LF
 CYP76C6 56 -KNP~~HSS~~F~~TD~~L~~SK~~TYGP-----VMSL~~KL~~G~~C~~LN---SVV~~IAS~~RD~~AVRE~~VLR~~KTHD~~QILSGRYI--SEATKSNNHHEF~~SVGW~~IHP~~SSSR~~FRMLRKL~~SATQ~~LF
 CYP76C3 48 -FNP~~HRS~~L~~AA~~F~~SK~~TYGP-----IMSL~~KL~~G~~R~~LT---AVV~~IS~~SPEA~~AK~~EALR~~THD~~HVMSARTF--NDALRAF~~DHHK~~HSIVW~~I~~PP--SARWR~~FL~~K~~KT~~IT~~TKY~~LL
 CYP76C7 51 -EKP~~HRS~~L~~AD~~L~~S~~RIYGS-----VMSF~~KL~~G~~C~~LT---TVV~~IS~~SPETAKEVLR~~KTHD~~HVLSYRVS--SDP~~VRA~~AGHH~~EL~~SLLW~~I~~PP--LARWR~~FL~~R~~K~~IT~~RNQ~~LF
 CYP76G1 54 GLP~~PHD~~SL~~TKL~~SRRHGP-----IMTL~~R~~I~~G~~SML---TVV~~IS~~SEVAREIF~~FKK~~HAALAGRKI--YEAMKG--GKSSDGL~~SLIT~~AQY~~GAY~~WRMLRRL~~CTTQ~~FF
 CYP75B1 51 -TKP~~HR~~TL~~SAM~~V~~TT~~YGP-----ILHL~~R~~I~~C~~FVD---VVV~~AA~~SKSVAEQ~~FL~~KI~~HD~~ANFASR~~EP~~--NSGAKH~~MAY~~NYQD--LVF~~FAP~~Y~~GHR~~WRLLRKL~~SSVH~~LF
 CYP705A1 56 STL~~IHK~~SL~~QK~~LSSKYGP-----LLHL~~R~~I~~F~~NIP---FILV~~SSD~~--SLAYE~~I~~FR~~DH~~DVNVSSR~~GV~~---GAIDESL~~AYG~~SSGF~~IQAP~~Y~~GDY~~W~~KF~~M~~KKL~~IAT~~KL~~LL
 CYP705A24 58 FAS~~IHK~~CF~~QK~~LSSKYGP-----FLHL~~R~~I~~F~~HVP---IVL~~V~~VSSA--STAYD~~I~~FK~~TND~~INVSYR~~GD~~---VAIDEC~~I~~V~~F~~GS~~F~~GYFR~~AP~~CEDY~~W~~K~~F~~M~~R~~KLIMARAL
 CYP705A12 57 SSL~~PHK~~SF~~QK~~LSFKYGP-----LLHL~~R~~I~~F~~NFP---MVL~~V~~VSSA--SMAYE~~V~~FR~~TND~~DVNVSYR~~FV~~---PVNK~~D~~SL~~V~~F~~G~~SSGF~~V~~TAPY~~GDY~~W~~K~~F~~M~~KKL~~I~~ST~~KL~~LL
 CYP705A13 62 D-LPH~~KAF~~Q~~KL~~LSSKYGP-----LLCL~~R~~I~~F~~NVP---IVL~~V~~VSSA--SVAYE~~I~~FK~~THD~~VN~~ISS~~HGH---PPIDEC~~L~~FF~~G~~SSSF~~V~~M~~A~~PY~~GDY~~W~~K~~F~~M~~KKL~~M~~V~~T~~KL
 CYP705A15 60 SVL~~VHR~~SL~~Q~~TLSTKYGS-----ILY~~L~~R~~V~~FSFP---VAL~~V~~VSSA--SIAYE~~I~~FR~~HD~~VN~~ISS~~RGF---PPT~~D~~DSL~~F~~AGS~~F~~S~~F~~TSAPY~~GDY~~W~~K~~F~~M~~KKL~~L~~V~~T~~NL
 CYP705A4 55 SVL~~LHR~~SL~~Q~~KLSTKYGS-----ILY~~L~~R~~V~~FRFP---VVL~~I~~VSSA--SIAYE~~I~~FR~~AD~~DLN~~ISS~~RGF---TPT~~D~~DSL~~F~~AGS~~F~~S~~F~~ISAPY~~GDY~~W~~K~~F~~M~~KKL~~L~~V~~T~~NV
 CYP705A16 62 SSL~~VHK~~SF~~QK~~LSSKYGP-----LLHL~~R~~I~~F~~NVP---IVL~~V~~VSSA--SVAYD~~I~~FR~~VHD~~VN~~VSS~~RGP---PPFEES~~L~~LF~~G~~SSSF~~I~~SAPY~~GDY~~W~~K~~F~~M~~KKL~~M~~V~~T~~KL
 CYP705A19 59 SSL~~VHK~~SF~~QK~~LSSNYGP-----LLHL~~R~~I~~F~~NVP---IVL~~V~~VSSA--SVAYD~~I~~FR~~VHD~~DLN~~VSS~~RGS---PPFEES~~L~~LF~~G~~STGF~~I~~SAPY~~GDY~~F~~K~~F~~M~~KKL~~H~~V~~T~~KL
 CYP705A28 60 SVL~~VHK~~SF~~QK~~LSSKYGP-----LLL~~L~~R~~I~~F~~H~~V---IVL~~T~~VSSA--SVAYE~~I~~FR~~AQD~~VN~~VSS~~RGH---PPVEES~~L~~W~~F~~G~~F~~SSFFF~~FAP~~Y~~GDY~~F~~K~~F~~M~~R~~K~~L~~I~~AT~~KL~~LL
 CYP705A30 60 SAL~~VHK~~SF~~Q~~NLSSKYGP-----LLHL~~R~~V~~F~~HIP---IVL~~V~~VSSA--SVAYE~~I~~FK~~AQD~~VN~~VSS~~RGH---APV~~G~~ESL~~W~~F~~G~~SSSF~~F~~F~~FAP~~Y~~GDY~~F~~K~~F~~M~~R~~K~~L~~I~~AT~~KL~~LL
 CYP705A32 64 SAL~~VHK~~SF~~QK~~L~~S~~YKYGP-----LLHL~~R~~V~~F~~HVP---IVL~~V~~VSSA--SVAYE~~I~~FK~~AQD~~VN~~VSS~~RGH---APAGE~~S~~LL~~F~~G~~S~~SSSF~~F~~F~~FAP~~Y~~GDY~~F~~K~~F~~M~~R~~K~~L~~I~~AT~~KL~~LL
 CYP705A2 53 STL~~THK~~SF~~Q~~RLSSKYGP-----LLHL~~R~~I~~F~~HVP---IVL~~V~~VSSA--SVAYE~~I~~FR~~DQD~~VN~~VSS~~FRHS---PPIEES~~L~~FL~~G~~SY~~SF~~ISAPY~~GDY~~W~~K~~F~~M~~R~~K~~L~~M~~V~~T~~KL
 CYP705A5 57 FVP~~IHQ~~SF~~K~~NLSSKYGP-----LLHL~~R~~FF~~N~~FP---IVL~~V~~VSSA--STAYE~~I~~FK~~AQD~~VN~~VSS~~R~~EP~~---PPIEES~~L~~IL~~G~~SSSF~~I~~NT~~P~~Y~~GDY~~S~~K~~F~~M~~KK~~F~~M~~V~~Q~~KL~~LL
 CYP705A23 60 SNL~~THK~~SL~~Q~~KLSSKYGP-----LLY~~L~~R~~I~~F~~N~~V---IIF~~V~~VSSA--SVAYE~~I~~FR~~GHD~~VN~~ISS~~FRGN---PPIEES~~L~~LV~~G~~S~~F~~GF~~FT~~APY~~GDY~~W~~K~~F~~M~~KK~~V~~M~~V~~T~~KL~~LL
 CYP705A20 57 SSL~~AHK~~SL~~Q~~QLSSKYGP-----LLHL~~S~~I~~F~~NFP---VVL~~V~~VSSA--SVAYE~~I~~FK~~AHD~~DLN~~ISS~~SRDN---PPINE~~S~~LL~~V~~G~~S~~S~~V~~F~~V~~GAPY~~GDY~~W~~K~~F~~M~~KKL~~L~~V~~T~~KL
 CYP705A21 59 SSL~~AHK~~SL~~Q~~KLSSKYGP-----LLY~~L~~R~~V~~FNFP---VVL~~V~~VSSA--SVAYE~~I~~FK~~AHD~~DLN~~ISS~~SRDN---PSID~~D~~SL~~L~~I~~G~~SS~~V~~F~~G~~SAPY~~GDY~~F~~K~~F~~M~~KKL~~L~~V~~T~~KL
 CYP705A18 61 SSL~~THK~~SL~~Q~~KLSSKYGP-----FLHL~~R~~I~~F~~SVP---IIL~~V~~VSSA--SVAYE~~I~~FK~~AHD~~VN~~VSS~~SRGA---AAID~~E~~SL~~L~~F~~G~~SSSF~~I~~YAPY~~GDY~~W~~K~~F~~M~~KKL~~I~~FAT~~KL~~LL
 CYP705A6 59 SPL~~THK~~SL~~Q~~KLSSKYGH-----LLHL~~R~~I~~F~~NVP---VII~~V~~VSSA--SVAYE~~I~~FR~~AHD~~VN~~VSS~~R~~GV~~---AAID~~E~~SL~~L~~F~~G~~SSG~~I~~ITAPY~~GDY~~W~~K~~F~~M~~KKL~~I~~AT~~KL~~LL
 CYP705A33 59 SSL~~SHK~~SL~~Q~~KLSSKYGP-----LLHL~~R~~I~~F~~NVP---IIL~~V~~VSSA--SVAD~~E~~VFR~~IHD~~MN~~ISS~~SRGA---AAID~~E~~SL~~V~~F~~G~~SSG~~V~~VYAPY~~GDY~~L~~K~~F~~V~~KKL~~I~~AT~~KL~~LL
 CYP705A3 58 SVL~~THK~~SL~~Q~~KLSSKYGP-----LLL~~L~~R~~I~~F~~Y~~V---IIL~~V~~VSSS--SMAYE~~I~~FK~~AHD~~VN~~VSS~~RGI---IAL~~D~~ESL~~M~~F~~G~~AS~~G~~ILNAPY~~GDY~~W~~K~~F~~M~~KKL~~M~~AT~~KL~~LL
 CYP705A22 60 STL~~THK~~SL~~Q~~KLSSRYGP-----LLY~~L~~R~~I~~F~~N~~V---IIL~~V~~VSSA--SVAYE~~I~~FR~~TQD~~VN~~ISS~~R~~GV~~---TAV~~D~~ESL~~V~~F~~G~~SSSF~~V~~TAPY~~GDY~~W~~K~~F~~M~~KKL~~T~~V~~M~~KL
 CYP705A8 57 SLF~~MHR~~SL~~Q~~KLSSKYGP-----LLY~~L~~H~~V~~FNVP---ILL~~V~~VSSP--SIAYE~~I~~FR~~AQD~~VN~~VSS~~R~~DF~~---PTNEGS~~L~~FL~~G~~S~~F~~S~~F~~ITAPY~~GE~~Y~~W~~K~~F~~M~~KKL~~I~~V~~T~~KL~~LL
 CYP705A9 53 SLF~~MHR~~SL~~Q~~KLSSKYGP-----LLY~~L~~H~~V~~FNVP---ILL~~V~~VSSP--SIAYE~~I~~FR~~TQD~~VN~~VSS~~R~~DF~~---PTNEGS~~L~~LF~~G~~S~~F~~GF~~GT~~APS-----
 CYP705A25 61 SVPCY~~K~~SF~~Q~~KLSSKYGP-----FLHL~~R~~AF~~N~~IP---IVL~~V~~VSSG--SMANE~~V~~LR~~IQD~~LN~~FAS~~RDSG~~QTP~~IMEK~~S~~LL~~F~~G~~S~~F~~G~~F~~V~~SVPY~~GDY~~W~~R~~F~~M~~KKL~~L~~V~~V~~KKL
 CYP705A27 61 SVP~~CHK~~SF~~Q~~KLSSKYGP-----LLHL~~R~~AF~~N~~IP---IVL~~V~~VSSG--SMANE~~V~~LR~~TQD~~LN~~FAT~~RQR--EVSIMEK~~S~~LL~~F~~G~~S~~F~~G~~F~~V~~SAPY~~GDY~~W~~R~~F~~M~~KKL~~L~~V~~T~~NL
 CYP712A1 58 GKVL~~PV~~SF~~Q~~SLAHKYGP-----LME~~I~~RL~~C~~ASK---CVV~~V~~VSSS--SVARE~~I~~FK~~EQ~~ELN~~FSS~~R~~PE~~---FGSAEY~~F~~KY~~R~~GR~~S~~R~~F~~VLAQY~~GDY~~W~~R~~F~~M~~KKL~~C~~M~~T~~KL
 CYP712A2 55 RSSL~~PR~~SL~~Q~~ALAH~~TY~~GP-----LMT~~I~~RL~~C~~SLR---VLV~~V~~VSDS--DTAKL~~L~~IL~~K~~TH~~D~~PDF~~A~~SK~~F~~V---FGPR~~Q~~F~~N~~VY~~K~~GSE~~FF~~NAPY~~GSY~~W~~R~~F~~M~~KKL~~C~~M~~T~~KL
 CYP93D1 51 GPIA~~HQ~~AL~~H~~KL~~S~~IRYGP-----LML~~F~~I~~C~~SIP---NL~~I~~VSSA--EMANE~~I~~L~~K~~SNEL~~N~~FLN~~R~~PT---MQN~~V~~DY~~L~~TY~~G~~SAD~~FF~~SAPY~~GLH~~W~~K~~F~~M~~K~~R~~I~~C~~M~~V~~EL
 CYP81D6 67 ---LHR~~T~~FL~~S~~S~~Q~~SLGG---API~~F~~CL~~R~~LN~~R~~L---TVV~~V~~VSSY--SIABE~~C~~FT~~K~~ND~~I~~V~~F~~AN~~R~~PE---LIL~~G~~KHIEY~~N~~ST~~T~~MTSAPY~~GDH~~W~~R~~NL~~R~~R~~I~~AT~~L~~E~~I~~F
 CYP81D7 52 ---LHR~~T~~FL~~S~~S~~Q~~SLGD---API~~F~~SL~~R~~LN~~H~~L---TVV~~V~~VSSY--SIABE~~C~~FT~~K~~ND~~I~~V~~L~~AN~~R~~PK---FIL~~G~~KHIEY~~N~~FT~~T~~MTSAPY~~GDH~~W~~R~~NL~~R~~R~~I~~GT~~L~~E~~I~~F
 CYP81D11 60 ---LHR~~R~~FL~~S~~SL~~S~~ESLNN---AKI~~F~~SL~~S~~LS~~G~~SRL---VFV~~V~~VSSH--AVABE~~C~~FT~~K~~ND~~V~~LAN~~R~~PE---FLV~~G~~KHIGY~~N~~ST~~T~~MVGAAY~~G~~DSWR~~N~~L~~R~~R~~I~~GT~~L~~E~~I~~F
 CYP81D2 51 ---LHR~~V~~FL~~S~~V~~S~~QSLGD---API~~I~~SL~~R~~LN~~R~~L---LFV~~V~~VSSH--SIABE~~C~~FT~~K~~ND~~V~~ILAN~~R~~QT---TIST~~K~~HISY~~G~~NST~~V~~V~~S~~ASY~~SE~~HWR~~N~~L~~R~~R~~I~~GALE~~I~~F
 CYP81D3 51 ---LHR~~V~~FL~~S~~V~~S~~ESLGD---API~~I~~SL~~R~~LN~~R~~L---VFV~~V~~VSSH--SIABE~~C~~FT~~K~~ND~~V~~LAN~~R~~RF---NLASKHISY~~G~~CT~~T~~V~~V~~TASY~~GDH~~W~~R~~NL~~R~~R~~I~~GAVE~~I~~F
 CYP81D8 51 ---LHR~~T~~FL~~S~~SL~~S~~QSLNN---API~~F~~SL~~R~~LN~~R~~L---VFV~~V~~VSSH--SIABE~~C~~FT~~K~~ND~~V~~LAN~~R~~PN---FILAKH~~V~~AY~~D~~Y~~T~~MTIAASY~~GDH~~W~~R~~NL~~R~~R~~I~~GSVE~~I~~F
 CYP81D4 52 ---LHR~~T~~FL~~S~~SL~~S~~KSICN---APV~~F~~HL~~R~~LN~~R~~L---VYV~~I~~SSR--SIABE~~C~~FT~~K~~ND~~V~~LAN~~R~~PK---FTISKHLGY~~N~~ATY~~L~~L~~S~~ASY~~GDH~~W~~R~~NL~~R~~R~~I~~AAVE~~I~~F
 CYP81D5 51 ---VHR~~T~~FL~~S~~SL~~S~~KN---API~~F~~HL~~R~~LN~~R~~L---VYV~~I~~SSH--SIABE~~C~~FT~~K~~ND~~V~~LAN~~R~~P---IIMAKH~~V~~GYN~~F~~T~~N~~MIAASY~~GDH~~W~~R~~NL~~R~~R~~I~~AAVE~~I~~F

CYP81D1 54 ---IHRILRSFSETLDHNDGGVMSLRLGSRL---VYVVS SHKVAAEFCFGKNDVLANRPO---VIIGKHVGYNNANMIAAPYGDHWRNLRRLCTIEIF
 CYP81F3 51 ---VHRLFHRLSKTHGP-----IFSLQFGSRR---AVVIS SSSSLATQCFTGQNDIILSNRPC---FLTAKYVAYNYTTVGTAPYGDHWRNLRRLCSLEIL
 CYP81F4 51 ---VHRLFHRLSNIHGP-----IFYLRLGSRR---AVVIS SSSSLARECFTGQNDVIVSNRPR---FLT SKYIAYNYTTIATTSYGDHWRNLRRLCSLEIV
 CYP81F2 50 ---VHRLFRRFAEKYGD-----IFSLRYGSRQ---VVVIS S LPLVRESFTGQNDVILTNRPH---FLTAKYVAYDYTTIGTAAAYGDHWRNLRRLCSLEIL
 CYP81F1 48 ---IHRLLQRYSNQYGP-----IFSLRFSGSRR---VVVIT SPSLAQESFTGQNDIVLSSRPL---QLTAKYVVYNHTTVGTAPYGDHWRNLRRLMCSQEIL
 CYP81H1 51 L--LHRILSHLSHSLG-----PVFSLRLGSRL---AVLIS SPTAAEECFITKNDIVLANRPR---FIMGKYVAYDYTSMVTAPYGDHWRNLRRLITALEVF
 CYP81G1 62 ---VHRSLRDL SRNLGID-----VFILRLGSRR---AVVVT SASAAEEFLSQQNDVVFANRPL---ATLT EYMGYNNTLVSTAPYGEHWRRLRRFCAVDIL
 CYP81K1 52 P--LPQALRHLS SNYGP-----VLF LKFCRN---VLT LSSP-DSIEECFTNH DVLANRPK---TITSDHF SYGYKNFGFAPYGD LWR TLRRLSTLEVF
 CYP81K2 49 P--LPQALHHL S SNYGP-----VLF LKFCRE---VLT LSSP-DSIEECFTNH DIALANRPK---TITSDHF SYGYKNFGFAPYGD LWR TLRRLSTLEVF
 CYP82C3 52 EQLLYRILGKMADHYGP-----AMSLRLGSSE---TFVGS SF-EVAKDCFTVNDKALASLMT---AAAKHMG-----YVFWLEMRKIAMIEILL
 CYP82C4 52 EQLLYRILGKMADHYGP-----AMSLQLGSNE---AFVVS SF-EVAKDCFTVNDKALASRPM---TAAAKHMGYNFAVFGFAPYSAFWREMRKIATIEILL
 CYP82C2 52 EQLLYRILGKMADQYGP-----AMSLRLGSSE---TFVVS SF-EVAKDCFTVNDKALASRPI---TAAAKHMGYDCAVFGFAPYSAFWREMRKIATLEILL
 CYP82F1 54 N-PTHVTFGAMADVYGP-----VFMALGSIK---VMIINSK-EVAKETIYTVHDKLLE-RPE---LTASKLLGYNDSFLTFS PYGLYWR ETRKIAVSELF
 CYP82G1 59 K-LLCKKLAAMSQKHGP-----IFSLKLGFRY---LVVAS DP-KTVKDCFTTNDLATATRPN---IAFGRYVGYNNASLTLAPYGDYWR ELRKIVTVHLLF
 CYP71A12 51 LH-PHRSLHSLSLRYGP-----LMLLHFGRVP---ILVVS SGEAAQEV LKTHDLKFANRPR---SKAVHGLMNGGRDVVFGPYGEYWRQMSVCILNLL
 CYP71A13 51 LH-PHRSLRSLSLRYGP-----LMLLHFGRVP---ILVVS SGEAAQEV LKTHDLKFANRPR---SKAVHGLMNGGRDVVFGPYGEYWRQMSVCILNLL
 CYP71A18 51 LH-PHRSLHSLSLRYGP-----LMLLHFGRVP---ILVVS SGEAAHEILKTHDLKFANRPK---SKAVHGLMNGGRDVVFGPYGEYWRQMSVCILNLL
 CYP71A14 51 LH-PHRSLRSLSHRYGP-----LMLLHFGRVP---VLVVS S SDVAHDLMKTHDLKVANRPO---LKVVEKIFNGGEMVFS PYGEYWRQIKSVCIVNLL
 CYP71A15 50 LH-PHRSLRSLSHRYGP-----LMLLHFGRVP---ILVVS S SDVAHDLMKTHDLKVANRPR---LKV IETILNGGREVVFS PYGDYWRQIKTVCVVHLL
 CYP71A19 51 LN-THRSLRSLSLRYGP-----LMLLHFGRTP---VLIVS SADVAHDILKTYDVICANRPK---TKVIDKILRGGRDVAFA PYGEYWRQMSVICIQNLL
 CYP71A20 48 LH-THRSLRSLSLRYGP-----LMLLHFGRTP---VLIVS SADVAHDVMKTHDLVCANRPK---TKVVDKILSGGRDVAFA PYGEYWRQMSVICIQNLL
 CYP71A27 51 PN-PHRYLHSLSLRYGP-----LMLLHFGRVP---VLVVS CPDVTNDIMKTHDLKFANRPK---SKAINIFMEGGRDIFG PYGEDWKSMSKSLGVVHLL
 CYP71A16 50 LH-PHRALSSLSARHGP-----LMLLRFGRVP---VLIVS SADVAHDVMKTHDLKFANRPI---TKSAHKISNGGRDLVFA PYGEYWRNVKSLCTIHLL
 CYP71A28 49 LH-PHRSFRLSLRLWS-----AHAPSLRSCPYPFRFSKYISS SDVAHDVMKTHDLKFANRPK---TKAVDIIINGGRDVAFSSYGEYWRQMSLCTVHLL
 CYP71A21 50 HH-PHRSLCSLSHRYGP-----LMLLHLGRVP---VLVVS SADVARDILKTHDRVFASRPR---SKLFEKLFYDGRDVAFA PYGEYWRQIKSVCVLRLL
 CYP71A22 50 RH-PHRSLCSLSNRYGP-----LMLLRFGLVP---VLVVS SADVARDILKTYDRVFASRPR---SKIFEKIFYEARDVALAPYGEYWRQMSVCVLRLL
 CYP71A24 49 RH-PHRSLCSLSHRYGP-----LMLLHFGSVP---VLVVS SADAADVLKTHDRVFASRPR---SKIFDKIFYNGRDVALAPYGEYWRQMSVCVLRLL
 CYP71A26 49 RH-PHRSLCSLSHRYGP-----LMLLHFGRVP---VLVVS SAELARDVLKTHDRVFASRPR---SKIFEKLLYDKHDVASAPYGEYWRQMSVCVLRLL
 CYP71A25 48 RH-THRSLCDLSRRYGP-----LMLLHLGRVP---VLIVS SADMAQEILKTHDQAFANRPR---SKLSQKLLYNNRDVASAPYGEYWRQMSVCVHLL
 CYP71A23 47 QH-PHRSLCYLSHRYGP-----LMLLHFGSVP---VIVAS TAEAAARDVLKTHDRVFASRPR---SKIFEKLLYKSRNMASAPYGEYWRQMSVSVLHLL
 CYP71B36 49 EL-PHOSLWRLSKKYGH-----VMLLKFGSIP---TVVVS SSETAKQVLKIHD LHCCSRPS---LAGPRALS YNYLDIAFSPFDDYWKELRRICVQELF
 CYP71B37 49 EL-PHOSLWSLSKKYGP-----VMLLKFGSIP---TVVVS SSETAKQALKIHD LHCCSRPS---LAGPRALS YNYLDIVFSPFDDYWKELRRMVCVQELF
 CYP71B9 49 EL-PHOSLWSLSKTYGP-----VMLLKLGSVP---TVVVS SSETAKQVLKINDLHCCSRPS---LA--EELS YNYLDIAFSPFDDYWKELRRICVQELF
 CYP71B10 48 EL-PHOSLCKLSKKYGP-----VMLLKLGRVP---TVIVS TPE TAKQVLKDYDLHCCSRPS---LEGTRKLS YNYLDIAFSRFDDYWKELRKLCSQELF
 CYP71B26 49 EL-QHOSLWKL SKKYGP-----VMLLKLCKVP---TLILS SSETAKQALRDYDLHCCSRPS---LAGGRELS YNNLDMSSSPYNEYWKELRKLCSQELF
 CYP71B33 49 EL-PHOSLWKL SKKYGP-----VMLLNLCKVP---TVILS SSETAKQALRDYDLHCCSRPS---LAGGRELS YNNRDISFSPYNDYWKELRKLCTQELF
 CYP71B34 49 EL-PHOSLWKL SKKYGP-----VMLLKLGRVP---TVIVS SSETAKQALKIHD LHCCSRPG---FAGARELS YNYLDIAFSPYDDYWKELRKLAVQELF
 CYP71B35 48 EL-PHOTLWKL SKKYGP-----VMHMLGRVP---TVVVS S SDTARQVLRVHDLHCCTRPS---LSGPRELS YNYLDIAFSPYDDYWKELRKLAVQELF
 CYP71B11 47 SK-PHSSMFKLSEKYGP-----LMLRFGSVS---TVVAS TPETVKEVLKTFDAECCSRPY---MTYPARLTYNLKDIGFCPYTKYWR EVRKMTVVELY
 CYP71B12 47 SK-PHRSMFKLSETYGP-----LMSLKFGSVS---TVVAS TPETVKEVLKTFDVECCSRPN---MTYPARVTYNLKDLCFSPYSKYWR EVRKMTVVELY
 CYP71B14 47 SK-PQRS LFKLSEKYGS-----LMSLKFGNVS---AVVAS TPETVKDVLKTFDAECCSRPY---MTYPARVTYNFNDLAFSPYSKYWR EVRKMTVIBLY
 CYP71B13 47 SK-PHRSMFKLSEKYGP-----LVYLKLGKVP---SVVAS TPETVKDVLKTFDKDCCSRAF---LTYPARIS YNLKDLAFAPYSKYWKAVRKMVTVELY
 CYP71B6 54 SL-PHRSLRDL SLKYGP-----VITVYLGSRV---TVVHS PETAEV LKLDSECCTRPK---LSITKSFFYDGLGLGFTKWGDY YRDRVKLCVLELF
 CYP71B28 46 EL-HPRNSRNLSEKYGP-----IVFLRYCFVP---VVVIS SKEAAEEV LKTHDLECCSRPE---TVGTRALS YNFKDIGFAPYGEDWRTMRKLSVLELF
 CYP71B29 46 EL-PPR---NLNHKYGP-----VILLRF CFVP---LVVIS SKEAAEEV LKIHDL ECCSRPE---TAGTRKLS YNFKDIGFAPYGE EWKAMRKL SVLELF

CYP71B7 50 GL-PHTCFRNL~~SQKFGP~~-----VMLLHF~~GFVP~~-----VVV~~ISSKEGAEAEALKTDLECCSRPE~~---TVATRM~~ISYNFKDIGFAPYGE~~EWKALR~~KL~~VVMELL
 CYP71B15 46 TL-HPRNRRNL~~AE MYGP~~-----VALLQY~~GFVP~~-----VVAT~~ISSKEAAAEVLKINDLECCSRPE~~---AAGMRAT~~FYNFKDIGMAPFGDEW~~SLMR~~KL~~SVVELF
 CYP71B23 49 GL-PHKCLLNL~~WKIHGP~~-----VMQLQL~~GYVP~~-----LVV~~ISSNQAAAEVLKTHDLDCCSRPE~~---TIASKT~~ISYNFKDIGFAPYGE~~EWRALR~~KL~~LAVIELF
 CYP71B16 48 EL-PHRSFQRL~~AE RTGH~~-----VMLLHF~~GFVP~~-----VTV~~ISSREAAAEVLRTHDLKCCTRPK~~---LVGSRL~~ISRGFKDISFTPYGE~~EWRR~~RR~~FLVRELF
 CYP71B17 48 EL-PHRSFRR~~LAERTGH~~-----VMLLHL~~GFVP~~-----VTV~~ISSREAAAEVLRTHDLKCCSRPN~~---LVGSRL~~ISRGFKDLNFTPYGE~~EWKERR~~RR~~FLVGELEF
 CYP71B18 48 EL-PHRSLQRL~~AEKTGD~~-----VMLLHL~~GFVP~~-----VTV~~ISSKEAAAEVLRTHDLNCCSRPN~~---LVGTRLL~~SRGFKDVGFTPYGE~~EWKERR~~RR~~FLVREFF
 CYP71B19 48 EL-PHRSLQHL~~AE RYGP~~-----VMLLHF~~GFVP~~-----ITV~~VSSREAAAEVLRTHDLKCCSRPK~~---LVGTRLL~~SRDFKDIGFTPYG~~ENBWKARR~~RR~~FALRELF
 CYP71B20 48 EL-PHRSLQHL~~AE RYGP~~-----VMLLHF~~GFVP~~-----VIV~~VSSREAAAEVLRTHDLKCCSRPK~~---LVGTRLL~~SRNFKDVCFTPYG~~ENBWKARR~~RR~~FALRELF
 CYP71B2 49 GL-PHRCFHKL~~SIKYGP~~-----LVFLRL~~GSVP~~-----VVV~~ISSSEAAAEAVLKTNDLECCSRPK~~---TVGSGKL~~SYGFKDITFAPYGE~~YWR~~EV~~RKLAVIELF
 CYP71B27 49 GL-PHRCYHKL~~SIKYGP~~-----VILLHL~~GFVP~~-----VVV~~ISLSEAAAEAVLKTNDLECCSRPK~~---TVGTGKL~~SYGFKDISFVPYSE~~YWR~~EM~~RKLAVTELEF
 CYP71B21 46 KS-LHRSFYKL~~SQBYGP~~-----VMFLRF~~GVVP~~-----VVV~~FSTKEAAAEVLKTHDLETCTRPK~~---LSATGL~~FTYNFKDIGFAQYGED~~WREMR~~KL~~AMLLELF
 CYP71B22 46 KS-LHRSFHKL~~SQNYGP~~-----VMFLHF~~GVVP~~-----VVV~~VSTREAAAEVLKTHDLETCTRPK~~---LTATKLF~~SYNYKDIGFAQYGED~~WREMR~~KL~~AMLLELF
 CYP71B38 46 KL-LYKSFHKL~~SQBYGP~~-----VLLRL~~GVVP~~-----VIV~~VSSKEGAEAEVLKTHDLETCTRPK~~---TAATGL~~FTYNFKDIGFAPFG~~DDWREMR~~KIT~~TLELF
 CYP71B5 46 RF-LHSSLHKL~~SQBYGP~~-----VMLLHF~~GVVP~~-----VIV~~VSSKEGAEAEVLKTHDLETCSRPK~~---TVGSGL~~FTYNFKDIGFAPYGE~~ENWREMR~~KI~~AVSELEF
 CYP71B31 46 RL-LHSSLHKL~~SLEHGP~~-----VMLVRW~~GVVP~~-----MAV~~FSSNEAAAEVLKTHDLETCSRPK~~---LVANGL~~FTHGYKDIGFTQYGE~~EWREMR~~KK~~LVGLELF
 CYP71B8 48 RL-LHSSFHKL~~SLEHGP~~-----VMLLRF~~GVVP~~-----MVV~~ISSKEAAAEVLKTHDLETCSRPK~~---LVANGL~~FTRNFKDIAFAQYGED~~WREMR~~KK~~LVGLELF
 CYP71B32 47 RS-LHSSFVKL~~SLXYGP~~-----VMLLRF~~GVVP~~-----VVV~~FSSKEAAAEVLKTHDLDCTRPK~~---LVANGL~~FTRNFKDIGFTQYGED~~WREMR~~KK~~LVGLELF
 CYP71B24 44 GL-FHKCLHDL~~SKKHGP~~-----VLLRL~~CFID~~-----MVV~~ISSSEAAAEAVLKVHDLCCSRPI~~---TNVTSKL~~WRDGDIGLAPYGE~~SIREL~~RR~~LSFLKFF
 CYP71B3 47 GL-FHRC~~LDL~~SKKHGP-----VLLRL~~CFID~~-----MVV~~ISSQETTEAVLKVHDLCCSRPK~~---TNASSKF~~SRDGDIAFAPYGE~~VSIREL~~RR~~LSINFF
 CYP71B25 50 GM-VHRC~~LDL~~SKKHGP-----VMHLQL~~GFVP~~-----LVLI~~SSSEAAAEAVLKTNDLECCSRPN~~---TNAARV~~FSRNKNIGLGAYSD~~EWRELR~~RV~~AVREYF
 CYP71B4 50 GL-LHKCLHDL~~SKKHGP~~-----VMHLRL~~GFAP~~-----MVV~~ISSSEAAAEAVLKTNDLECCSRPI~~---TMASRV~~FSRNGKDIGFGVYGED~~EWRELR~~RR~~LSVREFF
 CYP83A1 48 KLN~~PQRFF~~AGWAKKYGP-----ILSYR~~IGSRT~~-----MVV~~ISSAELAKEELKTDVNFADRP~~---HRGHEF~~ISYGRRDMALNHYP~~PYREIR~~KMG~~MNHLEF
 CYP83B1 47 KFN~~PQHFL~~FRLSKLYGP-----IFTMK~~IGRR~~-----LAV~~ISSAELAKEELKTDLNFTARPL~~---LKGQ~~TMSYQRELGFQY~~TAYYREMR~~KM~~CMVNLLEF
 CYP84A1 58 QL-THR~~GLANL~~AKKYGG-----LCHLR~~MGLH~~-----MYAV~~SSPEVARQVLQVQDSVFSNRPA~~---TIAISYL~~TYDRADMAFAHYGPF~~WRQMR~~KV~~CMKVF
 CYP84A4 50 QF-NHR~~GLAKL~~SRYYGG-----LLHLRL~~GFSH~~-----IFV~~VSSPDIAEQVLQVQDVHVSNRPT~~---TIAIRYL~~TYGSDLAFCNYGPF~~WRMR~~KL~~YVMMLEF
 CYP706A1 69 SDV~~LHTQFQAL~~TLKHGP-----LMKIHL~~GSKL~~-----AIV~~VSSPDMAREVLKTHDITFANHDL~~---EVGKIN~~TYGGEDILWSPYGT~~HWRRL~~RR~~LCVMKMF
 CYP706A2 71 SDV~~LHTQFQAL~~TLKYGP-----LMKIHL~~GSKL~~-----AIV~~VSSPDMAREVLKTHDITFANHDL~~---EVGKIN~~TYGGEDILWSPYGT~~HWRRL~~RR~~LCVMKMF
 CYP706A3 64 P-ELHTY~~FQGL~~AKKHGP-----IFKLWL~~GAKL~~-----TIV~~VTSSEVAQELKTDNDFANHDVP~~---AVGPVNTY~~GGTEI~~IWSPY~~GPKWRMLRR~~LCVNRIL
 CYP706A7 64 P-ELHTY~~FHSL~~AQKHGP-----VFKLWL~~GAKL~~-----TIV~~VTSSEATRDLRTNDVIFANDDVP~~---VAGSLSTY~~GGVDIVWSPYGP~~EPW~~PMLR~~KICINKML
 CYP706A5 62 P-DLHTY~~FTKL~~AQSHGP-----IFKLN~~LGSKL~~-----TVV~~VNSPSLASEILKDDINFSNHDVP~~---LTARAV~~TYGGDLVWLPYGA~~EWRL~~RR~~KVCAAKLEF
 CYP706A6 60 P-DLHTY~~FTKL~~AESYGP-----IFKLN~~LGSKL~~-----TVV~~VNTPSLAREILKDDINFSNHDVP~~---LTARAV~~TYGGDLVWLPYGA~~EWRL~~RR~~KVCLKLL
 CYP706A4 60 P-DLHTY~~FANL~~AQSHGP-----IFKLN~~LGSKL~~-----TIV~~VNSPSLAREILKDDINFSNHDVP~~---LTGRAATY~~GGIDIVWTPYGA~~EWRL~~RR~~KICVLKLL
 CYP79B2 72 MLK-SRP~~VFRWLHSIMKQLNTE~~IACVKL~~GNTH~~-----VITV~~TCPKIAREILKQDALFASRPL~~---TYAQ~~ILSNGYKTCVITPF~~GDQ~~FKMRR~~VVMTEIV
 CYP79B3 74 MLK-NRP~~VFRWLHSLMKELNTE~~IACVRL~~GNTH~~-----VIPV~~TCPKIAREILKQDALFASRPL~~---TYAQ~~ILSNGYKTCVITPF~~GEQ~~FKMRR~~VVASHVT
 CYP79A2 50 ILGR~~NKPVFRWIHSLMKELNTE~~IACIRL~~ANTH~~-----VIPV~~TSPRIAREILKQDALFASRPL~~---TMTEY~~CSRGYLTVAVEPQGEQ~~W~~FKMRR~~VVASHVT
 CYP79C1 56 MLK-NRP~~TSKWIVRVMNDMKTDIACFRF~~GRVH-----VIV~~ITSDVIAREVREKDAVFADRP~~---SYSAEY~~ISGGYNGVVFDEYGE~~RQMK~~MK~~VMSSELM
 CYP79C2 53 MII-NRP~~AHLWIHRVMEELQTDIACYR~~FARFH-----VITV~~TSSKIAREVLRKDEVLADRSE~~---SYASHL~~ISHGYKNISFSSYGE~~ENW~~KL~~VKVMTTKLM
 CYP79F1 61 LFM-TRP~~RSKYFRLAMKELKTDIACFN~~FAGIR-----AIT~~INSDEIAREAFRERDADLADRPO~~---LFIMETI~~GDNYKSMGISPYGE~~QFMK~~MKR~~VITTEIM
 CYP79F2 60 LIM-TRP~~RSKYFHLAMKELKTDIACFN~~FAGTH-----TIT~~INSDEIAREAFRERDADLADRPO~~---LSIVESI~~GDNYKTMGTSSYGE~~HFMK~~MK~~VITTEIM
 CYP703A2 48 LGP----LPHR~~DASL~~CDKYGP-----LVYLRL~~GNVD~~-----AIT~~TNDPDTIREILLRQDDVFSRPK~~---TLAAVHLAY~~GCGDVALAPMCPH~~WKRMR~~IC~~MEHLL
 CYP98A8 44 KPLW~~THSFSEWSETYGP~~-----IISVW~~IGSOLT~~-----VVV~~VSSDLARQVLRDKDHQLSNRHR~~-----IARMTQ~~TGTDLVWSDYSPHY~~VKL~~RR~~KLCTLELF
 CYP98A9 44 KPLW~~TQSFSEWSQTYGP~~-----IISVW~~LGSOLA~~-----VVV~~VSSDLAKQVLRDKDYQLCNRHR~~-----TARMTQ~~NGSDLIWSDYGAHY~~VKMR~~KL~~CTLELF
 CYP98A3 44 KPV~~RFR~~CYYEWAQSYGP-----IISVW~~IGSILN~~-----VVV~~VSSAELAKEVLKEHQKLADRHRN~~-----RSTEA~~FSRNGQDLIWA~~DY~~GP~~HYV~~KVR~~KVCTLELF
 CYP78A10 82 NAL~~THRILANLADTCKAKA~~-----LMAF~~SVGSTR~~-----FVIT~~SEPETAKEILLSSAFADRPVKES~~-----AYELL~~FDRAMGFAPG~~DYWR~~ELRR~~ISSTHLEF
 CYP78A5 66 GSN~~PHRVL~~AALAKRFKASP-----LMAF~~SVGFSR~~-----FV~~ISSE~~PE~~TAKEILLSSAFADRPVKES~~-----AYELL~~FHRAMGFAPYGE~~YWR~~NLRR~~ISSTHLEF

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CYP78A6 88 STL A H R R I A D A A E K F C A K R --- L M A F S L G E T R --- V I V T C N P D V A K E I L N S P V F A D R P V K E S ----- A Y S L M F N R A I G F A P H C V Y W R T L R R I A S N H L F
CYP78A9 84 N T L A H R C I A A T A E K F R A E R --- L M A F S L G E T R --- V I V T C N P D V A K E I L N S P V F A D R P V K E S ----- A Y S L M F N R A I G F A P Y C V Y W R T L R K I A S N H L F
CYP78A8 91 S H V A H Q R I A S V A E M S N A K R --- L M A F S L G D T K --- V V V T C H P A V A K E I L N S S V F A D R P V D E T ----- A Y G L M F N R A M G F A P N C T Y W R T L R R L G S N H L F
CYP78A7 87 R G L A H R T L A A M A W S R A N T E --- I M A F S L G S T P --- V I V A S E P N I A R E I L M S P H F A D R P V K Q S ----- A K S L M F S R A I G F A P N C T Y W R M L R R I A S T H L F
CYP77A4 61 G K P F F E Y A E D I K K T Y G P ---- I F T L R M G T R T --- M I I L S D A T L V H E A L I Q R G A L F A S R P A E -- N P T R T I F S C N K F T V N A A K Y G P V W R S L R R N M V Q N M L
CYP77A6 63 G K Q F Y E Y V D D V R K K Y G P ---- I Y T L R M G S R T --- M I I I S D S A L V H D V L I Q R G P M F A T R P T E -- N P T R T I F S S N T F T V N A S A Y G P V W R S L R K N M V Q N M L
CYP77A7 66 G K Q F F E Y V E D I V K I Y G P ---- I L T L R L C T R T --- M I I I S D A S L A H E A L I E R G A Q F A T R P V E -- T P T R K I F S S S E I T V H S A M Y G P V W R S L R R N M V Q N M L
CYP77A9 58 G K Q F F E Y V D E M R N I Y G P ---- I F T L K M C I R T --- M I I I S D A N L A H Q A L I E R G A Q F A T R P A E -- T P T R K I F S S S D I T V H S A M Y G P V W R S L R R N M V Q N M L
CYP77B1 55 R R H F V F L M R D I R K K Y G P ---- I F T M Q M C Q R T --- M I I I T D E K L I H E A L V Q R G P T F A S R P P D -- S P I R L M F S V G K C A I N S A E Y G S L W R T L R R N F V T E L V
CYP89A4 52 L G G L N N Y L R S V H H R L G P ---- I I T L R I T S R P --- A I F V A D R S L A H Q A L V L N G A V F A D R P P A -- A P I S K I I S S N Q H N I S S S L Y G A T W R L L R R N L T S E I L
CYP89A5 52 L G G L N N Y L R S V H H R L G P ---- I I T L R I T S R P --- S I F V A D R S L A H Q A L V L N G A V F A D R P P A -- A P I S K I I S S N Q H N I S S S C L Y G A T W R L L R R N L T S E I L
CYP89A6 53 L G G L D N Y L R S V H H H L G P ---- I I T L R I T S R P --- A I F V T D R S L A H Q A L V L N G A V F A D R P P A -- E S I S K I I S S N Q H N I S S S C L Y G A T W R L L R R N L T S E I L
CYP89A7 52 L G G F N N Y V R S V H H R L G P ---- I I T L R I T S R P --- A I F V A D G S L A H Q A L V L N G A V F A D R P P A -- A P I S K I L S N N Q H T I T S C L Y G V T W R L L R R N I T - E I L
CYP89A2 51 L G G L E S Y L R S V H H R L G P ---- I V T L R I T S R P --- A I F V A D R S L T H E A L V L N G G P S M R T V H H -- L P V I S K I V D - E H N I S S G S Y G A T W R L L R R N I T S E I L
CYP89A3 51 F D D F Y S Y L R S I H H R L G P ---- I I S L R I F S V P --- A I F V S D R S L A H K A L V L N G A V F S D R P P A -- L P T G K I I T S N Q H T I S S G S Y G A T W R L L R R N L T S E I L
CYP89A9 52 F S D F Q G V L R D I A S R H G P ---- I I T L H V G S K P --- S I W V T D R S L A H Q A L V Q N G A V F S D R S L A -- L P T K V I T S N Q H D I H S S V Y G S L W R T L R R N L T S E I L
CYP73A5 51 D D L N H R N L V D Y A K K F C D ---- L F L L R M C Q R N --- L V V V S P D L T K E V L H T Q G V E F G S R T R N --- V V F D I F T G K G Q D M V F T V Y C E H W R K M R R I M T V P F F
CYP701A3 61 E K K P H K T F T R W S E I Y G P ---- I Y S I K M C S S S --- L I V L N S T E T A K E A M V T R F S S I S T R K L S --- N A L T V L T C D K S M V A T S D Y D D F H K L V K R C L L N G L L
consensus 101 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

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CYP76C2 144 SPQRIEATK--TLRENKVKELVSFMSESSER-----EEAVDISRATFITALNIISNLIIFSVDLGNYSN---KSGV-FQDTVIGVMEAVGNPDAANFF
 CYP76C4 144 SPQRTTEATK--ALRMKKVQELVSFMNESSER-----KEAVDISRASYYTTLVNIISNLIIFSVDLGSYDSK---KSNE-FQDTVIGAMEAAGKPDAAANYF
 CYP76C1 144 SPQRIEATK--ALRMNKVKELVSFISESSDR-----EESVDISRVAFITTLNIISNLIIFSVDLGSYNAK---ASINGVQDTVISVMDAAGTPDAANYF
 CYP76C5 145 SPQRIEATK--ALRMKKVQELVNFLSESSER-----GEAVDISRASVFTALNIISNLIIFSVNLGSYDSK---NSSAFQEMVIGYMESIGNPDVSNFF
 CYP76C6 144 SPQCIQATK--ALRMKKVQELVNFLSESCER-----EEAVDISHVSFVTALNIISNLIIFSVNLGSYDSK---NSSAFQEMVIGYQESIGNPDLANFF
 CYP76C3 135 SPQNLDAIQ--SLRMKVEELVSLVNEFRER-----GEAIDLARASFVTSFNIISNALFSVDLATYDSN---SSSYEFHNTVVHLTDIAGIPNVGDYF
 CYP76C7 138 STQRLEATS--AIRTRKVQELMNFVNKCCER-----REAVNISRASFITSLNIISNALFSTNLANFDDS---KTFHFDFQNVVIRMMEISGKPNLADFF
 CYP76G1 142 VTRRLDAMS--DVRSRCVDQMLRFVVEGGQNG-----TKTIDVGRYFFLMAFNLIIGNLMFSRDLLDPDSK---RGSEFFYHTGK-VMEFAGKPNVADFF
 CYP75B1 138 SAKALEDFK--HVRQEEVGTLTRELVRVGTK-----PVNLLGQLVNMVVALGREMICRRLFGADAD---HKADEFRSMVTEMMALAGVFNIGDFV
 CYP705A1 144 GPQPLVRSQ--DFRSEELERFYKRLFDKAMKK-----ESVMTHKEASRFVNNISLYKMCTGRSFSVENN-----EVERIMELTADLGALSQKFF
 CYP705A24 146 GPQALERTR--GVRAAELERFHRKLLDKAMKK-----QSLKIGEEARILVNNITLGKMSLGSSFSIENN-----DGTKVSEYSIKLADLSQMFC
 CYP705A12 145 RPHALELSK--GNRAEELRRFCLDLQKARKK-----ESVEIGKVALKLTNNIICRMSMGRSCSEKNG-----VAERARELVNKSFALSVKLF
 CYP705A13 149 GPQALEQSR--GARADELERFHANLLSKEMKS-----ETVEIAKEAIKLTNNISICKMIMGRGCLEENG-----EAERVRLVTEFTFALFKKLF
 CYP705A15 148 GPQALERSR--GFRADELDFYENLLDKAMKK-----ESVDICVEALKLSNNSICKMIMGRSCSEENG-----EAERVRLATQLDGLTKKIL
 CYP705A4 143 GPQAHEQSR--GVRADVLERFYGNLFDKAIKK-----QSVEICAEALKLSNNSICKMIMGRSCSEEE-----RFRALATELDVLTKKLF
 CYP705A16 150 GPHALERSR--KIRADELYRLYTNLLDKAMKK-----ESVEIGKEATMKTNNIICKMIMGRSCSEENG-----EAKIVRGLIAESFTLTKKFF
 CYP705A19 147 GPQALERSR--LIRTNELERFYINLLDKATKK-----ESVEIGKEAMKLSNNSICKMIMGRSCLEEKG-----EAERVRLGLIESFYLTKKFF
 CYP705A28 148 GPQALDRSR--KIRADELDRFYRNLLDKAMKK-----ESVEIGEEAAKLNNNIICKMIMGRSCSEKNG-----EAERVRLVIESLALSPKIF
 CYP705A30 148 GPQALERSR--KIRADELDRFYKTLDDKAMKK-----ESVEIGEEAAKLNNNIICKMIMGRSCSEENG-----EAEKFRHLVIESMALTQKIF
 CYP705A32 152 GPQALERSR--KIRADELDRFYRNLLDKAMKK-----ESVDIVEEAAKLNNNIICKMIMGRSCSEDNG-----EAERVRLVIEESTALTKQIF
 CYP705A2 141 GPQALERSR--RFREDELDRFYKTLDDKAMKK-----ESVEIVEEAAKLNNNIICKMIMGRSCSEETG-----EAERIRGLVTESMALTQKIF
 CYP705A5 145 GPQALQRSR--NIRADELERFYKTLDDKAMKK-----QTVEIRNEAMKLTNNIICKMIMGRSCSEENG-----EAETVRLVTESEIFLTKKHF
 CYP705A23 148 GPQALQRSR--GIRADALERFYMNLLDKAMKK-----ESVEIGKETMKLIYDSICKMIMGRNFSEENG-----EAERVRLVTEESTALTKKIF
 CYP705A20 145 GPQALERSR--SIRADELERFYRSLLDKAMKK-----ESVEIGKEATKLSINSICRMSMGRSFSSEESG-----EAERVRLVTELDGLTKKVL
 CYP705A21 147 GPQALERSR--GIRADELERFHSSLLDKAVKK-----EIVEIGKEATKLSNNSLWRMSICRSFSEKNG-----EAERVRLVTELDGLTKKVL
 CYP705A18 149 RPQVLENSR--GVRAEELKRFYRLLDKARKN-----ENIEISKEASAMLMNNIICRMSMGRSFSSEENG-----EAERVRLVGESEYALVKKIF
 CYP705A6 147 RPQSLESSR--GIRGEELTRFYNSLLDKARMT-----ESVEISTEAMKLVNNTICRMSMGRSFSSEENG-----EAEKIRGLVGESEYALTKKMF
 CYP705A33 147 RPQVLENSR--GLRAEELQRLYNRLLDKAKMN-----ENVEIGKEATMLMNNIFCRMSMGRSFSSEENG-----EAERVRLVAESYALAKKIF
 CYP705A3 146 RPQVLENSR--GVRVEELHRFYRSLLDKATKN-----ESVEIGKEAMKLMNNTLCKLIMGRSFSSEDNG-----ESNRVRLVDETYALSEKIF
 CYP705A22 148 GPQAQEQSR--DIRADDIKRFERNLLDKARKK-----ESVEIGKEAMLMNNTLCKMSMGRSFSSEENG-----ETEKLRLVTESEIGLMKKMF
 CYP705A8 145 GPQALERSQ--RIRANEVERFYSNLLDKAMKK-----ESVEIADEAMKLVNNTICKMIMGRSFSSEENG-----EAERIRGLVTKSDALLKFFL
 CYP705A9 125 --SGLKHSR--GHKKSQRSYYLNLDDKAVKK-----ESVEIAEEAMKLVNNTICMIMGRSFSSEENG-----EAERVRLVTKTDALTKKFI
 CYP705A25 152 GSHSLEQTR--LLRGKELQTFRAMLFDKAAKN-----ETVDVGKEMMKLTNNISICRMTMGRSFSSEENG-----EAEQVRGLVTKSLSLTKKFL
 CYP705A27 151 GSHSLEQTR--LIREKELKTFRTMLFDKAAKK-----GTVDVGKEMMKLTNNISICRMTMGRSFSSEENS-----EAEKVEDLVKISFSLVKKVL
 CYP712A1 146 AVPQLEKFA--DIREEBKLLKLVDSVAKCCREG-----LPCDLSQFQIKYTNNVICRMMAMSTRCSGTDN-----EAEIIRLVKKSLELAGKIS
 CYP712A2 143 AGYQLDRFV--DIREEBTLALLSTLVERSUNG-----EACDLGLEFTALTTKLLSKMVMCKRQRNSN-----IPKEIRKIVSDIMACATRFG
 CYP93D1 139 SSRALDSFV--SVRSEELKLLIRVLKKAEEAE-----ESVNLGEQLKELTSLNIITRMMFRKMQSDSDGG---E---KSEEVIKMWELNELAG--FF
 CYP81D6 154 ASHKLNGFL--SVRKDEIRQLLLRLSKNSRHG-----FAKVEMRHLLFELTINNVMFRMVACKRFYEGGTE-----QDEVAQQVRHLMDEIVTSAGAG
 CYP81D7 139 SSHKLNGFL--SVRKDEIRHLLRLSKNSQHG-----FAKVEMRQLFYDLTINNILRMVACKRFYEGGTE-----QDEVARRVTQLIDEIVYRAGVG
 CYP81D11 147 SSLRLNSFV--SIRQDEIRRLIICLAKNSQHG-----FVKVEMKPLFMCLTINNILRMVACKRFYGDGTE-----NDNEAKHVRQLIAEVVVSAGAG
 CYP81D2 138 SAHRLNSFS--SIRRDEIRRLIGRLLRNSSYG-----FTKVEMKSMFSDLTFNNILRMLACKCYYGDKGE-----DDPEAKRVRTLIAEAMSSSGPG
 CYP81D3 137 SAHRLNSFS--SIRRDEIRHLIACLR--NSSLE-----FTKVEMKSMFSLTFNNILRMLACKCYYGDAE-----DDPEAKRVRELIAEGMG--CGAG
 CYP81D8 138 SNHRLNSFL--SIRKDEIRRLVFRLLSRNFSQE-----FVKVDMKSMLSDLTFNNILRMVACKRYYGDVGE-----DDPEAKRVRLIADVACAGAG
 CYP81D4 139 STHRLNSFL--YIRKDEIRRLISHLSDSLHG-----FVEVEMKTLTLNLSANTTIRMLACKRYFGE-----DNDDAKLVKNLVSEAVTSAGAG
 CYP81D5 137 SSHRLSTFS--SIRKDEIRRLITHS--RDSLHG-----FVEVELKSLTLNLAFNNTIMMVACKRYYGDTGTE-----DNDEAKLVRELIAEIMAAAG--SG

CYP81D1 145 STHRLNCF--YVRTDEVRRLISRLSRLAGTK-----KTVVLEKPMMLDITFNNIMRMMTKKRYYGEEET-----DEEEAKRVRKLVADVANTSSG
CYP81F3 137 SSNRLTNFL--HIRKDEIHRMLTRL SRDVNK-----EIELEPLLSDLTFNNIVRMVTKKRYYGDEVH-----NEEEANVFKKLVADINDCSGAR
CYP81F4 137 SSKRLANFL--HIRKEEIQRMLTRL SRDARVG-----KEVELESILYDLTFNNIVRMVTKIYYGDDVS-----DKEEAELFKKLTFTITNSGAR
CYP81F2 136 SSNRLTGFL--SVRKDEIRRLTLKLSREYDG-----RVVELEPLLADLTFNNIVRMVTKRRYYGQVH-----NKEEANLFFKKLVTDINDNSGAS
CYP81F1 134 SSHRLIFQ--HIRKDEILRMLTRL SRYTQTSNES-NDFTHIELEPLLSDLTFNNIVRMVTKKRYYGDDVN-----NKEEAELFKKLVYDIAMYSGAN
CYP81H1 138 STNRLNASA--EIRHDEVKMLLQKLDHLSVER-----PAKVELRQLLTGLTLNVIMRMMTKKRRFFEEDG--G---KAGISLEFRELVAEILELSAAD
CYP81G1 149 STARLRDFS--DIRRDEV RAMIRKINVELVTS----GGSVRLKIQPFYGLTYNIIILMSMVACKREDEETK-----EVRKLIREVDFDFAGVN
CYP81K1 138 SSASLQKNS--SIRNEEVSNLCLIFRLSR-----DSRIVDLKYQFTLLTAHIMLRIVSCKRGVKKSDP-----ESEKRFLLDDFKLRFSSMS-M
CYP81K2 135 SSVSLQKNS--SIRTEEVSNLCSLIFRFSGG-----NSCKVDLRYQFTLLTAHVMLRIVSCKNRGVNESDS-----ESETKFLDEFKSRFFSSLSM
CYP82C3 128 SNRALQMLN--NVRVSEISMVGDLYSLWVKKGGS--EPVMVDLKSWLEDMIANMIMRMVACKRYFVGGGA--ESSEHTEEARQWRKGLAKFFHLVGFIF
CYP82C4 140 SNRRLQMLK--HVRVSEITMGVKDLYSLWFKNGGT--KPMVVDLKSWLEDMTLNMIVRMVACKRYFVGGGS--VSEDTEEAMQCKKAIKFFHLIGIF
CYP82C2 140 SNRRLQMLK--HVRVSEISMVQDLYSLWVKKGGS--EPVMVDLKSWLEDMSLNMVMRMVACKRYFVGGG-S--LSPEDAEEARQCRKGVANFFHLVGFIF
CYP82F1 140 STSGVDMHM--VSRAREADLAFRALYVRWEKRGKP--KEGVLVDMKQEFIDLTANI SLMMVSGKRYFGEN----PNCEVKEARRCGKLIREFLDYFALF
CYP82G1 146 SNHSIEMLG--HIRSSEVNTLIKHLKYGNG-----GTSIVKIDMLFEFLTFNIIILRKMVCKRIGFGEVN-----SDEWRYKEALKHCEYLAVIP
CYP71A12 138 TNKMVASFE--KIREBEELNEMIKKLEKASSS-----SSENLSELFVTLPSDVTSRVALGRKHSED-----ETARDLKKRVRQIMELLGFFPIGDYV
CYP71A13 138 TNKMVASFE--KIREBEELNEMIKKLEKASSS-----SSENLSELFITLPSDVTSRVALGRKHSED-----ETARDLKKRVRQIMELLGFFPIGEYV
CYP71A18 138 TNKMVASFE--KIREBEELNEMIKKLEKASSS-----SSENLSELFITLPSDVTSRVALGRKHSED-----ETARDLKKRVRQIMELLGFFPIGEYV
CYP71A14 138 NKKKVQSFE--KIREBEELNEMIKKLEKASSS-----SSENLSELFITLPSDVTSRVALGRKHSED-----ETARDLKKRVRQIMELLGFFPIGEYV
CYP71A15 137 NKKMVQSFA--KIREBEELNEMIKKLEKASSS-----SSENLSELFITLPSDVTSRVALGRKHSED-----ETARDLKKRVRQIMELLGFFPIGEYV
CYP71A19 138 SNKMVRSYK--KIREBEELNEMIKKLEKASSS-----SSENLSELFITLPSDVTSRVALGRKHSED-----ETARDLKKRVRQIMELLGFFPIGEYV
CYP71A20 135 NNKMVRSYE--KIREBEELNEMIKKLEKASSS-----SSENLSELFITLPSDVTSRVALGRKHSED-----ETARDLKKRVRQIMELLGFFPIGEYV
CYP71A27 138 NNKMVRSFE--NIREBEELNEMIKKLEKASSS-----SSENLSELFITLPSDVTSRVALGRKHSED-----ETARDLKKRVRQIMELLGFFPIGEYV
CYP71A16 137 SNKMVQSSE--KIREBEELNEMIKKLEKASSS-----SSENLSELFITLPSDVTSRVALGRKHSED-----ETARDLKKRVRQIMELLGFFPIGEYV
CYP71A28 140 GRQMVSFE--KIREBEELNEMIKKLEKASSS-----SSENLSELFITLPSDVTSRVALGRKHSED-----ETARDLKKRVRQIMELLGFFPIGEYV
CYP71A21 137 SNKMVSFR--NVRQBEELNEMIKKLEKASSS-----SSENLSELFITLPSDVTSRVALGRKHSED-----ETARDLKKRVRQIMELLGFFPIGEYV
CYP71A22 137 TNKMVSFR--NVRQBEELNEMIKKLEKASSS-----SSENLSELFITLPSDVTSRVALGRKHSED-----ETARDLKKRVRQIMELLGFFPIGEYV
CYP71A24 136 SNKMVSFR--DVRQBEELNEMIKKLEKASSS-----SSENLSELFITLPSDVTSRVALGRKHSED-----ETARDLKKRVRQIMELLGFFPIGEYV
CYP71A26 136 SNKMVSFR--EVREBEELNEMIKKLEKASSS-----SSENLSELFITLPSDVTSRVALGRKHSED-----ETARDLKKRVRQIMELLGFFPIGEYV
CYP71A25 135 SNKMVSFR--DVRQBEELNEMIKKLEKASSS-----SSENLSELFITLPSDVTSRVALGRKHSED-----ETARDLKKRVRQIMELLGFFPIGEYV
CYP71A23 134 SNKMVSFR--DVRQBEELNEMIKKLEKASSS-----SSENLSELFITLPSDVTSRVALGRKHSED-----ETARDLKKRVRQIMELLGFFPIGEYV
CYP71B36 136 SVKRVQSFQ--PIKDEEVKKLIDSSESASQ-----TPVNLSEKFTSLTVRVTKATFCVNFQGT--V--LNSDRFEKLIHDTYFLGFSFASDYF
CYP71B37 136 SPKQVHLIQ--PIKDEEVKKLIDSSESASQ-----TPVNLSEKFTSLTVRVTKATFCVNFQGT--V--LNSDRFEKLIHDTYFLGFSFASDYF
CYP71B9 134 SAKRVHSIQ--PIKDEEVKKLIDSSESASQ-----TPVNLSEKFTSLTVRVTKATFCVNFQGT--V--LNSDRFEKLIHDTYFLGFSFASDYF
CYP71B10 135 CNKRINSIQ--PIKDEEVKKLIDSSESASQ-----TPVNLSEKFTSLTVRVTKATFCVNFQGT--V--LNSDRFEKLIHDTYFLGFSFASDYF
CYP71B26 136 SANKIQSIQ--PIKDEEVKKLIDSSESASQ-----TPVNLSEKFTSLTVRVTKATFCVNFQGT--V--LNSDRFEKLIHDTYFLGFSFASDYF
CYP71B33 136 SAKNIHSTQ--HIKDEEVKKLIDSSESASQ-----TPVNLSEKFTSLTVRVTKATFCVNFQGT--V--LNSDRFEKLIHDTYFLGFSFASDYF
CYP71B34 136 SSKQVHSIQ--PIKDEEVKKLIDSSESASQ-----TPVNLSEKFTSLTVRVTKATFCVNFQGT--V--LNSDRFEKLIHDTYFLGFSFASDYF
CYP71B35 135 STKQVHSIQ--PIKDEEVKKLIDSSESASQ-----TPVNLSEKFTSLTVRVTKATFCVNFQGT--V--LNSDRFEKLIHDTYFLGFSFASDYF
CYP71B11 134 TAKRVQSFQ--HTRKDEEVKKLIDSSESASQ-----TPVNLSEKFTSLTVRVTKATFCVNFQGT--V--LNSDRFEKLIHDTYFLGFSFASDYF
CYP71B12 134 TAKRVQSFQ--HTRKDEEVKKLIDSSESASQ-----TPVNLSEKFTSLTVRVTKATFCVNFQGT--V--LNSDRFEKLIHDTYFLGFSFASDYF
CYP71B14 134 TAKRVKSFQ--NVRQBEELNEMIKKLEKASSS-----SSENLSELFITLPSDVTSRVALGRKHSED-----ETARDLKKRVRQIMELLGFFPIGEYV
CYP71B13 134 TAKRVKSFQ--NVRQBEELNEMIKKLEKASSS-----SSENLSELFITLPSDVTSRVALGRKHSED-----ETARDLKKRVRQIMELLGFFPIGEYV
CYP71B6 141 SVKRANSFR--NIREBEELNEMIKKLEKASSS-----SSENLSELFITLPSDVTSRVALGRKHSED-----ETARDLKKRVRQIMELLGFFPIGEYV
CYP71B28 133 SSKKLQSFQ--YIREBEELNEMIKKLEKASSS-----SSENLSELFITLPSDVTSRVALGRKHSED-----ETARDLKKRVRQIMELLGFFPIGEYV
CYP71B29 130 TAKKHQYFR--SIREBEELNEMIKKLEKASSS-----SSENLSELFITLPSDVTSRVALGRKHSED-----ETARDLKKRVRQIMELLGFFPIGEYV

CYP71B7 137 NTKKFQSF--YIREENDLLIKKLTESALKK-----SPVNLKKTFLTIVASIVCRLAFGVNIHKC-EF---VDEDNVADLVNKFEMLVAGVAFTDFF
 CYP71B15 133 SVKKLQSF--YIIEENNLCVKKLSEFATRO-----SPVNLERAIFTLVGNIVCRIGYGINLYEC-DF---FEADRVDLVLKAEAVIRETVFSDF
 CYP71B23 136 SLKKFNSFR--YIREENDLLVKKLSEASEKQ-----SPVNLKALFTLSASIVCRLAFGQNLHES-EF---IDEDSMEDLASRSEKIQAQFAFSNFF
 CYP71B16 135 CFKKVQYFG--YIVEEENCNLLVKKLTESAVGR-----PPVDLSKSLFWLAASILFRVAFGQSFHDN-KF---IDEDKIDELIFETETAQASFTCSDF
 CYP71B17 135 CSKKLQSF--YIKEVECNFLVKKLSESAVDQ-----SPVDLSKTLFWLAASILFRVAFGQSFHES-EF---TDTDKIDELVFETETAQGSFTCSDF
 CYP71B18 135 SLKKVQSF--YIREEENCNFLVKKLLESAVDQ-----SPVDLSKTLFWLTASVMFRVAFGQSFHES-EF---IDKDKVDELVFEAETAQASFTCSDF
 CYP71B19 135 CLKKVQSF--HIREEENCNFLVKKLSESAVDR-----SPVDLSKSLFWLTASILFRVALGQNFHES-DF---IDKEKIEELVFEAETALASFTCSDF
 CYP71B20 135 CLKKVQSF--HIREEENCNFLVKKLSESAVNR-----SPVDLSKSLFWLTASIFFRVALGQNFHES-NF---IDKEKIEELVFEAETALASFTCSDF
 CYP71B2 136 SSKKVQSF--YIREEEVDFVVKVSEESALKQ-----SPVDLSKTFVSLTASIIICRVALGQNFHESGFV---IDQDRIEELVTEESAEALGTFVSDFF
 CYP71B27 136 SLKKVQSYR--YIRGEELEFMVKKLSESALKQ-----SPVDL--TFFSLTASIIIFRVALGRNFHESGSI---IDQEGIEELVTAATTAIGSFTVSDFF
 CYP71B21 133 SSKKLKAF--YIREEESELLVKKVTESAQTO-----TLVDLRKALFSYATASIVCRLAFGQNFHECDFV---DMDK-VEELVLESETNLGSFAFIDFF
 CYP71B22 133 SSKKLKAF--YIREEESEVLVKKLSKSAETR-----TMVDLRKALFSYATASIVCRLAFGQNFHECDFV---DMDK-VEDLVLESETNLGSFAFTDFF
 CYP71B38 133 SVKKLKSFR--YIREEESELLVKKLSKSVDETQN---SSVDLRKVLFSFTASIIICRVALGQNFHQCDFV---DMEK-VEELVLESEANLGTFAFADF
 CYP71B5 133 SQKKLKSFR--YIREDESQLLVKRVSKSALETPT---SSVNLKRVIFTFASIIICRVALGQNFHESGFV---DMDK-VEELVLESETNLGSFAFIDFF
 CYP71B31 133 SPKKHKSFR--YIREEEGDLVKKLSNYAQTO-----TLVDLRKSLFSYATASIIIFRVALGQNFRECDYI---NMDK-LEELVQESVETNVCSLAFDFF
 CYP71B8 135 NPKKHKFFR--YIREEEGDLVKKLSKSSQTO-----TLVDLRKALFSYATASIIIFRVALGQNFRECDYI---DMDK-LEELVQESVETNVCSLAFDFF
 CYP71B32 134 SPKKHKSFR--YIREEEGDLVKKLSNSAQTO-----TLVDLRKALFSYATASIIIFRVALGQNFRECDYI---DMDK-LEELVQESVETNVCSLAFDFF
 CYP71B24 131 STTKVRSFR--YIREEENDLMVKKLKEAALKK-----SSVDLSQTLFGLVGSIIIFRVALGQNFRECDYI---NMDK-LEELVQESVETNVCSLAFDFF
 CYP71B3 134 STQKRSFR--YIREEENDLMVKKLKEAALKK-----NTVDLSQTLFGLVGSIIIFRVALGQNFRECDYI---NMDK-LEELVQESVETNVCSLAFDFF
 CYP71B25 137 SVKKVQSF--YVREEENHLMVKKLRDLALKQ-----SPVDLSKTLFCLAASTVFRVAFGQSFSDNKHF---SEEK--IEELVFEAQKSLTFKFSDLF
 CYP71B4 137 SVKKVQSF--YIREEENDLMIKKLELASKQ-----SPVDLSKTLFGLTASIIIFRVALGQSFSDNKHF---DQES--IKELMFESLSNMTFRFSDF
 CYP83A1 136 SPTRVATFK--HVREEEARRMMDKINKAADKS-----EVVDISELMLTFTNSVVCRAFGKRYNEY--G---EEMKRFIKILYGTQSVLGIFFSDF
 CYP83B1 135 SPNRVASFR--PVREEECORMMDKIYKAADQS-----GTVDLSELLSFTNCVVCRAFGKRYNEY--G---TEMKRFIDILYETQALLGLTFFSDF
 CYP84A1 145 SRKRAESWA--SVR-DEVDMVRSVSCNVGKP-----INVGEQIFALTRNITRYAAFCSACEKGQ-----DEFIRILQEFKLFQAFNVADFI
 CYP84A4 137 SRKRAESWV--SVD-EEVHKSRLVASNVGKP-----LNVCKLAFSLSRDITRYAAFCSACEKGQ-----DEFIRILQEFKLFQAFNVADFI
 CYP706A1 157 TPTLEASY--STRREETRQTVHVMSEMAREG-----SPVNLGEQIFLSIFNVVTRMMWGATVEG-----DERTSLGNEKTLISDISDIEGIQ
 CYP706A2 159 TPTLEASY--STRREETRQTVHVMSEMAREG-----SPVNLGEQIFLSIFNVVTRMMWGATVEG-----DERTSLGNEKTLISDISDIEGIQ
 CYP706A3 151 RNAMLDS--TDLRRRETRQTVRYLADQARVG-----SPVNLGEQIFLMLNNTVQMLWGCTTVKE-----EEREVVGAEFLEVIREMNDLLLVP
 CYP706A7 151 SNATLDSNSFSALRRQETRRVRYLADRARAG-----LAVNVGEQIFVTLNNTVQMLWGCTTVKE-----EEREVVGAEFLEVIREMNDLLLVP
 CYP706A5 149 SRKTLDSFY--ELRRKEIRERTRYLYQKGLEK-----SPVNVGEQVFLTMNMLMNMLWGGSVKA-----EDMESVGTFFKGVISEITRLLGVP
 CYP706A6 147 SHRTLNSFY--ELRRKEIRERTRYLYQKQEE-----SPVNVGEQVFLTMNMLMNMLWGGSVKA-----EEMESVGTFFKGVISEITRLLGVP
 CYP706A4 147 SRKTLDSFY--ELRRKEIRERTRYLYQGRKQ-----SPVNVGDQLFLTMNMLMNMLWGGSVKA-----EEMESVGTFFKGVISEITRLLGVP
 CYP79B2 164 CPARHRWLH--KRSEENDHDLTAWYNNMVKNSGS-----VDFRFMTRHYCGNAIKKLMFCRTRFSKNT--APDGGPTVEDVEHMEAMFEALGTFFAFC
 CYP79B3 166 CPARHRWLH--NRAEETDHLTAWYNNMVKNSGS-----VDFRFMTRHYCGNAIKKLMFCRTRFSKNT--APDGGPTVEDVEHMEAMFEALGTFFAFC
 CYP79A2 143 SKKSFQMLQ--KRTEEADNLVRYLNNRSVKNRGN--AFVVLDLRLAVRQYSGNVARKMMFCIRHFHGKS--EDGSGPLEEIEHVESLFTVLTLYLAF
 CYP79C1 148 STKALNLLLK--VRNLESDNLLAYVHNLNKNKDESKTKHGAVVNRDIVCTHTHNVKMLLFCRRHFHET--TMDGSLGLMEKEHFDALFAALDCFFSFY
 CYP79C2 145 SPTTLKTLG--YRNIEADNLIVTYVYNLCQLG----SVRKPINVRDITLTYCHAVMMRMMFCRQHFDEV--VENGGLGPKKEHMDAIYLALDCFFSFN
 CYP79F1 153 SVKTLKMLEA--ARTIEADNLIAVHSMYQRS-----ETVDVRELSRVYGYAVTMRMLFGRRHVTKENVFSDDGRLGNAEKHHLEIVFNTLNLCLPSFS
 CYP79F2 152 SVKTLNMLEA--ARTIEADNLIAVHSMYQRS-----ETVDVRELSRVYGYAVTMRMLFGRRHVTKENMFSDDGRLGNAEKHHLEIVFNTLNLCLPGFS
 CYP703A2 137 TTKRLESFTT--QRAEEARYLIRDVFKRSETGKP-----INLKEVLGAFSMNVTRMLLCKQFFGPGS-----LVSPKEAQEFLHITHKLFWLLGVIY
 CYP98A8 129 SLKSIENFR--SLREEMBARSMVVSILKDLMSNSGDDQERKPVIVRKYLAAVLNTISRLMICKEFG-----SEEGKEFKAIVEKEHLLSGSG
 CYP98A9 129 SLKSIENFR--SMREEMVSSMVKSIENDFMSD-----DQKPVILRNYLDSVALNIVSRLVICKEFG-----PKDGRFRSIVERETRLPGAT
 CYP98A3 132 TPKRLESFR--PIREDEVAMVESVFRDCNLP---ENRAKGLQIRKYLGAFAFNITRLAFGKRFMNAEGV-----VDEQGLEFKAIVSNGLKLGLASL
 CYP78A10 169 SPKRIFSSG--ESRRKIGQNMVGEIKN--AMECYG-----EVHKKILHFGSLNNVMSSVFCRKYNFNEGIV-----YSKESNELEHLVSEGYELLGIFN
 CYP78A5 153 SPRRIASFE--GVRVVGIGMKMVKKIKSLVTSACG-----EVEVKKIVHFGSLNNVMSSVFCRKYNFNEGIV-----YSKESNELEHLVSEGYELLGIFN

CYP76C2 231 P-----FLGFLDLQGNRKTAKACSERLKFVFRGFIDAKLAEKSLRD-----T-NSKDVREDFVDVLLDLTEGDEAE-----LNTNDIVHL
CYP76C4 231 P-----FMGFLDLQGNRKAMRGLTERLFRVFRGFMDAKIAEKSLGN-----YSKDVSNRDFLDSEILNEGDEAE-----LDNNDIEHL
CYP76C1 232 P-----FLRFLDLQGNVKTTFKVCTERLVRVFRGFIDAKIAEKSSQN-----NPKDVSKNDFVDNLLDYK-GDESE-----LSISDIEHL
CYP76C5 232 P-----FMRLLDLQGNSKMKEYSGKLLQVFRFYDARILENSSRI-----DEKDVSSRDFLDALIDLQGDSE-----INIDIEHL
CYP76C6 231 P-----FMRFLDLQGNSKMRESSGRLLQVFRFYDARIVEKSSRS-----VEKDVSSKDFLDVLLIDLQGDSE-----INIDIEHL
CYP76C3 223 Q-----YMRFLDLQGNTRKAVLCIEKLFVRFQEFIDARLAKRFSRT-----EKEPKKEASSIDMLDSELDLTQQNEAE-----LTMNDIKHL
CYP76C7 226 P-----FLGFLDLQGARKEARLLMHKLFVRFQGFIDTKRSS-----TSRNNNDMLDSELDLAHKKESE-----LDDNNIKHL
CYP76G1 230 P-----LLRFLDPQGIIRKTKQFHVKEKAFIAGEFIREIRTEVREK-----SDEKTKDYLDVLLLEFRGGDGVDEEP-----SSFSSRDINVI
CYP75B1 224 P-----SLDWLDLQGV-----VAGMKRRLHKRFDAFLSSILKEHEMNG-----QDQKHTDMLSTLISLKGTDLDGDG-----GSLDTEIKAL
CYP705A1 225 VSKMFRKLLLEKLGISLKFTEIMVVSRRFSELVERILIEYEEK-----MDGH-QGTQFMDALLAAYRDEN-----TEYKTRSHIKSL
CYP705A24 227 VAQIFHKPLEKLGISLLKQIMDVSHKFEELLENIVVKYEEK-----MDNH-QSTEFMDALLAAYQDEN-----AEYKTRNHIKAL
CYP705A12 226 FSNMFR-----KDIMGVSREFDEFLELILVEHEEN-----LEGD-QDRDMIDHLLAAYRNEE-----AEYKTRKQIKSL
CYP705A13 230 LTQVLRRLFEILRISPFKKEITLDVSRKFDELLERILVEHEEK-----TDYD-HGMDLMDVLLAVYRDGK-----AEYKTRDHLKSL
CYP705A15 229 LANMLRAGFKKLVVSLFRKEMDVSSRFDELLERILVEHEDK-----LDMHH-QGTDLVDAALLAACRDKN-----AEYKTRNHIKSF
CYP705A4 219 FANMLRAWFKKLVVSLFKKETTVISYRFDELLERILVEHEEK-----LDVHH-QRTDLMDAALLAAYRDEN-----AEYKTRNHIKSI
CYP705A16 231 LAATLRRLEKLGISLQFKEIMGVSRGFDELLERILREHEEK-----PD-EH-HDMDMDALLAAYNDEK-----AEYKTRNQIKAF
CYP705A19 228 LAFTLRRLLEKLGISLQFKEIMGVSRGFDDLLERYLREHEEK-----PDNEH-QDTMDIDALLAAYRDEK-----AEYKTRNQIKAF
CYP705A28 229 LGMIFHKPLKLLGISLQFQDIKSVSPKFDELLEKFLVEHEEK-----EEDHY-KANDMDLLEAYGDEN-----AEYKTRNHIKSL
CYP705A30 229 FGMIFHKPLKLLGISLQFQDILSLSRKFDELLEKILFEHEEK-----AEHN--QANDMDLLEAYGDEN-----AEYKTRNHIKSL
CYP705A32 233 LGMIFDKPLKLLGISLQFQDIKSVS-RFDELLEKILVEHEER-----MGKHY-KANDMDLLEAYGDEN-----AEYKTRNHIKSL
CYP705A2 222 LATIFHKPLKLLGISLQFKEIMSVSRKFDELLEKILVEHEEK-----MEEHH-QGTDMDVLLAAYRDEN-----AEYKTRNHIKSM
CYP705A5 226 LGAMFHKPLKLLGISLQFAKELMNVSNRFDELLEKILVEHEEK-----LQEH--QTSMDLMDLLEAYGDEN-----AEYKTRDQIKSL
CYP705A23 229 MANVLHKPLKLLGISLQFKEIMDVSNRFDELLERFLVEHEEK-----LNED-QDMMDMGLLAACRDKN-----AECKTRNHIKSL
CYP705A20 226 LVNILRWPLEKLRISLQFKEIMYVSNRFDELLERILVEHEEK-----PNEH-QGTYLMDVLLAAYEDEK-----AEHKTRNHIKSL
CYP705A21 228 FATLLHRPLEKLGISLQFKEIMCVSDSFDEVLERVVEHEEK-----LDDH-QDRDMDVLLAAYGDEN-----AEHKTRNHIKAF
CYP705A18 230 FAATLRRLEKLRIPFRKEIMGVSDRFDELLERILVEHEKDKL-----EKEH--QVMDMDVLLAAYRDKN-----AEYKTRNHIKSF
CYP705A6 228 LASLLRKPLKLRISLQFKEIMGVSDRDLDELLERILVEHEEKL-----HEEH--QGTMDMDVLLAASGDEN-----AEYNTTRNHIKSF
CYP705A33 228 FASVLRRLKLRIPLFKQIMDVSNRFNELLEKILVEHNEKL-----DEEH--KDTMDMDVLLAAYADEN-----AEYKTRNHIKSF
CYP705A3 227 LAAILRRPLAKLRISLQFKEIMGVSNKFDELLERILQERKENL-----EEKNN-EGMDMDVLLAAYGDEN-----AEYKITWKHIAF
CYP705A22 229 LAVLLRRQLQKLGISLQFQKIMGVSNKFDVLEKVLVEHREKP-----EKDQ--GTVMLDVLLAAYGDEN-----AEYKITKNHIAF
CYP705A8 226 LAAILRKPLKKGITLQFQVFMDSLQFDEVLEKILVENEER-----LEENQ-QGTDIMDKLLEVYGDKT-----SEYKTRDHLKSL
CYP705A9 204 LAGILRKPLQKIGISLQFQKELMDASCKFNEVLEKILVEYKEK-----VEEH--QGTMDMDKLEVYGDKE-----AEYKTRDHLKSL
CYP705A25 233 IASIVGQFSLVGLISLQFQKELMEVVSQRYDELLEKILKEHEEN-----PNNG-EDRDMMDVLLAAYCADDN-----AEFKTRNQIKAL
CYP705A27 232 IANTVGRLLKFKGSLQFQKELMEVVSQRYDELLEKILKEHEED-----PNKK-EDRDMMDVLLAAYCADDK-----AEVKTRNQIKAL
CYP712A1 227 VGDVLG-PLKVMDFSCNGKLVAVMEKYDLLVERIMKERE-AK-----AKKKDGTRKDIIDILLETYRDEPT-----AEMKTRNDMKSF
CYP712A2 224 FMELFG-PLRDLDFCNGKLLRSSIWRVDELVEKILKEYENDK-----SNEEEEKDKDQIVDILLDTYNDPK-----AELRLTMNQIKFF
CYP93D1 221 NVSETFWFLKRLDLQGLKRLKRNARDKYDVIIEIRIMEHEESS-----KKNATGERNMLDVLDDIYEDKN-----AEMKLTRENIAF
CYP81D6 239 NAADYLPIMRWFTN--FEKRVKNLAIRIDKFLQSLVDEKR-----ADKEKG--TTMIDHLLSLQES-----QPDYTDVTLKGI
CYP81D7 224 NAADYIPILRWITD--FEKGVKELASRVDEFQSLVDERR-----VHKQKG--NTMDHLLSLQET-----QPDYTDVTLKGI
CYP81D11 232 NAADYFPILRYVTN--YEKRVKLAGRVDEFQSLVNEKR-----VEKVKG--NTMIDHLLSLQET-----QPDYTDVTLKGI
CYP81D2 223 NAADYIPILTWITY--SETRIKKLAGRLDEFQGLVDEKR-----EGKEKKE--NTMVDHLLCLQET-----QPEYYMDRIKGT
CYP81D3 220 NTADYLPILTWITG--SEKRIKKIASRLDEFQGLVDEKR-----EGKEKRQ--NTMVDHLLCQET-----QPEYYTDNLIKGI
CYP81D8 223 NAVDYLPVLRVSD--YETRVKLAGRLDEFQGLVDEKR-----EAKEKG--NTMIDHLLTLQES-----QPDYFTDRIKGN
CYP81D4 221 NPIDYLSILRWVSS--YEKRIKLNLRFDTFLOKLVDEKR-----AEKEKG--ETMIDHLLALQDI-----QPDYTDVTLKGI
CYP81D5 220 NLADYLP SINWVTN--FENQTKILGNRLDRVLQKLVDEKR-----AEKEKG--QTLIDHLLSFQET-----EPEYYTDVTLKGI

CYP81D1 230 NAVDYVPILRLFSS--YENRVKKLGEETDKFLQGLIDDKR-----GQQETG---TTMIDHLLVLQKS-----DIEYYTDQIKGI
CYP81F3 219 HPGDYLPFMKMFSGS-FEKVKALAEAMDEILQRLLECK-----RDKDGN---TMVNHLLSLQQN-----EPEYYTDVTKGL
CYP81F4 221 HPGEYLPFMKIFGGS-FEKEVKAAAKVIDEMLQRLLECK-----SDKDGN---TMVNHLLSLQOD-----DPEYYTDI IKGL
CYP81F2 219 HPGDYLPILKVFHG-YEKVKALGEAMDAFLQRLLECR-----INGESN---TMVSHLLSLQLD-----QPKYSDVITKGL
CYP81F1 224 HSADYLPILKLFGNK-FEKEVKAIKGSMDLILQRLLECR-----RDKEGN---TMVNHLISLQQO-----QPEYYTDVITKGL
CYP81H1 224 NPADFLPALRWFYDKGLVKRAKRIGERMSLLQGLDEHR-----ANKDRLEFKNTMIAHLLDSQEK-----EPHNSYDQTIKGL
CYP81G1 230 YVGDFLPTLKLFDLDGYRKRAKKLASKLDKFMQKLVDEHR-----KNRGKAELEKTMITRLLSLQES-----EPECYTDI IKGL
CYP81K1 220 NVCDYFPVLRWIGYKCLEKRVIDMQRMRDEYLQRLIDDIR-----MKNIDSS--GSVVEKFLKLQES-----EPEFYADDVTKGI
CYP81K2 219 NVCDYFPVLRWIGYKCLNVRVIEIQMRMRDEYLQRLIDDIR-----MKKFDST--GSVVEKFLKLQES-----EPEFYSDDVTKGI
CYP82C3 221 TVSDAFPKLGLWLDLQCHEKEMKQTRRELDVILERWIENHRQQRKV-----SGTKHNDSDFVDVMLSLAEQGKLS-----HLQYDANTCIKTT
CYP82C4 233 TVSDAFPTLSFFDLQCHEKEMKQTSSELDVILERWIENHRQQRKF-----SGTKENDSDFIDVMMSLAEQGKLS-----HLQYDANTSIKST
CYP82C2 232 TVSDAFPKLGFDFQCHEKEMKQTSRELDVILERWIENHRQQRKV-----SGTKHNDSDFVDVMLSLAEQGKFS-----HLQHDATSIKST
CYP82F1 231 LLSDVAPVGLGFLDWK-TKRGMKRTAKGLDKVAEGWIEEHKNKRS-----HGRSEND--YLDILIKILGQDKIP-----GLS-DHTTKIKAL
CYP82G1 228 MIGDVIPWLGWLDFA-KNSQMKRLFKELDVNTKWLHEHLKRS-----RNEKDQERTIMDLLLDILPED-----IVIS
CYP71A12 223 PAL---AWIDRIN--GFNARIKEVSRGFSDLMDKVVQEHLEA-----GNH-KEDFVDILLSIES-----EKSIGFQAQRDDIKFM
CYP71A13 223 PIL---AWIDGIR--GFNNKIKEVSRGFSDLMDKVVQEHLEA-----SND-KADFVDILLSIEK-----DKNSGFQVQRNDIKFM
CYP71A18 223 PAL---AWIDRIN--GFNSKIVEVSRAYSIDLMEKVVQEHLEA-----GEH-KADFVNILLSIEK-----EKNNGFKVQRNDIKFM
CYP71A14 223 PCL---AWIDKLR--GVDEKAEVSKAFGDLMEKVLQEHLEA-----TDKPTLDFVDVLLSLER-----HERNGVQIRRSDIKFL
CYP71A15 222 PCL---AWIDQIR--CLYNRAEEVSKIFGDLMDKVVQEHLEA-----TNKPTKDFVDILLSFER-----QSKDGI EVRRSDIKFI
CYP71A19 225 PSL---SWIDKIR--GQDHKMEVDKRFDEFLEERVVKEHEDA-----NKDTRS--DLVDTLTITQS-----DKS-----ALKLI
CYP71A20 222 PSL---SWIDRIR--GLDHKMEVDKRFDEFLEERVVKEHEEA-----DKETRS--DLVDKLLTITQS-----DKTGQFELEKSALIKLI
CYP71A27 223 PSL---AWIDWIS--GIDDKMKDINNKLDFLDSMVQEHVDA-----DHKEPS--DFIDMLLLTIQK-----DKTKRFKFRSDILILI
CYP71A16 222 PSL---AWIGKIT--GSDGKLEKITKQFGDFIEKVLQEHEDT-----TADKETPFDVDMLLTIQR-----DETAQCQLDKSDIKVI
CYP71A28 225 PGL---AWIDKVR--GLDRKMEVSKTFVEFLEERVVQEHVDE-----GENKETPFDVVDILL-IQL-----EKTNEFELEERSDIRLI
CYP71A21 217 PWL---GWIDWIS--GLDGQLNKTGNDLDEFLEKVVQDHVDG-----DG--QRTDFVDVLLRIQR-----EKSIGFEIDRLCIIKAI
CYP71A22 217 PWL---AWIDWIS--GLDGQLKKTGNDLDEFLEKVVQDHEDG-----DA--QRTDFVDVLLRIQR-----EKSVGF EIDRLSIIKAI
CYP71A24 216 SWL---AWIDWIR--GLDGQLIKISNDLDEFLEERVVQDHVDG-----DG--HKNDFVDVFLITIER-----EKSVGF EIDRLSIIKAI
CYP71A26 216 PWL---AWIDWIR--GLDCQLEKTANDVDKFFERVVQDHVDG-----NR--DMTDFVDVLLAIQR-----DKTVGF EINRVSIKAI
CYP71A25 215 PWL---AWIDWIR--GWDAQLDKMGKDLDDFFFEKVVQDHEDG-----DRR--DGTDLIDALLRVKR-----EKSPGF EIERVSIKAI
CYP71A23 214 PWL---AWTDWVS--GLEARLEKTANDFDKLLERIVQDHEDG-----DG--DKTDFVDVLLAAQR-----DKSFGFDIDRLSIIKAI
CYP71B36 222 PNG--GWIIDWLT--GLHGQRERSVRALDAFYEQMFDLHKQ-----GNKE--GVEDFVDLLLRLEKEE-----TVIGYGKLTNRNHIIKAI
CYP71B37 222 PNV--GWIIDWLT--GLQGQRERSVRGLDAFYEQMFDLHKQ-----GNKE--GVEDFVDLLLRLEKEE-----TVLGYGKLTNRNHIIKAI
CYP71B9 220 PNG--GWIIDWLT--GLQRRREKSVKDLDFYEQMFDLHKQ-----ENKQ--GVEDFVDLLLRLEKEE-----TVLGYGKLTNRNHIIKAI
CYP71B10 221 PYV--GWIIDWFT--GLHARRERSVRDLDAFYEQMIDLHLQ-----KNRESEDDFVDLLLRLEKEE-----AVLGYGKLTNRNHIIKAI
CYP71B26 222 PYV--GWIIDKFN--GLQGWRRKSFRDLDAFYEQIFDLHKE-----EKEV--GSEDLVDVLLRLEKEE-----IVVGNKLTNRNHIIKAI
CYP71B33 222 PYI--GWIIDRFT--GLQGRREKSVXDLDAFYEQIIDLHKE-----EKEV--GSEDFVDLLLRLEKEE-----TVVGNNNFTNRNVKAI
CYP71B34 222 PYV--GRIIDLLT--GLQGRRERSMRDLDAFYEQMFDLHKQ-----KKEE--GSEDFVDLLLRLEKEE-----AVLGNDKLTNRNHIIKAI
CYP71B35 221 PYV--GWIIDVLT--GLQGRRERSKRDLNAFFEQMFDLHKE-----GKKE--GNEDFVDLLLRLEKEE-----AVLGNDKLTNRNHIIKAI
CYP71B11 219 PII--GRIIDRIT--GLHSKCEKIFKAMDAFFDQSIKHLE-----DESI--KDDIIDLLKMERGE-----TELGEFQLTRDNTKGI
CYP71B12 219 PVV--GRIIDRIT--GLHSKCEKLFKAMDAFFDQSIKHLE-----DEII--KDDIIDLLKMERGE-----TTLGEFQLTRDHTKGI
CYP71B14 219 PII--GRIIDRIT--GLHSKCEKVFKEMSFFDQSIKHLE-----DTNI--KDDIIGLLKMEKGE-----TGLGEFQLTRNHTKGI
CYP71B13 219 PVI--GGIIDRIT--GLHNKCEKVFKGTDSFFDHCIKHLE-----DGGS--KDDIIVDLLKVERGE-----IGLGEFQFTNRNHTKGI
CYP71B6 227 PGF--GWIIDRIS--GLDSSRRKSFQDLDTFFYQKAIVDHRE-----KKKTEDREDLIDVLLKLSQSE-----TKLGSSRITDTHIRAI
CYP71B28 220 PGL--MGRLEWIF--SERKRLNRLYSEVDTFFQNILLDHLK-----PGR---ESSDIIDVIMDMKKQE-----KEGDSFKFTTDHLKGM
CYP71B29 217 PGG--IGRFIDWIS--GQNKRFNDNVFSDLDTFFQNILLDYHLK-----PGRKVADSSDIIDVVINMIKKQE-----KDGDSFKLTTDHLKGM

CYP71B7 224 PG--VGWLVDRLS--GQNKTLNNVFSELDITFFQNVLDHHLK-----PGRQVSENPDVVDVMDLDMKKQE-----KDGESFKLITDHLKGI
CYP71B15 220 PGR-IGRFIDCIS--GQNRRLKNNFVVDITFFQNVLNEHLK-----PGR---ESSTIVDLMDMCKKQE-----NDGDALKFTDHLKGM
CYP71B23 223 PG---GWILDKIT--GQSKSLNEIFADLDGFFNQVLDHHLK-----PGRKVLETPD VVDVMDM MNKQS-----QDG-SFKLITDHLKGI
CYP71B16 222 PIAGLGWLADWIS--GKHRWLNNVFFKLDALFQVVIDDHS-----PGRW-KDHKQIVDVMIDVMHKQ-----GKDDSLRLITDHLKGF
CYP71B17 222 PIAGLGWLVDWIS--GQHKRLNDVFLKLDALLQHVVIDDHSN-----PGRS-KDHKQIVDVMIDVMHKQ-----GKDDSLRLITDHLKGL
CYP71B18 222 PIAGLGWLVDCLIS--GQHKRLKDVFFKLDALFQXXXXXXX-----XXXX-XXXXXXXXXMDVMQKQ-----RKDDSLKLTINNIKGI
CYP71B19 222 PVAGLGWLVDWFS--GQHKRLNDVFKLDALFQHVVIDDHLN-----PGRS-KEHEDIIDSMIDV I HKQ-----GEDSSLELITDHLKGF
CYP71B20 222 PVAGLGWLVDWFS--GQHKRLNDVFKLDALFQHVVIDDHLN-----PGRS-KEHEDIIDSMIDAIHKE-----GKDSSELELIDHLKGF
CYP71B2 224 PGG-LGRFVDWLF--QRHKINKVFKELDAFYQHVIDDHLK-----PEGR-KNQ-DIVTLILDMIDKQ-----EDSDSFKLNMDNLKAI
CYP71B27 222 PSG-LGRFLDCLF--RTQTINKVSEKLDAFYQHVIDDHLK-----PSTL-DSSGDI VALMIDMIKKK-----GHKDDFKLNVDMIKAV
CYP71B21 220 PAG-LGWAIDRLS--GQHSRLHKAFAARLSNFFQHVIDDHLK-----PWQS-EDHSDIVGVMIDMINKE-----SKVGSFKVTYDHLKGV
CYP71B22 220 PAG-LGWVIDRLS--GQHSELHKAFAARLSNFFQHVIDDHLK-----PGQS-QDHSDIIGVMIDMINKE-----SKVGSFQVITYDHLKGV
CYP71B38 222 PG---GWLIDRLS--GQHSRVNKAFAFKLTNFKYKHVIDDHLK-----TGQP-QDHSDIVSVMIDMINKP-----TKADSFKVTYDHLKGV
CYP71B5 220 PA---GWLIDRLS--GQHSTVMKAFSKLTNFFELVIDDHLK-----SGKI-EDHSDIISVMIDMINKP-----TEVGSYKVIDDHLKGL
CYP71B31 220 PRG-LGWLVDRLS--GQHSRMNIAFSKLTTFEDVIDDHLK-----TKQL-DDHSDLVMTAMLDVINRP-----RKFGSLKITDHLIAM
CYP71B8 222 PTG-LGWLVDRLS--GQHSRIEKAFSKLTKFFQHVVIDEELK-----IQQS-QDHSNLVSSMIDMINRS-----TEYGSFKLITDHLIAM
CYP71B32 221 PTG-LGWLVDRLS--GRHSRMNKAFAFKLTNLFQHVVIDEQLK-----IGQL-QDHSNLVSAMIDMIIRP-----SKFSSFNITSNHLIAM
CYP71B24 217 PGG-LGWVDFVVS--GHNKKLHKVFVEVDITLLNHIIDHHLKN-----SIEEITHDRPDIIDSLIDMIRKQ-----EQGDSFKLITDNLKGI
CYP71B3 220 PAG-VGWFMDFVS--GRHKTLHKVFVEVDITLLNHVIDGHLKN-----PEDKTNQDRPDIIDSLIETIYKQ-----EQDESFKLITDHLKGI
CYP71B25 223 PIPGLGWFIGFVS--GQHKGLHKVFEVDNFLNHMIDDHOK-----QNPQDRSDIVGSLIDMIHNQ-----EQDKSFKLTIDHLKGI
CYP71B4 223 PTAGLKWFIFGVS--GQHKRLYNVFNVDITFFNHVIDDHS-----KKATQDRPDMVDAITDMIDNE-----QQYASFKLTVDHLKGV
CYP83A1 222 PYCG---FLDDLS--GLTAYMKECFERQDTYIQEVVNETLD-----PKRVKPETESMIDLLMGIYKEQ-----PFASEFTVDNVKAV
CYP83B1 221 PYFG---FLDNLIT--GLSARLKAFAKELDTYLQELLEDITLD-----PNRPKQETESFIDLLMQIYKDQ-----PFSIKFTHENVKAM
CYP84A1 225 P-----YFGWIDPQGINKRLVKARNDLDGFIIDIDEHMKKKENQN-----AVDDGDVVDITMVDLLAFYSEEAKLVSETADLQNSIKLTRDNLKAI
CYP84A4 221 PS-----WLSWIDPQGINGRVEKARKSLDGFIESVIDDHLHKKKRE-----HDNVDEETDMVDQLLAFYEEEVKVNNSVTKIN-----LDNLKGI
CYP706A1 239 NYSDFFPPLFSRFDQCLVVKQMKGHVKKLDLLFDRVME SHVKMVG-----KKSE--EEDDFLQYLLRVKDDDEK-----APLSMTHVKSL
CYP706A2 241 NYSDFFPPLFSRFDQCLVVKQMKGHVKKLDLLFDRVME SHVKMVG-----KKSE--EEDDFLQYLLRVKDDDEK-----APLSMTHVKSL
CYP706A3 233 NISDFFPVLSRFDLQCLAKRMRPAQRMDQMFDR I INQRLGMD-----RDSSDGRAVDFLDVLKVKDEEAE-----KTKLTMNDVKAV
CYP706A7 236 NVSDFFPVLRSRFDLQCLAKRVRRSAQRMDRMFDR I ISQRMGMD-----KGSK-GNGGDFLMVLLNAKDE-----DENMSMNHVKAL
CYP706A5 231 NVSDFFPMLARFDLQGLVKKMHLIYARDLDAITLDRAIEQMORLRS-----RDGDDGECKDFLQHLMKLRDQHEADS-----DVPITMNHVKAV
CYP706A6 229 NVSDFFPRLARFDLQGLVKKMHVCARELDAITLDRAIEQMQLLRT-----RDGDDGECKDFLQHLMKLKDQHEADS-----EVPITVNHVKAV
CYP706A4 229 NVSDFFPWLARFDLQGLVKKRMGVCARELDAVLDRAIEQMKPLRG-----RDDD--EVKDFLQYLMKLKDQEGDS-----EVPITINHVKAL
CYP79B2 253 ISDYLP-MLTGLDLNGHBKIMRESSAIMKYHDP I IDERIKMWR-----EGKRTQIEDFLDIFISIKDEQG-----NPLLTADBLKPT
CYP79B3 255 ISDYLP-MLTGLDLNGHBKIMRESSAIMKYHDP I IDERIKMWR-----EGKRTQIEDFLDIFISIKDEAG-----QPLLTADBLKPT
CYP79A2 237 LSDYVP-WLRFDLLECHBKVVSNAMRNVSKYNDPFVDERLMQWR-----NGKMKEPQDFLDMFI I AKDTDG-----KPTLSDEEIKAQ
CYP79C1 243 VADYYP-FLRGWNLQCEEAELREAVDVIARYNKMI IDEK I ELWRGQNKDYNRAETKNDVPMIKDWLD I LFTLKDENG-----KPLLTPOEITHL
CYP79C2 236 LTNYP-FLRGWNVDKAETE VREAVH I INICNDP I I QER I HLWR-----KKGKQMEEDWLD I I TLKDDQG-----MHLFTFDEIRAQ
CYP79F1 244 PADYVERWLRGWNVDGQEKRVTECNIVRSYNNP I I DERVQLWR-----EEGKAAVEDWLDITFITLKDQNG-----KYLVTPEEIKAQ
CYP79F2 243 PVDYVDRWLGWNI DGEERAKVNVNLVRSYNNP I I DERVE I WR-----EKGGKAAVEDWLDITFITLKDQNG-----NYLVTPEEIKAQ
CYP703A2 223 LGDYLP-FWRWVDPSCCEKEMRDVEKRVDEFHTKI IDEHRRAKLE-----DEDKNGDMDFVDVLLSLPGENG-----KAHMEDVEIKAL
CYP98A8 214 TILDHVWVLKWS-SWFFSDKEFLAHLKDRRTKWFRAIMVEE-----DIEIEDHRGRFVRKLLVLKEQKE-----LSEETVGGGL
CYP98A9 209 KMLDYTVWLKRLS-SWFTSDKAFMKHMARKRNWFK-RAVMDE-----VYGGRDQKCFVQSHLELKEKDE-----LSEETVMGL
CYP98A3 220 SIAEHIPWLRWMPADEKAFAEHGARRDRLTRAIMEEHTLAR-----QKSSGAKQHFDALLITLKDQYD-----LSEDTITIGL
CYP78A10 255 WSDHFFGMRWLDL-QCVRRRRCRLVGRVNVFVGK I I NDHKSKRSLRDNPEES-----TYDDDFVDVLLGMHGNSK-----LSDSDMIAV
CYP78A5 238 WSDHFFWFLRWDF-QCVRKRRCRALVSEVNTFVGGL I I EKHKMKKGNLNGEE-----NDFVDVLLGLQKDEK-----LSDSDMIAV

CYP76C2 306 LLDLFGA-GTDTNSSSTVEWAMAELLRNPEMTMVKAAQAEIDCVIGQ---K-GVVEESDLSALPYLQAVVKEIFRLHHAAPLLVPRKAESD-VEVLG-FMVPK
 CYP76C4 305 LLDMFTA-GTDTSSSTLEWAMAELLRNPKTMVKAAQAEIMDRVIGQ---N-SVVQESDLSGLPYLQAVVKEIFRLHHAAPLLVPRKAESD-VEVLG-FMVPK
 CYP76C1 305 LLDMFTA-GTDTSSSTLEWAMTELLKNPKTMAKAAQAEIDCVIGQ---N-GIVEESDLSKLPYLQAVVKEIFRLHHTVPLLPKKAESD-AEILG-FMVLK
 CYP76C5 306 LLDMFLA-GTDTNSSSTVEWAMTELLGNPKTMTKVQDEINRVIRQ---N-GDVQESHISKLPYLQAVVKEIFRLHHAAPFLLPKKAERD-VDILG-FHVPK
 CYP76C6 305 LLDMFVA-GTDTNSSSTVEWAMAELLGNPKTMTKVQDEINHVIQ---N-GDFQESDLSKLPYLKAVVKEIFRLHHAAPFLLPKKAETN-VEILG-FTVLK
 CYP76C3 299 LLDVFVA-GTDTNSSSTMBWAMTELLFRSTEKMVKAQSEIRQVIGQ---N-GFVQESDIPSLPYLQAVVKEIFRLHHAAPFLLPKKAESD-VQIMG-FLVPK
 CYP76C7 293 LLDLFLA-GVDTSSSAVWAMAELLRNPKMIVKVQBEIRQVIGL---K-GTVQDLDIVKLPYLQAVVKEIFRLHHAAPFLLPKKAESD-DVQIFE-FLTPK
 CYP76G1 307 VFEMFTA-GTDTTSTLEWALAEILLHNPRITLTKLQTELRTYFKSS--N-QKLQEDLPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-FTQIFDQ-YTIPK
 CYP75B1 296 LLNMFTA-GTDTSASTVDWALAEILLRHPDIMVKAQBEIDIVVGR---D-RPVNESDIAQLPYLQAVVKEIFRLHHAAPFLLPKKAESD-CEING-YH1PK
 CYP705A1 301 LTVEFFIGAADASSIAIQWAMADINNREILEKLRREIDSVVGKT----RLVQETDLPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-FQEGCEIGG--FFVPE
 CYP705A24 303 LAELFFG-AGESSSSTTRWAMGEIFMNPRIFEKLRTEIDSVVGTT----RLIQESDLPKLPYLQAVVKEIFRLHHAAPFLLPKKAESD-FTQDQCNIGG--FYTHE
 CYP705A12 290 IVEIFLG-GTDSQAQTIQWIMAEILLNPNPVLKLRRAEIDSVVGK----RLIQESDLPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-FGSECEVKE--FYVPE
 CYP705A13 306 FVELILG-GTDTSAQTIQWIMAEILLKPNILERLRKEIDSVVGKT----RLIQEKDLPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-VTDGCTIGG--CYVPE
 CYP705A15 306 FADLLFA-STDTFVQTTQWIMAEILLNPNVLERLRGEIDSVVGKA----RLIQETDLPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-FYVPE
 CYP705A4 296 IADLLFA-GTENOVQTIQWIMAEILLNPNVLERLRGEIDSVVGKS----RLIQETDLPKLPYLQAVVKEIFRLHHAAPFLLPKKAESD-TKEGCRIRG--FYVPE
 CYP705A16 307 IVDMFA-GTDISALTTQGTMAEILLNPNVLRIRREIDSVVGKS----RLIQETDLPKLPYLQAVVKEIFRLHHAAPFLLPKKAESD-FYIPE
 CYP705A19 305 LVDIFA-GTDISALTTQGTMAEILLNPNVLRIRREIDSVVGKS----RLIQETDLPKLPYLQAVVKEIFRLHHAAPFLLPKKAESD-FYIPE
 CYP705A28 307 FVELLVA-GTDTSALATQWIMAEILLNPNVLERLRREIESVVGNT----RLIQETDLSNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-SQERCELGG--FYIPE
 CYP705A30 306 FVDLVA-GTDTSVQATQWIMAEILLNPNVLERLRREIESVVGNT----RLIQENDLPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-FQERCELKG--FYIPE
 CYP705A32 309 FVDLVA-GTDTSAQTIQWIMAEILLNPNVLERLRREIESVVGNT----RLVQETDLPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-FQERCELKG--FYIPE
 CYP705A2 299 FVDLFA-GTDTSSSTTIQWIMAEILLNPNVLERLRREIDFVVGKT----RLIQETDLPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-VQERCEIKG--FHIPE
 CYP705A5 303 FVDLFA-GTEASANTIQWIMAEILLKPNICERLRREIDSVVGKT----RLVQETDLPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-PVVRT-FKETCEIKG--FYIPE
 CYP705A23 305 FVDLVA-GTDTSRHATQWIMAEILLKPNVLEKVRREIYSVVGRT----RLVQETDLPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-AREGFVSGG--FYVPE
 CYP705A20 302 FVELLLG-GTDTSAQTIQWIMAEILLNPNVLERLRREIDSVVGET----RLIQEKDLPKLPYLQAVVKEIFRLHHAAPFLLPKKAESD-FQRCEMKG--FYIAE
 CYP705A21 304 FVELFFA-GTDTSAQSIQWIMAEILLNPNVLERLRREIDSVVGKT----RLIQETDLPKLPYLQAVVKEIFRLHHAAPFLLPKKAESD-FQEGCKIGG--FYVPE
 CYP705A18 307 FVDLFG-GTDTSVQTTQWIMAEILLNPNVLERLRREIDSVVGKS----RLIHETDLPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-FQERCEMKG--FYIPE
 CYP705A6 305 FVEIFIG-ATDTSVQTTQWIMAEILLNPNVLERLRKIDSVVGKT----RLIHETDLPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-FQERCKIKG--FYIPE
 CYP705A33 305 FVELFVG-GTDTSVQTTQWIMAEILLNPNVLERLRREIDSVVGTS----RMIQETDLPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-FEERCEIKG--FYIPE
 CYP705A3 305 FVEFFIG-GTDTSVQTTQWAMAEIMNPNVLERLRREIYSVVGGET----RLIQETDLPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-FQEKCEVKG--FYIPE
 CYP705A22 305 FVDLFIG-ATDTSVQTTQWIMAEIMNPNVLERLRREIDSVVGKS----RLIQETDLPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-FQGGCKIGG--FYIPE
 CYP705A8 303 FVDLFFA-GTDTATHTIQWIMAEIMNPNVLERLRREIDSVVGKT----RLIQETDLPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-FQGGCTIGG--FSTPK
 CYP705A9 281 FVDLFFA-GDTTWTHTIQWIMAEIMNPNVLERLRREIDSVVGKT----RLIQETDLPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-FKEGCTIGG--FYVPE
 CYP705A25 309 FVEIFLA-GTDTSAQTIQWIMAEILLNPNVLERLRREIDSVVGVR----RLIQETDLPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-ATEGCKIGG--YYIQG
 CYP705A27 308 IVEIFLG-GTDTSAQTIQWIMAEILLNPNVLERLRREIESVVGTT----RFIQETDLSNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-ATKGGCKIGG--YYIQG
 CYP712A1 304 LLDVFMA-GTDTSAAMQWAMQILLNPNVLERLRREINNPNVSK----RLVQESDVPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-CAEDCQVNG--CLVKS
 CYP712A2 302 ILELFMA-SLDTSAALQWIMAEILLNPNVLERLRREIKSVVGTTN---RLIQESDLPKLPYLQAVVKEIFRLHHAAPFLLPKKAESD-SNTDMKING--YDVKS
 CYP93D1 298 IMNIYGG-GTDTSAITVEWALAEILLNPNVLERLRREIEQVVGNT----RVVEESDLCNLSYQAVVKEIFRLHHAAPFLLPKKAESD-SDEECAVAG--FRIPA
 CYP81D6 309 IIVMIA-GSETIATWLEWAMLNPNVLERLRREIEVLEKARTEIDTKIGFD---RLMDEADTKNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-YDVPR
 CYP81D7 294 IIVMIA-GTETLAGTLEWAMLNPNVLERLRREIEVLEKARTEIDTEVGF---RLMDEADTKNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-YDVPR
 CYP81D11 302 IIVMIA-GTDTSAQTIQWIMAEILLNPNVLERLRREIEVLEKARTEIDTQIGVD---RLVVEESDIPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-YDVPR
 CYP81D2 294 MSLIAG-GTDTSAVLEWAMLNPNVLERLRREIEVLEKARTEIDRMIGVD---RLVVEESDIPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-YDMPR
 CYP81D3 290 MSLILA-GTDTSAVLEWAMLNPNVLERLRREIEVLEKARTEIDNKVLN----RLVVEESDLSHLPYLQAVVKEIFRLHHAAPFLLPKKAESD-YHMPR
 CYP81D8 293 MLALILA-GTDTSAVLEWAMLNPNVLERLRREIEVLEKARTEIDRKIGLD---RLMDEESDIPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-YDMPR
 CYP81D4 291 IITLIIA-GTDTSSVTLEWAMLNPNVLERLRREIEVLEKARTEIDKVGLD---RLVDESDIPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-YDIPS
 CYP81D5 290 ILALVIA-GTDTSSVTLEWAMLNPNVLERLRREIEVLEKARTEIDDKIGSD---RLVVEESDIPNLPYLQAVVKEIFRLHHAAPFLLPKKAESD-YDMPR

CYP81D1 300 ILIMVIA-GTNTSAVTLLEWALSNNLNHPDVI SKARDEIDNRVGLD----RLIEEADLSELPYLKNIVLETLRRLHPATPLLVPHMASEDCKIGS--YDMPR
 CYP81F3 289 MLGMMIA-GTDTSAVTLLEWAMSSLLNHPALEKAKLEIDEKIGQE----RLIDEPDIANLPYLQNVVSETFRLYPAAPLLVPRSPTEDEIKVGG--YDVP
 CYP81F4 291 MLGIMVA-SSETSAVTLLEWAMASLLNHPKVLDKVKLEIDEIIGQD----RLIEESDIANLPYLQNVVSETLRLHPAAPVLPVPRSTAEDIKTIGG--YDVP
 CYP81F2 289 MLSMLLA-GTDTAAVTLLEWAMANLLKKPEVLKAKAEIDEKIGEE----RLVDEPDIANLPYLQNVVSETFRLCPAAPLLVPRSPSEDLKIGG--YDIP
 CYP81F1 294 MMSMLLA-GTETSAVTLLEWAMANLLRNPEVLEKARSEIDEKIGKD----RLIDESDIANLPYLQNVVSETFRLFPVAPFLIPRSPTEDEIKVGG--YDVP
 CYP81H1 299 ILMVMVG-GTDTSAVTLLEWAMSNLLNHPQILETTTRQNDTQMETSSSR-RLKKEEDLVNMMNYLKNVVSETLRLYPVAPLMVPHVPSDDCVIGG--FNVPR
 CYP81G1 305 VQVMLLA-GTDTTAVTLLEWAMANLLNHPVLRKLLKTELNEVSKEG----RVFEESDTGKOPYLNNVIVSETLRLFPAPLLVPHASSTDCVAG--FDIP
 CYP81K1 293 IVLMFNG-GTDTSPVAMBWAVSLLNHPDKLEKLRBEIKSNVKHKG----LIQSDLSLSPYLRCVVIYETLRLYPAPLLPHCSKSRFNLGN--YEIPE
 CYP81K2 292 VVLMFNA-GSDTSPVIMBWAMALLNHPDKLKDVKREIKSNVKHKG----IIQSDLSLSPYLRCVVIYETLRLHPAAPLLPHCSKSRFNLGN--YEIPE
 CYP82C3 303 CLALILG-GSETSPSTLTWAVSLLNKNKMDMLKVKQDEIDIHVGRD----RNVEDSDIKNLVYLQAIKETLRLYPAPLLGHREAMEDCTVAG--YNVPC
 CYP82C4 315 CLALILG-GSDTSASTLTWAVSLLNKNKEMLKKAOEIDIHVGRD----RNVEDSDIENLVYLQAIKETLRLYPAGPLLGHREAMEDCTVAG--YVPC
 CYP82C2 314 CLALILG-GSETSPSTLTWAVSLLNKNKMDMLKKAQDEIDIHVGRD----RNVEDSDIENLVYIQAIIKETLRLYPAGPLLGHREATDCTVAG--YNVPR
 CYP82F1 309 CLNLVLA-GSETAIVVLVWAVSLLNMPHVLKKAQEBELDSKIGKE---RVVEELDIDKDLVYLQAIKVEFTRLYPPVPLVAYRAVVEDFDIAFCKCHVPA
 CYP82G1 296 GHALTIT-GSDSTSITLTWAVSLLNMPAALEAAQEBEIDNSVCKG---RWIEESDIQNLKYLQAIKVEFTRLYPPAPLITGIREAREDFCVGG--YRVEK
 CYP71A12 292 ILDMFIG-GTSTSTLLEWIMTELIRNPNVMKKLQDEIRSTIRPHGSY---IKEKDVENMKYLKAVIKEVFRVHPPLPLIPRLLSEDKVKG--YNTAA
 CYP71A13 292 ILDMFIG-GTSTSTLLEWIMTELIRNPNVMKKLQDEIRSTIRPHGSY---IKEKEVENMKYLKAVIKEVFRVHPPLPLIPRLLSEDKVKG--YNTAA
 CYP71A18 292 ILDMFIG-GLSTSTLLEWIMTELIRNPECMKKLQDEIRSTIRPHGSY---IKEKEVENMRYLKAVIKEVFRVHPPLPLIPRLLSEDKVKG--YNTAA
 CYP71A14 293 ILDMFLA-GTETTYALLEWIMTELIRHPECMKKLQDEIRAKATKLILY---ISEEDVEDMKYLKAVIKEVFRVHPPLPLIPRLLSEDKVKG--YNTAA
 CYP71A15 292 ILDIFLG-GTTTTNSLLEWIMTELIRHPECMKKLQDEIRGDATNLTIY---RSHEEVEDMKYLKAVIKEGLRLHPPPLIPRLLSEDKVKG--YNTAA
 CYP71A19 287 IWDMFLA-GTATSLSFLEWAMTELMRNPKVMKKLQDEIRSSSR-QGLF---VTEKEAEKMDYLQAVIKEALRLRPPAPLMVPRVSEDKVKG--YNTAA
 CYP71A20 292 IWDMFLA-GTATLTSFLEWAMTELMRNPKVMKKLQDEIRSSSP-QDLF---VTEKEAEKMYLQAVIKEALRLRPPAPLMVPRVSEDKVKG--YNTAA
 CYP71A27 293 LKDMFFS-GTATTASOLEWIMTELMRHPECMKKLQDEINSFST-HNLN---VTEKEVEKMYLHCVIKEGLRLHPPPLIPRLLSEDKVKG--YNTAA
 CYP71A16 293 IFEMFLG-STTTTSAVLEWAMTRLMRNPECLKKLQDEIRSVSK-MNSY---VSGKEVENMNYLKAVIKEVFRVHPPLPLIPRLLSEDKVKG--YNTAA
 CYP71A28 295 ILEFFLG-GTTTTFTAIDWAMTLVVRHPESMKKLQEBEIQTYSR-NKLY---VPEEVENMKYLKAVIKEVFRVHPPLPLIPRLLSEDKVKG--YNTAA
 CYP71A21 286 VLDVLA-GTDSYALMDWAMTELLRHPECLRTLQEBEVRTICK-GNLS---VSEEDIQNMNYLKAVIKEVFRVHPPLPLIPRLLSEDKVKG--YNTAA
 CYP71A22 286 ILDVVVG-GTDSYALMBWAMTELLHRPECLNRLQEBEVRTICK-GNSS---VSEDDIKDMNYLKAVIKEVFRVHPPLPLIPRLLSEDKVKG--YNTAA
 CYP71A24 285 ILDVVVG-DMDTTYTLEWAMTELLCHHECLDRLQEBEVRMCK-DKSG---VSEDDLQDMNYLKAVIKEVFRVHPPLPLIPRLLSEDKVKG--YNTAA
 CYP71A26 285 VMNVFVG-GTDTSSTLMEWAMTELLRHPEKCLKRLQEBEVRTICK-DKSS---VSEEDIQNMNYLKAVIKEVFRVHPPLPLIPRLLSEDKVKG--YNTAA
 CYP71A25 285 TLDVAVG-GSDTSFTLLEWAMTELLRHPEKSLNRLQEBEVRTICK-GKSR---VSEDDIQGMNYLKAVIKEVFRVHPPLPLIPRLLSEDKVKG--YNTAA
 CYP71A23 283 VLDAFVG-GTDTSSTLVEWAMTELLRHPEKCLKRLQEBEVRTICK-GKSS---VSEDDIQGMEYLKAVIKEVFRVHPPLPLIPRLLSEDKVKG--YNTAA
 CYP71B36 295 LMNVLIG-GIGTSAITMTWAMTELMRNPRVMKKVQSEIRNQIGKKS---MITLDDIDQLHYLKMVINETWRLHPPPLIPRLLSEDKVKG--YNTAA
 CYP71B37 295 LMNVLLG-GIGTSAITMTWAMTELMRNPRVMKKVQSEIRNQIGKKS---MICLDDIDQLHYLKMVINETWRLHPPPLIPRLLSEDKVKG--YNTAA
 CYP71B9 293 LMNVLLG-AINTSAMTMTWAMAELIRNPRVMKKVQSEIRNQINKS---VITLDDIDHLPYLKMVINETWRLHPPPLIPRLLSEDKVKG--YNTAA
 CYP71B10 295 LMNILLG-GINTSAMTMTWAMAELAKNPRVMKKVQAEIRNQIKNKE---RISFDDTDKLEYLKMVINETWRLHPPPLIPRLLSEDKVKG--YNTAA
 CYP71B26 295 LMNILLG-GIDTSAITMTWAMAELAKNPRVMKKVQAEIRNQIKNKE---RISFDDTDKLEYLKMVINETWRLHPPPLIPRLLSEDKVKG--YNTAA
 CYP71B33 295 LMDILLA-GIETSAGTMAWMAELAKNPLVMRKVQSEIRNKFNRE---LISFEDIEQLHYLKTVINETWRLHPPPLIPRLLSEDKVKG--YNTAA
 CYP71B34 295 LMDVLLA-GMDTSAITMTWAMAELAKNPRVMKKVQSEIRSQIKNKE---RISFDDTDKLEYLKMVINETWRLHPPPLIPRLLSEDKVKG--YNTAA
 CYP71B35 294 LLDVLLA-GIDTSAITMTWAMTELARNPVMKKVQSEIRTQMCNRS---MISFEDMDQLEYLKMVINETWRLHPPPLIPRLLSEDKVKG--YNTAA
 CYP71B11 291 LFNILNA-GIDTSAQVMTWVMTYLISNPRVMKKAQAEVREVINKND---DITEEDIERLEYLKMVINETWRLHPPPLIPRLLSEDKVKG--YNTAA
 CYP71B12 291 LANILNA-GIDTSAQVMTWVMTYLISNPRVLLKKAQAEVREVINKND---DITEEDIERLOYLKMVINETWRLHPPPLIPRLLSEDKVKG--YNTAA
 CYP71B14 291 LLNVLIA-GVDTSGHTITWVMTHLIKNPVMKKAQAEVREVINKND---DITEEDIERLEYLKMVINETWRLHPPPLIPRLLSEDKVKG--YNTAA
 CYP71B13 291 LLDILLA-GVDTSGHTITWVMTHLIKNPVMKKAQAEVREVINKND---NITEEDIERLEYLKMVINETWRLHPPPLIPRLLSEDKVKG--YNTAA
 CYP71B6 301 IMDLFVA-GVDTSVITLWMAELSRHPRVMKKVQAEIREHVGDGK---IVTYDDLEALVYMKMVIKETWRLHPPPLIPRLLSEDKVKG--YNTAA
 CYP71B28 294 ISDIFLA-GVGTSSSTLWAMTELMRNPRVMKKVQDEIRTTLDKKE---RITFEDLNQLHYFKLMVKEIFRLHPAAPLLIPRLLSEDKVKG--YNTAA
 CYP71B29 294 ISDIFLA-GVSTSASTLWAMTELMRNPRVMKKVQDEIRTTLDKKE---RITFEDLNQLHYFKLMVKEIFRLHPAAPLLIPRLLSEDKVKG--YNTAA

CYP71B7 300 ISDIFLA-GVNTSAVTLNWMAMAELIRNPRVMKKVQDEIRTTLGDKKQ---RITBEDLSQVHYFKLVVKEIFRLHPAAPLLLPRETMSHVKIQQ--YDIPV
 CYP71B15 294 ISDIFVA-GIGGVAGITLWCMTELIRNPRVMKKVQDEIRTTLGDKKE---RIKEEDLNQLHYFKLVVKETLRLHPTTPLLPRQTMSHIKIQQ--YDIPA
 CYP71B23 297 ISDIFLA-GVNTSATTLLWAMTELIRNPRVMKKVQDEVRTVLGEKRD---RITBEDLNQLNYFKLVVKEIFRLHPAAPLLLPREAMAKIKIQQ--YDIPE
 CYP71B16 298 LTNIIIA-GIDTGALTIMIWMTELARNPELMKNVQGEIRDSEGNKE---RITKEDLNKVPFLNLMVKEIFRLHVPAPLLLPRETMTTHIKVQ--YDIPP
 CYP71B17 298 LTNIIIA-GIDTGALTIMIWMTELARNPEIMKKVQGEIRDRLGNRE---RITKEDLDKVPFLNLMVKEIFRLHVPAPLLLPRETMAHVKVQ--YDIPP
 CYP71B18 298 LTNIFLG-GIDTGALTIMIWMTELARNPEVMKKVQGEIRDRLGNKE---RITBEDLNKVPYLNLMVKEIFRLHVPAPLLLPRETMAHIKVQ--YDIPP
 CYP71B19 298 LANIFLA-GIDTGALTIMIWAIVTELVKNPKLKIKVQGEIREQLGSNKE---RITBEDIEKVPYLNLMVKEIFRLHPAAPLILPRETMAHIKVQ--YDIPP
 CYP71B20 298 LANIFLA-GIDTGALTIMIWMTELVKNPKLKIKVQGEIREQLGSNKA---RITBEDIDKVPYLNLMVKEIFRLHPAAPLILPRETMAHIKVQ--YDIPP
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 CYP71B27 297 LMNIFLA-GIDTGALTIMIWMTELVKKPLVMKRAQENIRGVLGLKRD---RITBEDLCKFDCLKHIVKETLRLHPPVFPFLVPRETISHIKIQQ--YDIPP
 CYP71B21 295 MSDVFLA-GVNAGAITMIWALTELTRHPRVMKKLQOEIRELLGDNKE---KITEQDLEKVHYLKLVIQETLRLHPPAPLLLPRETMSDVKIQQ--YNIPIK
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 CYP71B31 295 MSDVFLA-GVNAGSITMIWIMTELTRHPRVMKKLQOEIRATLGNKE---RITBEDLEKVEYLNLMVETLRLHPPAPLLLPRLTMSDIEIQQ--YHIPK
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 CYP71B32 296 MSDVFLA-GVNAGTITMIWIMTELTRHPRVMKKLQOEIRATLGNKE---RITBEDLQKVEYLNLMVETLRLHPPAPLLLPRQVMSDIEIQQ--YHIPK
 CYP71B24 295 IQDIYLA-GVDTSAITMIWAMAELVKNPRVMKKVQDEIRTCIGIKQNE---KIEEDVDVKLOYLKLVVKEITLRLHPAAPLLLPRETMSQIKIQQ--YNIPIK
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 CYP83B1 293 ILDIVVP-GTDTAAAVVWAMTYLTKYQVQLKKAQAEVREYMKKEKGST---YVSEEDIPNLPHYFRALVKEITLRLHPPAPLLLPRACTQDTKIAG--YDIPA
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 CYP84A4 301 IMDVMFG-GTETVALAIBWALTELRLRSPENMKRVQDELTSVGLDRWR---VEDTHLEKLYLKTLCETLRMHPPIPLLLH-ETVKDTEISG--YFIPK
 CYP706A1 316 LMDMVLG-GVDTSVNASEFAMAELVSRPEVLNKLIRLELDQVVGKDN---IVEESHLPKLPYLQAVMKETLRLHPTLPLLVPHRNSSETSVVAG--YTVPK
 CYP706A2 318 LMDMVLG-GVDTSVNASEFAMAELVSRPEVLNKLIRLELDQVVGKDN---IVEESHLPKLPYLQAVMKETLRLHPTLPLLVPHRNSSETSVVAG--YTVPK
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 CYP706A6 310 LVDLVVG-GTDTSTNTIIEFAMAELLNKLEIMKRAQOEVDKVVGKDN---IVEESHITSLPYILAIMKETLRLHPTLPLLVPHRNSSETSVVAG--FTIPK
 CYP706A4 308 LMDMVLG-GTDTSTNTIIEFAMAELLNKLEIMKRAQOEVDKVVGKDN---IVEESHITSLPYILAIMKETLRLHPTLPLLVPHRNSSETSVVAG--FTIPK
 CYP79B2 330 IKELVMA-APDNPSNAVBWAMAEMVKNKPEILRKAMBEIDRVVGKER---LVQESDIPKLNYPKALIREAFRLHPVAAFNLPHVALSDTTVAG--YHIPK
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 CYP79A2 314 VTELMLA-TVDNPSNAABWAMAEMVKNKPEILRKAMBEIDRVVGKER---LVQESDIPKLNYPKALIREAFRLHPVAAFNLPHVALSDTTVAG--YHIPK
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 CYP79C2 314 CKEINLA-TIDNTMNNVEWTLAEMLNQREILEKAVEEIDMVVGKER---LVQESDIPKLNYPKALIREAFRLHPVAAFNLPHVALSDTTVAG--YHIPK
 CYP79F1 323 CVEFCIA-AIDNPANNMEWTLGEMLNKPEILRKALKEIDDEVVGRDR---LVQESDIPKLNYPKALIREAFRLHPVAAFNLPHVALSDTTVAG--YHIPK
 CYP79F2 322 CVEFCIA-AIDNPANNMEWTLGEMLNKPEILRKALKEIDDEVVGRDR---LVQESDIPKLNYPKALIREAFRLHPVAAFNLPHVALSDTTVAG--YHIPK
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 CYP98A8 286 VWNMLTA-GADTTAVVIBWAMAEMIKQPRVMRKIQEELDNVVGSR---LMTESDIPKLNYPKALIREAFRLHPVAAFNLPHVALSDTTVAG--YHIPK
 CYP98A9 280 VWNMLTA-GADTTAVVIBWAMAEMIKQPRVMRKIQEELDNVVGSR---LMSDADIPKLNYPKALIREAFRLHPVAAFNLPHVALSDTTVAG--YHIPK
 CYP98A3 293 LWDMITA-GMDTTAVVIBWAMAEMIKQPRVMRKIQEELDNVVGSR---LMSDADIPKLNYPKALIREAFRLHPVAAFNLPHVALSDTTVAG--YHIPK
 CYP78A10 333 LWEMIFR-GTDTVAILLLEWTLARMVLHQPDIQAKAQAEIDCIVGDSG---RQVTDSDIPKLNYPKALIREAFRLHPVAAFNLPHVALSDTTVAG--YHIPK
 CYP78A5 312 LWEMIFR-GTDTVAILLLEWTLARMVLHQPDIQAKAQAEIDCIVGDSG---RSLSDSDIPKLNYPKALIREAFRLHPVAAFNLPHVALSDTTVAG--YHIPK

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CYP78A6 324 LWEMIFR-GTDTVAVLLEWILARMVLHPDMQSTVQNELDQVVCKS----RALDESDDLASLPYLTAVVKEVLRRLHPPGPLLSWARLAITDITVD-GRLVPA
CYP78A9 324 LWEMIFR-GTDTVAVLLEWILARMVLHPDIQSTVHNELDQIVGRS----RAVEESDVVSLVYLTAVVKEVLRRLHPPGPLLSWARLAITDTIID-GRRVPA
CYP78A8 326 LWEMIFR-GTDTVAVLVEWVLRARIVMHPKVQLTVHDELDRVVGRS----RTVDESDDLPSLTYLTAAMIKKEVLRRLHPPGPLLSWARLSITDTSVD-GYHVPA
CYP78A7 331 LWEMIFR-GTDTTALLTEWIMAEVLVLPNPVQTKLRDEILTAVGDGAD--GDVADADLAKLPYLNAAVVKETLRRLHPPGPLLSWARLSTSDVQLSNGMVTIPK
CYP77A4 308 CSEFLNG-GTDTTGTAIEWGIAQLIANPEIQSRLYDEIKSTVGDDR---VDEKDVDMVFLQAFVKELLRKHPPPTYFSLTHAVMETTTLAG--YDIPA
CYP77A6 310 CSEFLNG-GTDTTGTAIEWGIAQLIVNPEIQSRLYDEIKSTVGD-RE---VEEKDVDMVFLQAVVKELLRKHPPPTYFTLTHSVTEPTTVAG--YDVPV
CYP77A7 310 CSEFLNA-GTDTTGAAIEWGIAELIANPEIQSRLYDEIKSTVG-DRA---VDERDVDMVLLQAVVKELRRHPPPTYFTLSHGVTPEPTLSC--YNIIPV
CYP77A9 305 CSEFLNA-GTDTTGTAIEWGIAELISNPKIQSRLYDEIKSTVGDDRT---VEEKDLNKMVFLQAFVKELRRHPPPTYFTLTHGVTEPTNLAC--YDIPV
CYP77B1 305 CSEIVSA-GTDTSATILEWALFHLVTDQNIQEKLYEEVVGVVCKNGV---VEEDDVAKMPYLEAIVKETLRRHPPGHFLLSHAAVKDTTELGC--YDIPA
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CYP89A5 306 CSEFLNG-GTDTTATALQWIMANLVKNPDIQKRLYEEIKSVVGEEA---NEVEEEDAQKMPYLEAVVMEGLRRHPPGHFVLPHSVTEDTVLCG--YKVPK
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CYP89A2 301 CSEFLTA-GTDTTATALQWIMANLVKYPEIQERLHBEIKSVVGRSK---GGGEE-DVEKMPYLKALVLEGLRRHPPGHFLLPHSVTEDTVLCG--YKVPK
CYP89A3 299 CSEFLNA-GTDTTATTLQWIMANLVRNQEIQKRLYEEIKSVIGEEEE---KEIEEEMKKMPYLKAVVLEGLRLHPPGHLLLPHRVSEDTVLCG--YRVPK
CYP89A9 300 CSEFLNA-ATDPTATSMQWIMAIMVKYPEIQKRVYBEMKTVFAGEEEEREEREEDLGLKLSYLKAVILLECLRRHPPGHYLSYHKVTHDTVLCG--FLIPR
CYP73A5 300 VENINVA-AIETTLWSIEWGIAELVNHPEIQSKLRNELDTVLCPG----VQVTEPDLHKLPLYLQAVVKETLRRLRMAIPLLVPHMNLHDAKLAC--YDIPA
CYP701A3 309 LVWETIIETADTTLVITTEWALYELAKHPSVQDRLCKEIQNVCCGEK-----FKEEQLSQVPLYLNGVFHETLRKYSEAPIVPIRYAHEDTVLCG--YHVPA
consensus 401 ..... *..*.....

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 CYP76C1 398 DTQVLVNVWAI GRDPSVWD--NPSQFEPERFLG---KDMVDR-----GRDYELTPFGAGRRICPGMPLAMKTVSLMLASLLYSFDWKL PKGVLS--
 CYP76C5 399 DSHVLVNVWAI GRDPNVWE--NPTQFEPERFLG---KDIDVK-----GTNYELTPFGAGRRICPGLPLALKTVHMLASLLYTFEWKLPNGVGS--
 CYP76C6 398 DSQVLVNVWAI GRDPLVWE--NPTHFEPERFLG---KEIDVK-----GTDYELTPFGAGRRICPGLPLAMKTVHMLASLLYTFEWKLPNGVGS--
 CYP76C3 391 NTQVVNVWAI GRDASVWE--NPMKFEPERFLL---RET DVK-----GRDFELIPFGSGRRMCPGISMALKTMHMVLAASLLYSFDWKLQNGVVP--
 CYP76C7 387 NTQVLVNVWAI GRDPNVWK--NPTQFEPERFLG---RGIDVK-----GNHFELIPFGAGRRICPGMPLAFRIMHLVLAASLLYGF DWEYQNGVVP--
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 CYP705A16 399 STTLVNVNGYAVMRDPNVWE--DPBEFKPERFLASSRL-----REEEIREQALKYIAFGSGRRICPGTNLAYIFVGT AIGMMVQCFDWKIKGDKVDM
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CYP82F1 404 GTQLMVSAAWKIHRDPNVWS -NPEQFEPERFLT--SNR-----ELDVGQSYKFFVPGFNGRRICPAIPLGMRMVHYLLVRFVLSHFDLARPSSQDVD
CYP82G1 389 GTRLIVNIWKLHRDPKIWP -DPKTFKPERFMEDKSQ-----CEKS--NFEYIPFGSGRRICPGVNLGLRVVHFVLAARLQGFELHKKVSDPELD
CYP71A12 386 GTEVLIINAWA IQRDPATWGPDAEAEFKPERHLD--STLDYH-----GKDLNFIPFGSGRRICPGINLALGLVEVTVANLVGRFDWRABEAGPNG--
CYP71A13 386 GTEVLIINAWA IQRDTATWGPDAEAEFKPERHLD--SGLDYH-----GKNLNYIPFGSGRRICPGINLALGLAEVTVANLVGRFDWRVEAGPNG--
CYP71A18 386 GTEVLIINAWA IHRDPAIWGPDAEAEFKPERHLD--STLDYH-----GQDLKYIPFGSGRRICPGINLAMGLVEVTLANLVGRFDWVSDPGPNG--
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CYP71A21 379 GTQVMIINAWA IGREAAWGPDAEAEFKPERHLD--SSVDFR-----GHNFEYIPFGAGRRICPAISFAVVLIEVALANFVHRYDWKLP--EDSKE
CYP71A22 379 GTQVMIINAWA IGREAAWGPDAEAEFKPERHLD--SSVDFR-----GHNFEYIPFGAGRRICPAISFAVVLIEVTLANLVHRYDWKLP--EEYIE
CYP71A24 378 GTHVMIINAWA IGREAAWGPDAEAEFKPERHLD--SYVDYR-----GQDFELVPGAGRRICPAISFAVVLDEVTLANLVHGFQDWKLP--EESTE
CYP71A26 378 GTQVLIINAWA IGREAAWGPDAEAEFKPERHLD--SSVDFR-----GQAFELVPGAGRRICPAISFAVVLNEVTLANLVHRFDWKLP--VESTE
CYP71A25 378 GTQVMIINAWA IGREAAWGPDAEAEFKPERHLD--TSVDFR-----GQDFELVPGAGRRICPAISFAVVLNEVTLANLVHGFQDWKLP--EESKE
CYP71A23 376 GTQVLIINAWA IGREAAWGPDAEAEFKPERHLD--SSVDFR-----GQDFELVPGAGRRICPAISFAVVLNEVTLANLVHGFQDWKLP--ID
CYP71B36 388 KTRLYVNVWAIQRDPDTWK -DPEEFLPERFVN--SSIDAK-----GQDFELVPGAGRRICPAMYMGTTMVEFGLANMLYHFDWKLPEGMVA--
CYP71B37 388 KTRLYVNVWAIQRDPDTWK -DPEEFLPERFVN--SNIDAK-----GQDFELVPGAGRRICPAMYMGTTMVEFGLANMLYHFDWKLPEGMVV--
CYP71B9 386 KTRLYVNVWAIQRDPDSWK -DADMFPERFMD--NNIDAK-----GQDFELVPGAGRRICPAMYMGTTMVEFGLANMLYHFDWKLPEGMVV--
CYP71B10 391 KTRLVNVWAIQRDPELWK -DPEEFLPERFMD--CDIDVK-----GQDYELVPGAGRRICPAVYMGTTMVEFGLANMLYHFDWKLPEGVAV--
CYP71B26 388 KTRLVNVWAIQRDPDTWK -DPEEFLPERFMD--SNIDAK-----GQDFELVPGAGRRICPGLYMGTTMVEFGLANMLYHFDWKLPEGMVV--
CYP71B33 388 KTRLVNVWAIQRDPDTWK -DPEEFLPERFMD--SNIDTK-----GQDFELVPGAGRRICPAMYMGTTMVEFGLANMLYHFDWKLPEGMKV--
CYP71B34 388 KTRLVNVWAIQRDPDTWK -DPEEFLPERFMD--NNIDAK-----GQDFELVPGAGRRICPAVYMGTTMVEFGLANMLYHFDWKLPEGMKV--
CYP71B35 387 KTRLVNVWAIQRDPDTWK -DPEEFLPERFMD--NNIDAK-----GQDFELVPGAGRRICPAIYMGTTMVEFGLANMLYHFDWKLPEGVAV--
CYP71B11 384 KTRLVNVWAIQRDPDTWK -DPEEFLPERFMD--NQIDYK-----GLNFEYIPFGSGRRICPGIGMGMAVHLTLINLLYRFDWKLPEGMKV--
CYP71B12 384 KTRLVNVWAIQRDPDTWK -DPEEFLPERFMD--NQIDYK-----GLNFEYIPFGSGRRICPGIGMGMAVHLTLINLLYRFDWKLPEGMKV--
CYP71B14 384 KTRLVNVWAIQRDPDTWK -DPEEFLPERFMD--NQIDYK-----GLNFEYIPFGSGRRICPGIGMGMAVHLTLINLLYRFDWKLPEGMKV--
CYP71B13 384 KTRLVNVWAIQRDPDTWK -DPEEFLPERFMD--NQIDYK-----GLNFEYIPFGSGRRICPGIGMGMAVHLTLINLLYRFDWKLPEGMKV--
CYP71B6 394 GTRLVNVWAIQRDPDTWK -DPEEFLPERFMD--SNVETK-----GTSFELVPGAGRRICPAMYVGLSTVEYTLANMLYHFDWKA-----T-
CYP71B28 388 KTRLVNVWAIQRDPDTWK -DPEEFLPERFMD--SSIDYR-----GLNFEYIPFGSGRRICPGMTMGIAVVELGLINLLYHFDWGLPE-----
CYP71B29 388 KTRLVNVWAIQRDPDTWK -DPEEFLPERFMD--SSIDYR-----GLNFEYIPFGSGRRICPGMTMGITLVEFALLNLLYHFDWGLPE-----

CYP71B7 394 KTQMMINIYSTARDPKLWT-NPDEFNPDRLD--SSIDYR-----GLNFELLPFSGSRRICPGMTLGITTVELGLLNLLYFFDWVVPVGNV-
 CYP71B15 388 KTQILVNVYAMGRDPKLWE-NADEFNPDRLD--SSVDFK-----GKNYEFIPFGSGRRIICPGMTMGITVEMALLNLLYFFDWGLAK-----
 CYP71B23 391 KTQIMVNVYAI GRDPDLWE-NPEEFKPERFVD--SSVDYR-----GLNFELLPFSGSRRICPGMTMGITVVELGLLNLLYFFDWGLPEGRTV-
 CYP71B16 392 KRRILVNTWAI GRDPTLWI-NPEEFNPERFIN--NPVDYR-----GQHFELLPFSGSRRICPGMGLGITVVELGLLNLLYFFDWRAPDGMTH-
 CYP71B17 392 KRRILVNAWAI GRDPKLWT-DPEEFKPERFID--SPVDYR-----GQHFELLPFSGSRRICPGMAMGMATLELGLLNLLYFFDWKLPDGMTH-
 CYP71B18 392 KRRILVNAWAI GRDPKLWT-NPEEFNPERFIN--SPVDYR-----GQHFELLPFSGSRRICPGISMGMATVELGLLNLLYFFDWKLPDGMTH-
 CYP71B19 392 KRRILVNVSAI GRDPKLWT-NPKEFDPERFMD--SFVDYR-----GQHYELLPFSGSRRICPGMPMGLAAVELGLLNLLYFFDWKLPDGMTH-
 CYP71B20 392 KRRILVNVSAI GRDPKLWT-NPEEFDPERFMD--SSVDYR-----GQHYELLPFSGSRRICPGMPMGLAAVELGLLNLLYFFDWKLPDGMTH-
 CYP71B2 392 KTQIQINVWITIGRDPKRWI-DPEEFNPERFAN--SSVDFR-----GQHFELLPFSGSRRICPGMPMAIASVELALMNLLYFFDWSMPDGTKG-
 CYP71B27 391 KTQIQVNVWITIGRDPKRWI-DPEEFRPERFAN--TCVDFR-----GQHFDFLPFGSGRRIICPAISMAIATVELGLMNLDFDWDWRLPDGMKV-
 CYP71B21 389 NTMIENITYAIGRDPNCWT-NPNEFIPERFVD--SPIDYK-----GQHFELLPFGGRRICPGMATGMTIVELGLLNVLYFFDWSLPGYMAI-
 CYP71B22 389 NTMIENITYSIGRDPNCWE-NPNDFNPERFID--SPVEYK-----GQHYELLPFAGRRICPGMATGITIVELGLLNVLYFFDWSLPGMKI-
 CYP71B38 389 NTMIQINTYAI GRDPKYWK-QPGEFIPERFLD--SPIDYK-----GQHFELLPFAGRRICPGMATGITMVELGLLNLLYFFDWSLPGMTI-
 CYP71B5 387 NTMIQINTYTI GRDPKNWT-KPDEFIPERFVD--NPLEYK-----GQHFELLPFAGRRICPGMATGITIVELGLLSLLYFFDWSLPGMTT-
 CYP71B31 389 NAHVKNITYAIGRDPKRWI-NPEEFNPERFIN--TSINYK-----GQHYELLPFAGRRICPGMTLGITILELGLLNLLYFFDWSLPGMTI-
 CYP71B8 391 NAHIKISTYAI GRDPKOWI-NPEEFNPERFAN--TSINYK-----GQHYELLPFAGRRICPGMTLGITILELGLLNLLYFFDWSLPGMTI-
 CYP71B32 390 NALIRINTYTI GRDLKOWS-NPE-----RFIN--TSINYK-----GQDYKLLPFAGRRICPGMNLGITILELGLLNLLYFFDWSLPGMTI-
 CYP71B24 390 KTIILLVNVWSI GRDPKHVK-NPEEFNPERFID--CPIDYK-----GNSFEMLPFGSGRRIICPGIAPAIATVELGLLNLLYHFDWRLPE--ED-
 CYP71B3 393 KTIILLVNAWSI GRNPDLWE-NPEEFNPERFID--CPMDYK-----GNSFEMLPFGSGRRIICPGIAPAIATVELGLLNLLYHFDWRLAE--ED-
 CYP71B25 393 KTIILLVSAWSI GRDPKYWK-NPEEFNPERFID--CPVDYK-----GHSFEFLPFSGSRRICPGMASAIATIELTLNLLYFFDWKLP--EM-
 CYP71B4 394 KRALLVNAWSI GRDPESWK-NPEEFNPERFID--CPVDYK-----GHSCELLPFSGSRRICPGIAMAATIELGLLNLLYFFDWNMPE--KK-
 CYP83A1 389 GTIVNVNAWAVSRDEKEWGPNDPEFRPERFL--EKEVDFK-----GTDYEFIPFGSGRRIICPMRILGAAMLEVPYANLLSFFNFKLPNGMKP-
 CYP83B1 386 KTIIVQVNAWAVSRDTAAWGDNPNEFIPERFMNEHKGVDK-----GQDFELLPFSGSRRICPAMHLGIAMVEIPFANLLYKFDWSLPGKIKP-
 CYP84A1 405 KSRVMINAFAI GRDPTSWI-DPDTFRPSRFLFP-GVPDFK-----GNSFEFIPFGSRRICPGMQLGLYALDLAVAHLLHCFWKLPGMKP-
 CYP84A4 394 GSRVMINTYAL GRDPNSWS-DPESEFNPERFLNP-IAPDLK-----GNNFEFVVPFGSRRICPGMQLGLYAFELAVAHLLHCFWKLPGMNP-
 CYP706A1 409 DSKIFINVAIHRDPKNWD-EPNEFKPERFLENS-LDFNG-----GDFKYLPFSGSRRICAAINMAERLVLFNIA SLLHSFDWKAPQG-----
 CYP706A2 411 DSKIFINVAIHRDPKNWD-EPNEFKPERFLENS-LDFNG-----GDFKYLPFSGSRRICAAINMAERLVLFNIA SLLHSFDWKAPQG-----
 CYP706A3 405 DSKIFINVAIHRNPVWE-NPLKFDPRFLDMS-YDFKG-----NDFNYLPFGSGRRIICVGMAMGERVVLYNLATFLHSFDWKIPQG-----
 CYP706A7 404 DSKVFINVAIHRNPVWE-NPEEFNPDRLDKG-YDFSG-----NDYSYFPFGSGRRIICAGMAMA EKVVLYNLATFLHSFDWRIIGEG-----
 CYP706A5 405 NTKIFINVWSIQRDPNVWE-YPTEFRPERFLDKKSCDFTG-----TDYSYLPFGSGRRIICAGIALAERMILYTLATLLHSFDWITPDG-----
 CYP706A6 403 NTKIFINVWSIQRDPNVWE-YPTEFRPERFLDKKSCDFTG-----TDYSYLPFGSGRRIICAGIALAERMILYTLATLLHSFDWKIPEG-----
 CYP706A4 401 DTKIFVNVWSIQRDPNVWE-NPEEFRPERFLDNNSCDFTG-----ANYSYFPFGSRRICAGVALAERMILYTLATLLHSFDWKIPEG-----
 CYP79B2 423 GSQVLLSRYGLGRNPKVWA-DPLCFKPERHLNEC-----SEVTLTENDLRFISFSTGKRCGAAPALGTALTMMMLARLLQGFQWKL PENETR-
 CYP79B3 425 GSQVLLSRYGLGRNPKVWS-DPLSFKPERHLNEC-----SEVTLTENDLRFISFSTGKRCGAAPALGTALTMMMLARLLQGFQWKL PENETR-
 CYP79A2 407 GSHVLLSRMCI GRNPSVWD-KPHKEDPERHLSTN-----TCVDLNE SDLNLI SF SAGRRCCMGVDIGSAMTYMLARLLQGFQWLPVPGKNK-
 CYP79C1 423 GSHILVSRPGVGRNPKTWD-EPILYRPERHITG-----NEVVLTEPDLRLV SFCTGRRGCVC AKLGTSMIVTLLGRLLQGFQWITIPP GTTDR-
 CYP79C2 407 GSQILVSRGLGRNPKIWD-EPNAFKPERYLDGHVEKS-----LGVTLMPEPDMRFVTFCTGRRSCPGTKIGTSMITIMMLARLLQGFQWTLPIGKSS-
 CYP79F1 416 GSHIHVCRPGLGRNPKIWK-DPLVYKPERHLQGD-GIT-----KEVTLVETEMRFV SFSTGRRGCICVKVGTIMMVMLARFLQGFQWKLHDFGFP-
 CYP79F2 415 GSHIHVCRPGLGRNPKIWK-DPLAYEPPERHLQGD-GIT-----KEVTLVETEMRFV SFSTGRRGCICVKVGTIMMAMMLARFLQGFQWKLHDFGFP-
 CYP703A2 394 KTRVFINTHGLGRNTKIWD-DVEDFRPERHWPVEGSGR-----VEISHG-PDFKILPFSACKRKCPGAPLGVTMVLMALARLLHCFEWS SPGNIDT-
 CYP98A8 379 GATVYVNVQAI GRDPANWI-NPEEFRPERFLQEETDVKGR-----DFRVL PFGSGRRIICPAAQLSMNMLTLMVGNLLHCFSWSSP---VPG-
 CYP98A9 373 GATVYVNVQAI GRDPANWS-NPEEFRPERFLVEETDVKGQ-----DFRVL PFGSGRRIICPAAQLSLNMMTLALGSLHCFSWTSS---TPR-
 CYP98A3 386 GSNVHVNVWAVARDPAVWK-NPEEFRPERFLEEDVDMKGH-----DFRLLPFAGRRICPGAQLGINLVTSMMSHLLHFFVWTPPGQ-TKP-
 CYP78A10 428 GTTAMVNMWAI THDEKVVW-BAHEYKPERFLGAQESNNFP-----IMGSDLRLAPFGAGRRICPGKSMGLATVELWLAQLLGSYKVVW-SGEVD-
 CYP78A5 407 GTIAMVNMWAI THNAKIWT-DPEEAFPERFLISEDVS-----IMGSDLRLAPFGSGRRIICPGKAMGLATVHLWLGQLIQNFQWVKGSCDVE-

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CYP78A6 418 GTTAMVNMWAVSHDPHVWV-DPLEFKPERFVAKEGEVEFS-----VLGSDLRLAPFGSGRRICPGKNLGFTTVMFWTAMMLHEFEWVG-PSDNGV
CYP78A9 418 GTTAMVNMWAIADHPHVWE-NPLEFKPERFVAKEGEVEFS-----VLGSDLRLAPFGSGRRVCPGKNLGLTTVTFWTATLLHEFEWLTTPSDEKTV
CYP78A8 420 GTTAMVNMWAIARDPHVWE-DPLEFKPERFVAKEGEAEFS-----VFGSDLRLAPFGSGKRVCPGKNLGLTTVSWVATLLHEFEWLPVSEANPP
CYP78A7 428 GTTAMVNMWAIHTDQTVWS-DPLKFDPERFTG---NADMD-----IRGDLRLAPFGAGRRVCPGKNMGLATVTRWVAELVRRFEWVGQ-DQTEPV
CYP77A4 401 GVNVEVYLPGLISEDPRIWN-NPKKFDPRFMLGKE--DADITG-----ISGVKMIPIFCVGRRI CPGLAMATIHVHLM LARMVQEF EWCAHPPGSEI
CYP77A6 402 GINVEFYLPGLINEDPKLWS-DPKKFNPRFISGKE--EADITG-----VTGVKMMPIFCIGRRICPGLAMATVHVHLM LAKMVQEF EW SAYPPPESEI
CYP77A7 402 GVNIEFYLPGLISEDPKIWS-EPKKFDPRFISGRE--DADITG-----VAGVKMMPFCVGRRI CPGMGMATVHVHLM LARMVQEF EW LAYPPQSEM
CYP77A9 398 GANVEFYLPGLISEDPKIWS-KPEKFDPRFITGGE--DADLTG-----VAGVKMMPFCIGRRICPGLGMATVHVHLM LSRMVQEF EWSSYPPESQV
CYP77B1 398 GAYVEIYTAWVTENPDIWS-DPGKFRPERFLTGGDGDADWTG-----TRGVTMLPFCAGRRICPAWSLGLLHINLM LARMIHSEFKWIPVP-DSPP
CYP89A4 400 KGTINFMVAEIGRDPMVWE-EPMAFKPERFMG---EEEAVDITG-----SRGIKMPFCAGRRICPGIGLAMLHLEYV VANMVREFEWKEVQ-GHEV
CYP89A5 400 NGTINFMVAEIGRDPKVWE-EPMAFKPERFM---EEAVDITG-----SRGIKMPFCAGRRICPGIGLAMLHLEYV VANMVREFDWKEVQ-GHEV
CYP89A6 401 KGTINFMVAEIGRDPKVWE-EPMAFKPERFM---EEAVDITG-----SRGIKMPFCAGRRICPGIGLAMLHLEYV VANMVREFEWQEVQ-GHEV
CYP89A7 399 KGTINFLVAEIGRDPKVWE-EPMAFKPERFMG---EEEAVDITG-----SRGIKMPFCAGRRICPGIGLAMLHLEYV VANMVREFEWKEVE-GHEV
CYP89A2 394 NGTINFMVAEIGRDPVEWE-EPMAFKPERFMG---EEEAVDLTG-----SRGIKMPFCAGRRICPGIGLAMLHLEYV VANMVREFEWKEVE-GHEV
CYP89A3 394 KGTFNINVAMIGRDPVWE-EPMEFKPERFIG--EDKEVDVTG-----SRGIKMPFCAGRRICPGIGSAMLHLEYV VANLVKFEWKEVE-GYEV
CYP89A9 397 QGTINFMVGE MGRDPKIWE-DPLTFKPERFLENGEACDFDMTG-----TREIKMMPFCAGRRMCPGYALSLHLEYV VANLVKFEWKCVE-GEEV
CYP73A5 393 ESKILVNAWWLANNPNSWK-KPEEFRPERFEEESHVEAN-----CNDFRYVPIFCVGRRSCPGIILALPILGITIGRMVQNEFLLPPPGQSKV
CYP701A3 402 GSEIATNLYGCNMDKKRWE-RPEDWWPERFLDDGKYETSD-----LHKTMAFGACKRVCACALQASLMAGIAIGRIVQEF EWKLRDGEVE-
consensus 501 . . . . . * . . . . . * . . . . . * . . . . .

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CYP76C2 483 EDLDMDETFGLTLHKTNPPLHAVPVKKRGRN-----
 CYP76C4 482 EDLDMDETFGITLHRTNTLYATPVKKQTIN-----
 CYP76C1 482 EDLDMDETFGLTLHKTNPPLHAVPVKKRANIN-----
 CYP76C5 483 EDLDMGETFGLTVHKTNPPLLAQL-----
 CYP76C6 482 EDLDMDETFGLTVHKTNPPLLAAPLKKRAIN-----
 CYP76C3 475 GNIDMSETFGLTLHKAKSLCAVPVKKPTISSSY-----
 CYP76C7 471 ENVDMNEAFGATLHKAEPLCIVPIKKRV-----
 CYP76G1 488 EEMDMGERIGITLKKAVPLEAIPVPIYRGT-----
 CYP75B1 477 EKLNMEESYGLTLQRAVPLVHVHPKRLAPNVYGLGSG-----
 CYP705A1 482 EEATGG-FLITMAH---PLTCTPIPLPRTQNSLISHL-----
 CYP705A24 485 QEGSGLRFFLDLAH---PLKCTPIPRIINHEPSNTQIPNS-----
 CYP705A12 472 E-EAVSGLSLKMAH---PLKCTPVVRFDPFSF-----
 CYP705A13 486 E-ETVAGITLNMMAH---PLRCTPVSRMQLQKSQFVSS-----
 CYP705A15 488 E-EANVGLSLTMAH---PLKVTVPVPTLVPLTQNPINRSS-----
 CYP705A4 478 D-EAVVGLSLTMAH---PLKILPVARTSNLSLQKCL-----
 CYP705A16 489 K-EAIGGLNLTLAH---PLKCTPVARSPPKPF-----
 CYP705A19 487 K-EAIGGLNLTLAH---PLKCTPVARFPKPF-----
 CYP705A28 489 S-ETAGTIMLAMAQ---PLKCTVPVPTLNLLPSSLHIPSS-----
 CYP705A30 488 N-EAAETTALSMAQ---PLKCTPVSRTKNPLPSSLHIPSS-----
 CYP705A32 491 N-EAAGTLVLTMAQ---PLMCTPGPRTLNLPLPSSLHVPIS-----
 CYP705A2 481 N-EAAGTMVLTMAH---PLKCTVPVPTLNLLPP-----
 CYP705A5 484 K-EGG-TMTLTMAH---PLKCTVPVPRNLNT-----
 CYP705A23 483 E-EARGSLVLTMAH---PLKCTPVARTQIPSC-----
 CYP705A20 477 D-EVG-GLNLTMAH---PLECTLVPTQPFISNQIIPSL-----
 CYP705A21 486 D-EAG-GLNLSMAH---SLKCTVPVPRNRPLLADQ-----
 CYP705A18 488 E-ETYGGMNLTMVN---PLKCTVPVPTQPFSTSNLEILSS-----
 CYP705A6 483 E-ETFEGMNLSMVH---PLKCTPVLRSPQFF-----
 CYP705A33 486 E-ETFEGTLTLMVH---PLKCTPIPRTLFPVTSNLQSPSS-----
 CYP705A3 484 E-ETFEGMTLKMVH---PLTCTPFFEPNLYLLLLISKFPCLILSFGAC-----
 CYP705A22 487 K-EAVKGTILTMAH---PLKLTVPVTRQPPLTWI-----
 CYP705A8 485 N-EVAGKGTLSMAH---PLKCTLVPRSVTPTLTSK-----
 CYP705A9 463 D-EAPGKITLTMAH---PLNCTLVPTLIPVTSTVQIPSS-----
 CYP705A25 491 E--ETGEMTLTMAH---PLKCTPVARINPASFD-----
 CYP705A27 490 E--EAGEMTLTMAH---PLKCTPVTRVNPLASFESDPKWLMEEFDMYC-----
 CYP712A1 488 DLSQSGGSAEMAR---PLVCNPDVDFNTF-----
 CYP712A2 494 KIKLPTGFSASGTAGGSSLMCSPELDFPFQYQTK-----
 CYP93D1 473 E---GTGSSLPRAT---PLVCVPEVAKEATQSFSLLEPNVNF-----
 CYP81D6 482 NSEDKTVVLMRPTT---PLLAMCKARPVHEILDFAFA-----
 CYP81D7 467 TREE-PMAMMRPAT---PLLAMCKARPVHKFLDFAFA-----
 CYP81D11 475 MRESEKGTMRKAT---SLQAMCKARPVHKVLDASCP-----
 CYP81D2 467 MTEGPG-LTMPKAR---PLEAMCRARDFVVKILPDSS-----
 CYP81D3 461 MTEGGGVIMPKAI---PLVAMCKARPVVVKILNESA-----
 CYP81D8 465 MSEGKG-VTMPKAK---PLEAMCRARPSVVKIFNESV-----
 CYP81D4 464 MTEDEKG-ATLPKAI---PIRAMCKARSIVDKLI-----
 CYP81D5 463 MTEGEG-ITMPKAT---PIRAMCKARAIVVKTI-----

CYP81D1 473 MKEGVG-NTVPKAI---PIKAI~~CKAR~~PFLHKIIS-----
 CYP81F3 468 MTETPG-MAMRKKI---PI~~SALC~~QSRPIMSKLQAHLKG-----
 CYP81F4 468 MSEGPG-MAMRMMV---PI~~RALCK~~TRPIMNKLPA~~YTKV~~-----
 CYP81F2 462 MTENPG-MAMRKLIV---QI~~RAVCH~~KRPIMTNLLA-----
 CYP81F1 471 MESTG-LGMRKMD---PI~~RAMCR~~PRPIMSKLLL-----
 CYP81H1 479 MTEGPG-LSLPKAE---PI~~VVTC~~RTREMASELLFFGSEPSNKNV-----
 CYP81G1 478 MSEGKG-LTMPKSV---PI~~VAKCK~~SLPILDKLVL-----
 CYP81K1 469 MRPVFG-VAMAKAE---PI~~VALPK~~PWSEMPILSQL-----
 CYP81K2 468 MRPAFS-VAMDRAE---PI~~IALLK~~PCPEMPILSQL-----
 CYP82C3 484 MSESPG-LTITKAT---PI~~EVLIN~~PRLKRELFV-----
 CYP82C4 496 MSENPG-LTIPKAT---PI~~EVLIS~~PRIKEELFV-----
 CYP82C2 495 MTESPG-LTIPKAT---PI~~EILIS~~PRLKEGLY-----
 CYP82F1 491 MTESNG-LVNHKAT---PI~~EVNI~~IPRLHKSLEYVDHIGTDN-----
 CYP82G1 474 MAEGPG-LALPKIN---PI~~EVV~~VMPRLDPKLYSLL-----
 CYP71A12 471 DQPDLEA~~AFGLD~~VCRKFP~~LI~~A~~FP~~SSVI-----
 CYP71A13 471 DQPDLEA~~AIGLD~~VCRKFP~~LI~~A~~FP~~SSVV-----
 CYP71A18 471 DQPDLEA~~DFGLD~~VCRKNP~~LI~~A~~FP~~SSVA-----
 CYP71A14 472 DEYDLA~~E~~STGLD~~VCRKFP~~LI~~VFP~~SPA-----
 CYP71A15 471 DEYDLA~~E~~ATGID~~VCRKFP~~LI~~VFP~~SNA-----
 CYP71A19 465 VQHDLTEA~~TGLV~~FRKFP~~LI~~A~~IP~~SSA-----
 CYP71A20 470 VQHDLTEA~~TGLV~~FRKFP~~LI~~A~~IP~~SSA-----
 CYP71A27 471 DKPDLEA~~ASGID~~VCRKFP~~LI~~V~~FP~~SI~~AH~~TH-----
 CYP71A16 472 DKPDLEA~~GAGID~~VCRKFP~~LI~~V~~FP~~SSA-----
 CYP71A28 460 -DDGLKQ~~TGMEV~~CHKFP~~LI~~A~~FP~~SLASFTI-----
 CYP71A21 464 NQTNVA~~E~~STGMV~~IHRLE~~F~~PI~~YAIASSTT-----
 CYP71A22 464 DQTNVA~~E~~STGMV~~IHRLE~~F~~PI~~YAI~~V~~SSTT-----
 CYP71A24 463 YQTDVA~~E~~STGMA~~VHRM~~F~~PI~~FAMTT-----
 CYP71A26 463 DQTEVA~~E~~STGIA~~IHRM~~F~~PI~~YAIASNTT-----
 CYP71A25 463 DKTDVA~~E~~SSGF~~SVHRE~~F~~PI~~YAVASPYLT-----
 CYP71A23 457 DETDVA~~E~~SIGSV~~IRRM~~H~~PI~~YV~~IP~~SSTT-----
 CYP71B36 472 EDIDLE~~E~~SPGLN~~ASKKN~~EL~~LV~~V~~PL~~KYLDH-----
 CYP71B37 472 EDIDME~~E~~SPGLN~~ASKKN~~EL~~LV~~V~~PR~~KYLNL-----
 CYP71B9 470 EDIDME~~E~~SPGLA~~VGKK~~NEL~~LV~~V~~PK~~YLGH-----
 CYP71B10 475 EDIYMDEA~~SGLT~~SH~~KKH~~DL~~LV~~V~~PK~~SLV-----
 CYP71B26 472 EDIDME~~E~~APGLT~~VSKK~~SEL~~LV~~V~~PK~~YLGH-----
 CYP71B33 472 EDMME~~E~~APGLT~~VNKK~~ND~~LV~~V~~PK~~YLDN-----
 CYP71B34 472 DDIDME~~E~~APGLT~~VNKK~~NEL~~LV~~V~~PK~~F~~L~~DP-----
 CYP71B35 471 KDIDVE~~E~~APGLT~~VNKK~~NEL~~LV~~V~~PE~~MRRSCG-----
 CYP71B11 468 EDVDLE~~E~~SYGLV~~CPKK~~V~~PL~~QL~~IP~~VLTQWS-----
 CYP71B12 468 ADVDLE~~E~~SYGLV~~CPKK~~I~~PL~~QL~~IP~~VL-----
 CYP71B14 468 EDVDLE~~E~~SYGLV~~CPKK~~V~~PL~~QL~~IP~~VLTQWT-----
 CYP71B13 468 EDVDLE~~E~~SYGLV~~CPKK~~V~~PL~~EL~~IP~~VLTQWT-----
 CYP71B6 473 EEVSVE~~E~~APGLT~~SHRKH~~PL~~HLV~~PVNVINRKL-----
 CYP71B28 468 ----KEE~~AKEL~~ITGNEVAL~~DLV~~QVFLH-----
 CYP71B29 468 ----KEE~~ADKI~~ITGNGVAV~~GLV~~QVLLH-----

CYP71B7 478 KDINLEETGSI I I SKKTTLELVPVLVHH-----
 CYP71B15 468 ----QEEAKEI INGEENFLAFFQVLHH-----
 CYP71B23 475 KDIDLEEEGAI I I GKKVSELELVPTRRQ-----
 CYP71B16 476 KDIDTEEEAGILTVVKKVPLEKLVPVRVQ-----
 CYP71B17 476 KDIDTEEEAGTLTVVKKVHLEKLVPVRVP-----
 CYP71B18 476 KDIDTEEEVGTLTIVKKVPLEKLLPVRFQ-----
 CYP71B19 476 KDIDTEEEAGTLTIVKKVPLEKLVPVRVQ-----
 CYP71B20 476 KDIDTEEEAGTLTIVKKVPLEQLVPVRVQ-----
 CYP71B2 476 EDIDMEEAGNISIVKKIPLQLVPEVQRY-----
 CYP71B27 475 EDIDIEEEAGNVTIVKKLLIYLVPLQRH-----
 CYP71B21 473 ADINMEEAGAFVIAKKVPLELVPVLHY-----
 CYP71B22 473 EDIDMEEAGAFVVAKKVPLELIPTPHQW-----
 CYP71B38 473 EDIDMEEDEGFALIAKKVPLVLIQTSHRW-----
 CYP71B5 471 KDIDMEEEDGAFVIAKKVSELELVP TLHRW-----
 CYP71B31 473 KDIDMEEEDGALNIAKKVPLEQLVPTLP-----
 CYP71B8 475 KDIDMEEEDGALTI AKKVPLELIP TL PASLCIK-----
 CYP71B32 469 EDIDMEEENGALNK TLELIP TL PASLVNKSIR-----
 CYP71B24 472 KDIDMEEAGDVTI I KKVPLEKLVPVLHH-----
 CYP71B3 475 KDIDMEEAGDATIVKKVPLELVP I IHH-----
 CYP71B25 475 KDMNMEESGDVTIVKKVPLELLPVLYH-----
 CYP71B4 476 KDMMEEEAGDLTVDKKVPLELLPVIRISL-----
 CYP83A1 474 DDINMDVMTGLAMHKSQHLKLVPEKVNKY-----
 CYP83B1 473 EDIKMDVMTGLAMHKK EHLVLA PTKHI-----
 CYP84A1 490 SELDMNDVFGLTAPKATRI FAVPTTRLLICAL-----
 CYP84A4 479 GDVDTVEGPGTLVPAIPIVAVPTTRLLCPIVVS-----
 CYP706A1 490 QKFEVEEEKFGLV LKLKSP IVAIPV PRLSDPKLYTA-----
 CYP706A2 492 QKFEVEEEKFGLV LKLKSP IVAIPV PRLSDPKLYTA-----
 CYP706A3 486 ERVEVEEEKFGIVLELKNPIVATPVLR LSDPNLYL-----
 CYP706A7 485 EKVELEEEKFGILLKLNPIVATPVLR LSDPNLFL-----
 CYP706A5 487 HVLDLEEEKFGIVLKLKTP IVALPI PRLSNSNFYF-----
 CYP706A6 485 HILDLEEEKFGIVLKLKSP IVALPV PRLSNSNLYL-----
 CYP706A4 483 HVLDLEEEKFGIVLKLK IPIVALPI PRFSDSNLYL-----
 CYP79B2 509 VELMESSHDMFLAKPLVMVGD LRLPEHLYPTVK-----
 CYP79B3 511 VELMESSHDMFLSKPLVLVGE LRLSEDL YPMVK-----
 CYP79A2 493 IDISESKNDLFMAKPLYAVATPRLAPHVYPT-----
 CYP79C1 509 VELVESKENLFMANPLMACVKPRLDPNMYPKLWTGPA-----
 CYP79C2 497 VELISAEENL FMAKPLLACAKPRLAPSLYPKI QI-----
 CYP79F1 505 LSLEEDDASLLMAKPLHLSVEPRLAPNLYPKFRP-----
 CYP79F2 504 LSLEEDDASLLMAKPLLLSVEPRLASNLYPKFRP-----
 CYP703A2 483 --VEVYGMTMPKAKPLRAI AKPRLAAHLYT-----
 CYP98A8 461 ERIDMSENPGLLCNMRTPLQALALPRAAARA IPLPLD-----
 CYP98A9 455 EHIDMTEKPGLV CYMKAPLQALASSR LPOELYL-----
 CYP98A3 470 EEIDMSENPGLVTYMRTPVQAVATPRLPSDLYKRVPYDM-----
 CYP78A10 515 -LSETLKLKLSLEMKN TLVCKAIPRG-----
 CYP78A5 491 -LAEVLKLSMEMKNPLKCKCKAVPRNVGFA-----

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CYP78A6 506 DLSEKLRLSCEMANPLPAKLRRRRS-----
CYP78A9 507 DLSEKLRLSCEMANPLAAKLRPRRSFSV-----
CYP78A8 509 DLSEVLRLSCEMACPLIVNVSSRRKIM-----
CYP78A7 513 DLGEVLKLSCEMEHPLRAVVEIF-----
CYP77A4 489 DFAGKLEFFT-VVMKNPLRAMVKPRI-----
CYP77A6 490 DFAGKLEFFT-VVMKKPLRAMVKPRV-----
CYP77A7 490 DFAGKLVFA-VVMKKPLRAMVPRVQ-----
CYP77A9 486 DFTGKLVFA-VVMKNPLRARVKARV-----
CYP77B1 487 DPTEITYAFT-VVMKNSLKAQIRSRT-----
CYP89A4 487 DLTEKLEFFT-VVMKHSLKALAVLRRSH-----
CYP89A5 485 DLTEKLEFFT-VVMKHPLKALAVPRRSH-----
CYP89A6 486 DLTEKLEFFT-VVMKHPLKALAVPRRSH-----
CYP89A7 486 DLTEKVEFFT-VIMKHPLKAIAPRRSH-----
CYP89A2 481 DLTEKLEFFT-VVMKHPLKALAVPRRCH-----
CYP89A3 481 DLSEKWEFFT-VVMKYPLKALAVTRRKEKTHIVMA-----
CYP89A9 486 DLSEKQQFITMVMKNPFKANIYPRRK-----
CYP73A5 480 DTSEKGGQFSLHILNHSIIVMKPRNC-----
CYP701A3 486 ----NVDTYGLTSQKLYPIIMAIINPRRS-----
consensus 601 . . . . .

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