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CYP51A1 -----MDWDY-YTLLKTSVAIIIVFVAKLITSSKSKKKTSV-----VPLPPVLQAWPPFFIGSLIRF
CYP51A2 -----MELDSENKLLKTGLVIVATLVIAKLIFSFFTS- SKK-----KRLPPTLKAWPPLVGSLLIKF
CYP710A1 -----MVFSVSIFASLAPYLISAFLLFLLVEQLSYLFKKRN-----IPGPFVVPPIIGNAVALVRD
CYP710A2 -----MVFSVSIFASLAPYLVSALLLFFLIEQLSYLVKKRN-----LPGPLFVPPPIIGNAISLVRD
CYP710A3 -----MVSSVSLFASLTPYLVSALLLFLLEQLFYRLKKRN-----LPGPLFVFPPIGNVVALIRD
CYP710A4 -----MVSSVSLFASLTPYLVSALLLFLLEQLFYRVKKRN-----LPGPLFVFPPIGNVVALIRD
CYP702A1 -----MVEVYELLT-VMVSLIVVKLFHWIYQSNPKPKNEK-----LPPGSMGFPIIGETFEFMKP
CYP702A2 -----MVEFHELLT-VMVSLFLVKIFHWYQWRNPKTNGK-----LPPGSMGFPIIGETFEFFKP
CYP702A8 -----MVDVYKLWI-VIVSLIVVKLFHLIYQWSNPKCNGK-----LPPGSMGYPIIGETIEFMKP
CYP702A5 -----MVEVYEFWA-VIVSLIVVKLCHWIYQWKNPKGNGK-----LPPGSMGYPIIGETFEFMKL
CYP702A6 -----MVDLYEFWA-VIVSLIVVKLCHSIYQWRNPKSNGE-----LPPGSMGYPIIGETFEFMKP
CYP702A3 -----MSEIYVLAHSVFLSIVVKLCHWVYQWSNPKCKGK-----LPPGSMGFPIIGETFEFMTP
CYP708A2 -----MSFVWSAAV-WVIAVAAVVSKWLYRWSNPKCNGK-----LPPGSMGLPIIGETCDFEPE
CYP708A3 -----MSSIWNVAM-LMVALVVVRIHSHWLYRWSNPKCPGK-----LPPGSMGFPIIGETLDFFKP
CYP708A4 -----MNLFWNTGF-CVIVLVVARVGHWWYQWSNPKSNGK-----LPPGSMGFPIIGETLDFFKP
CYP708A1 -----MNNLISLDIMKEMGWALSFVIALVVKISLWLYRWANPNCSGK-----LPPGSMGFPIIGETVEFFKP
CYP87A2 -----MWALLIWSLILLISITHWVYSWRNPKCRGK-----LPPGSMGFPLIGESIQFFKP
CYP90A1 -----MAFTAFLLLLSSIAAGFLLLRTRYR--RMG-----LPPGSLGLPIIGETFQLIGA
CYP90B1 -----MFETEHTLLPLLLLPSLLSLLFLILLKRRNRKTRFN-----LPPGSGWPFPIGETIGNYIKP
CYP90C1 MQPPASAGLFRSPENLPWPYNYMDYLVAGFLVLTAGILLRPWLRLRNSKTKDGEEDNEEKKKG-----IPNGSLGWPIIGETNGFIAC
CYP90D1 MDTSSSLFFS-----FFFFIIVIFNKINGLRSSPASKKKLNDHHVTSQSHGPK-----FPHGSLGWPIIGETIEFVSS
CYP724A1 -----MLVLSIFLSLGLFLLSILILYISISKNETNDHHS-----SLTGSWGWPIIGETISFFKP
CYP720A1 -----MAESAGESYRLLSVSSSTTFLAFIIFLLAGIARRRRAPHR-----LPPGSRGWPIIGDTFAMINA
CYP85A1 -----MGAMMVMGLLLIIIVSLCSALLRWVQMYRTKNG-----LPPGTMGWPIIGETTEFLKQ
CYP85A2 -----MMMILGLLVIIIVCLCTALLRWVQMYRTKNG-----LPPGTMGWPIIGETTEFLKQ
CYP707A1 -----MDISALFLTFLAGSLFLYFLRCLISQ-----RRFGSSKLP-----LPPGTMGWPIIGETFQLY--
CYP707A3 -----MDFSGLFLTLSAAALFLCLRFIAGV-----RRSSSTKLP-----LPPGTMGWPIIGETFQLY--
CYP707A2 -----MQISSSSSSNFFSSLYADEPALITLTIWVVVVVLLFKWWLHWKEQRLR-----LPPGSMGLPYIGETLRLY--
CYP707A4 -----MAEIWFLVVPILILCLLLVRVIVSK-----KKKNSRGK-----LPPGSMGWPIIGETLQLY--
CYP88A3 -----MAETTSWIPVWFLMVLGCFGLNWLVRKVNWVLYESSLGENRHY-----LPPGDLGWPIIGNMLSFLRA
CYP88A4 -----MTETG-LILMWFPLIILGLFVLKWWLKRNVWVWYVSKLGEKKHY-----LPPGDLGWPIIGNMWSFLRA
CYP716A1 -----MYMAIMIILFLSSILLSLLLLRKHLSHFSYPNLP-----PGNTGLPIIGESFSFLSA
CYP716A2 -----MYLTIIFLFISSIIIFPLLFFLGKHLNFRYPNLP-----PGKIGFPIIGETLSFLSA
CYP718 -----MVLEPNFVLSWVFLCIAATISSTLFFFRKKHHRFITKKIQKKKK-----LLPGEMGLPIIGETMDFYKA
CYP71A12 -----MEMILMVSCLTTLITL-FLLKQFLKRT-ANKV-----NLPSPWRPLPIG-----NLHQ
CYP71A13 -----MEMILSISLCLTTLITL-LLLRRFLKRT-ATKV-----NLPSPWRPLPIG-----NLHQ
CYP71A18 -----MEMTLMVSLCLTTLTL-LLLKKFLKRT-AKKV-----NLPSPWRIPVIG-----NLHQ
CYP71A14 -----MEMIIISLCLATILAL-LLLKQFLNRTYAKV-----NLPSPWRVPVIG-----NLHQ
CYP71A15 -----MEIIISLCLATILAF-LLLKPLLNRT-VAKD-----NLPSPWRVPVIG-----NLHQ
CYP71A28 -----MILISLCFTTFLAF-LFLNPLLKRTTTTKP-----NPPSPWRPLPIG-----YLHQ
CYP71A19 -----MEIILVTCLTTLAL-LLLKSILKRTTTNLL-----NLPSPWRPLPIG-----NLHQ
CYP71A20 -----MILITLCLTTLA-LLLKSILKRTATKNF-----NLPSPWRPLPIG-----NLHQ
CYP71A16 -----MEMMILISLCLTTLTILLFFKSLKRPNS-----NLPSPWRPLPIG-----NLHQ
CYP71A27 -----MEMILISLCLTTLAF-LFLKPLLKRTTTTKP-----KLPSPWRPLPIG-----NLHQ
CYP71A21 -----MESMTMIILQSLIIFITILFFK--KQKRGKKS-----NTPRSPRPLPIG-----NLHQ
CYP71A22 -----MESMIRIILLSLIIFITILFFI--KQKKGKKS-----NTPASPRPLPIG-----NLHQ
CYP71A24 -----MMMMIILLCSIIITILFFK--KQSRGKKS-----NAPPSPRPLPIR-----NLHQ
CYP71A26 -----MMIMFFLLCSIIIFVVTIIIFR--KQKRGKKS-----NTPSPPGPLPIG-----NLHQ
CYP71A25 -----MMMMIILLWSIIFMTILFLK--KQLSGKKG-----KTPSPPGPLPIG-----NLHQ
CYP71A23 -----MILFLCLLILFIITILFFK--KHKTVNKI-----INFPSPRPLPIG-----NLHQ
    
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CYP71B26 -----MDSIWILSLLFFIIFLLLAFAFKRKNHGKH-----RRIPSPPGFPIIG---NLHQ
CYP71B33 -----MVNILILSLLFLVILLLLTAFKRAKRRQH-----RPISPPPGFPIIG---NLHQ
CYP71B34 -----MTNIWLLSLIFVICILVAVFNHKNRRNYQ-----RTPSPPGCPIIG---NLHQ
CYP71B35 -----MAHIWLLPLIFLVCILLAVFNHKKHPKYR-----QFP-CPPGFPIIG---NLHQ
CYP71B36 -----MATILFLSLLFLSCILLAAFTHKKRQQHQ-----RKPPSPPGFPIIG---NLHQ
CYP71B37 -----MATIWFPLLLFLSCLLLAALRLKRRQHQ-----RKPPSPPGFPIIG---NLHQ
CYP71B9 -----MATIWFLSLLFLCCILLAAFHKHKKRRTNQ-----QOPPSPPGFPIIG---NLHQ
CYP71B10 -----MTVLWFVSLILLISILLVAVKHSKRR-WV-----ROPPSPPGLPIIG---NLHQ
CYP71B11 -----MSLWYIIVAFVFFSTIIIVR-NTRKTKK-----NLPPGPPRLPIIG---NLHQ
CYP71B12 -----MSLWYIIVAFVFFSSMIIVR-IIRKTKK-----NLPPGPPRLPIIG---NLHQ
CYP71B14 -----MIWWFIVGASFFFAFILIAK-DTRTTKK-----NLPPGPPRLPIIG---NLHQ
CYP71B13 -----MSLWYIIVVFFVFFASIFIKA-NTRKTKK-----NLPPGPPRLPIIG---NLHQ
CYP71B6 -----MSLFSFPISTELLPWLLLLIPLLIFFLLRSPK-----NLPPGPPRLPIIG---NIHQ
CYP71B28 -----MSVFLCFLCLLPLILIFL---KNLKPSKW-----KLPPGPKKLPPIIG---NLHQ
CYP71B29 -----MAIILCFLILLPLILIFL---KKLKHSKW-----KLPPGPKLPPIIG---NLHQ
CYP71B15 -----MSVFLCFLVLLPLILIFL---NVLKPSKY-----KLPPGPKLPIIG---NLHQ
CYP71B23 -----MSIFLCFLLLLLLLLVTI-IFTRKSQSSKL-----KLPPGPKLPPIIG---NLHY
CYP71B7 -----MSILLCFLCLLPVFLVLSILSKRLKPSKW-----KLPPGPKLPPIIG---NLHN
CYP71B16 -----MAISLLCLFLITLVSLI--FVVKIKHSKW-----DLPPSPPTFPVIG---NLHQ
CYP71B17 -----MAISLLCLFLITFVSLT--IVGCKIKRSIW-----NLPPSPKLPVIG---NLHQ
CYP71B18 -----MAISLLSFLIAFASLI--FLGKKIKRSKW-----NFPPSPKFPVIG---NLHQ
CYP71B19 -----MAISFLCVFLITFVSLI--FFAKKIKRSKW-----NLPPSPKFPVIG---NLHQ
CYP71B20 -----MAISFLCFLITLASLI--FFAKKIKHLKW-----NLPPSPKFPVIG---NLHQ
CYP71B2 -----MTILLCFFLVSLLTIVSSIFLKQNKTSKF-----NLPPSPSLPIIG---NLHH
CYP71B27 -----MAILFCFFLVSLTVLVSSIFFKQIKNTKF-----NLPPSPSLPIIG---NLHH
CYP71B21 -----MSIFLCFLLLLLPLFLVfy---KRLPSKG-----KLPPGPIISLPPIIG---NLHQ
CYP71B22 -----MSISLYFLLLLPLFLIFF---KKLSPSKG-----KLPPGPIGLPIIG---NLHQ
CYP71B38 -----MSIFLCFLLLLLPLSLILF---KKLLPSKG-----KLPPGPIGLPIIG---NLHQ
CYP71B5 -----MSIFLCFLLLLLPLSLILF---KKLLPSKG-----KLPPGPKGLPIIG---NLHQ
CYP71B31 -----MSMFLGLLFLFPLFFILF---KNLLPPRK-----KLPPGPTGLPIIG---NLHQ
CYP71B8 -----MIKSILLCFFFLPLLLLTLF---KLLPSKW-----KLPPGPTGLPIIG---NLHQ
CYP71B32 -----MSIFLLCILFLFPLFQIIF---KKLLPSKS-----KLPPGPTGLPIIG---NLHQ
CYP71B24 -----MSILLYFIAL---LSLIIKKIKDSNR-----NLPPSPLKLPVIG---NLHQ
CYP71B3 -----MSILLYFFFLPVI---LSLIFMKKFKDSKR-----NLPPSPPKLPPIIG---NLHQ
CYP71B25 -----MAILQSFLLLLLSLPFLFTLIYTKMKESKR-----NLPPGPAKLPVIG---NLHQ
CYP71B4 -----MVSLLSFFLLLLLVPIFFLLIFTKKIKESKQ-----NLPPGPAKLPPIIG---NLHQ
CYP83A1 -----MEDIIGVVALAAVLLFFLYQPKTKRY-----KLPPGSPLPVIG---NLHQ
CYP83B1 -----MDLLLLIAGLVAAAFFFLRSTTKKSL-----RLPPGPKGLPIIG---NLHQ
CYP84A1 -----MESSISQTL SKLSDPTTSLVIVVSLFIFISFITRRRR--P-----PYPPGPRGWPIIG---NMLM
CYP84A4 -----MLTLMTLIVLVPLLLFLPHLLLRQMLLK-----PYPPGPKGLPVIG---NILM
CYP705A1 -----MDAIVVDSQNCFII--ILLCSFS-LISYFVFFKKPKVNF-----DLPPSPPSLPPIIG---HLHL
CYP705A24 -----MTVMVSFDLLNCFIF--TLIFLISTLFLVLFYKKNPDGF-----DVPPSPPSLPPIIG---HLHL
CYP705A15 -----MAAMNIVDFQNCFFF--VLL-SLFSLLCYSLFFRKPKPR-----LHY-----DLPPSPPTLPPIIG---HLHL
CYP705A4 -----MIDFQNCFIF--ILL-CLFSRLCYSHFFKKPKDPR---LHF-----DLPPSPPSLPPIIG---HLHL
CYP705A16 -----MAAMINVEFQNCFIF--MLL-CLFSLLCYSLFRKPSRQ-NSYDC-----DLPPSPPSMPTIG---HLHL
CYP705A19 -----MTTTEFQSCFIF--LLL-CLFSLVCYSLFFRKPSRR-DAHGC-----DLPPSPPSLPVIG---HLHL
CYP705A20 -----MLTVDSQHCFISF--ILL-CFFSLLCYSLFKKLDKDS---HVGR-----DLQSPPSLPPIIG---HLHL
CYP705A21 -----MAAIIGDCFIF--ILL-CLFSLLFYLI FRKPKNSRLVAYG-----DLPPSPPSLPPIIG---HVHL
CYP705A23 -----MAAMLTVDFQNCIF--ILL-CILLLL CYPLFFKKPKVSQ---DGF-----GLPPSPLSPLPIIG---HLHL
CYP705A28 -----MAAMITVDFQNSFAF--ILF-CLFSLLCYSLFRKAKGSR---AGR-----DLPPSPPSFPVIG---HLHL
    
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CYP705A30 -----MAAMITFDQNSFIF--ILF-FLFSLLCYSLFFRKPKGSR---AGR-----DLPPSPPSFPVIG---HLHL
CYP705A32 -----MAAMITVDFQNSFIF--ILF-CLFSLICYSLFFRKPKDSR---AGR-----DLPPSPPSFPVIGSPQSNLHL
CYP705A2  -----MAVLIIF--ILL-CLLSFLCYSLFFMKPKDSR---DGR-----DLPPSPPSLPIIG---HLHL
CYP705A5  -----MITVDFENCFIF--LLL-CLFSRLSYDLFFRKTKDSR---AGC-----ALPPSPPSLPIIG---HLHL
CYP705A8  -----MGEIMNVDFVNCLIL--ILL-CLLSILCYSLFFFKPKDGF-----NLPSPPSLPIIG---HLHH
CYP705A9  -----MNVDFQNCIL--ILL-CLLSFLCYSLFFFKPKDGF-----NLPSPPSLPIIG---HLHH
CYP705A18 -----MATLISVDFQHCIFY--IILLCLFSLLCYSLFFRKPKGTRV---GC-----DLPPSPPSLPIIG---HLHH
CYP705A6  -----MAAILSVDFQNCFIF--IVL-CLFSLFCYSLFFKPKHPR---GC-----DLPPSPPSLPIIG---HLHL
CYP705A33 -----MAAFISVDFQNCFIF--ILL-CFFSLLCYSLFFKPKDSR---GC-----DLPPSPPSLPIIG---HLHL
CYP705A3  -----MIAIIVEFQNFIF--ILL-CLFSLCHSLFFKPKDSR---SF-----VLPSSPPSLPIIG---HLHL
CYP705A22 -----MEAVISVDFQNCFIF--ILI-FLLTFLCFFFFKPKDSRV---NF-----DLPPSPPSLPIIG---HVHL
CYP705A12 -----MAELIIVDFQNSIF--ILL-CLFSFLCYALFFFKPKGFD-----LPPSPPSLPIIG---HLHH
CYP705A13 -----MATIIVDFQKIHFPQILLIIFTVICIFVFFFKPKGSR---GC-----DLPPSPPSLPIIG---HLHL
CYP705A25 -----MAAISVDFQLCFIF--ILLAIIFSLFCFAFFFKPKDPQ---LQGC-----GLPPSPPSLPIIG---HLHF
CYP705A27 -----MAAITVDFQLCFIF--ILLGIFSLFCLSAFFFKPKDPQ---LQGC-----GLPPSPPSLPIIG---HLHL
CYP712A1  -----MDLKLNTKLIILITS---LAFPFMLYALFKWFLKEQGSALA---AT-----KLPQSPPALPFIG---HLHL
CYP712A2  -----MFTLNLDMNYTS---CSYLFFTLVITIFLLHRLFSSSS---RR-----GLPPGPRGLPVLG---HMHL
CYP93D1   -----MVDLQYFSVI---ILVCLGITVLIQAITNRLRDRLP-----LPPSPALPIIG---HIHL
CYP81D6   -----MHVSIQHIYKFLDLNMETYFLLLSLAFFL-FISVKLLFGKRLSKFNL-----PPSPARPLPIIG---HLHL
CYP81D7   -----METHFLILSLAFLF-FISLKLLFGKRHSKFNL-----PPSPARPLPFIG---HLHL
CYP81D11  -----MSSTKTIMETIYLILSLFFFFIFLSLKLLFGPRPRKLNL-----PPSPSRPFIG---HLHL
CYP81D2   -----MEALMLIFTFCFIV---LSLIFLIGRIKRLNL-----PPSPAVALPFIG---HLRL
CYP81D3   -----MEGQTLIFTFLFIS---LSLTFIIGRIKRRPNL-----PPSPSWALPFIG---HLRL
CYP81D8   -----METKTLIFSILFVW---LSLIYLIGLKRKPNL-----PPSPAWSLPIIG---HLRL
CYP81D4   -----MDLNQILILSFLSF---TLAIFLLTRSKRKNL-----PPSPAISLPIIG---HLHL
CYP81D5   -----MDLTQILLLSFLFLT---ISIKLLLTksNRKPNL-----PPSPAYPLPFIG---H-HL
CYP81D1   -----MEETNIRVVLYSIFSLIFLIISFKFLKPKKQNL-----PPSPPGWLPPIIG---HLRL
CYP81F3   -----MFYYVIVLPLALFL---LAYKLFFTSKTKRFNL-----PPSPYSPLPIIG---HHNL
CYP81F4   -----MFNYVILPLALFL---LAYKFFFTSKKQRYL-----PPSPSYSLPIIG---HHLL
CYP81F2   -----MDYVLIVLPLALFL---IAYKFLFSSKTQGFNL-----PPGP-TPFPVIG---HLHL
CYP81F1   -----MLYFILLPLLFLV---ISYKFLYS-KTQRFNL-----PPGP-PSRPFVIG---HLHL
CYP81H1   -----MDCILLILTTLVAI---FIVKIVLLVTKPNKNL-----PPSPNICFPPIIG---HLHL
CYP81G1   -----MRLVSRIMCSRMGEMIDLFLALMAGFIAYAVVFRSKQKK-NL-----PPNP-VGFPVIG---HLHL
CYP81K1   -----MEDLWFIFFSFLTATLIFFITKKFLWSLNSKL-----PPSP-TPLPIIG---HLHL
CYP81K2   -----MENLWVIFL---LTATLTFIT-KFLWSQNPKL-----PPSP-TPLPIIG---HLHL
CYP82C3   -----MDTSLFSLF-VSILVFVFIALFKKSKPKYVK-----APAPSGAWPIIG---HLHL
CYP82C2   -----MDTSLFSLF-VPILVFVFIALFKKSKPKYVK-----APAPSGAWPIIG---HLHL
CYP82C4   -----MDTSLFSLF-VPILVFVFIALFKKSKPKYVK-----APAPSGAWPIIG---HLHL
CYP82F1   -----MDLIMLFL-SALFIFPVLILIKSRLRPNKST-----APMVPGAWPLLG---HLHL
CYP82G1   -----MTFLFSTLQLSLFSLALVIFGYIFLRKQLSRCEVDSST-----IPEPLGALPLFG---HLHL
CYP76C2   -----MDIIFEQALFPLFCFVLSFFIIFTTTRPRSSRK-VV-----PSPPGPPRLPIIG---NIHL
CYP76C4   -----MDIISGQALFLLFCFISSCFLISTTARSRRSSGR-AA-----TLPPGPPRLPIIG---NIHQ
CYP76C1   -----MDIISGQALLLFCFILSCFLIFTTTRSGRISRG-AT-----ALPPGPPRLPIIG---NIHL
CYP76C5   -----MDIISGQPMFLFCFILSCFLFFTAARSRRSPTQVLS-----KSPPGPPRLPIIG---NIHL
CYP76C6   -----MDIISGQPLFLFCFILSCLLFFTTARSRRSPCQ-LS-----KSPPGPPRLPIIG---NIHL
CYP76C3   -----MDLSLIQMSLPLYFLLTLFFFFFATAKTRRSSSTG-----TLPPGPPILPLVG---NIFQ
CYP76C7   -----MDIVAIVLSLLFIFLFFFFYTTGKSCPGGAK-----NPPGPSKLSLLR---NILQ
CYP76G1   -----MINQLTKNELIGLFTSIAVLIYVTCIFYTKRCRTR-----LPPGPNPVPVIG---NIFQ
CYP75B1   -----MATLFLTILLATVLLILRIFSHRRNRSHNN-----RLPPGPNPPIIG---NLPH
CYP706A1  -----METASS--NFSLSQLNIEEPYSSVMLGVAALLAVVCYFWIQGKSKSKNGP-----PLPPGPWPLPIIG---NLPF
    
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CYP706A2 -----MGTASSKSNINLSQVLNTEEPYSSVMLAVAALLLWVVCYLWIQGKSKSKKEP-----PLPPGPWPLPIVG---NLPF
CYP706A3 -----MTDISSLFRNRSRKDQLDYG---LTVIVISTLCWCLWLYAKCKRRS-P-----PLPPGPWGLPIIG---NLPF
CYP706A7 -----MTDIFFFTIQRNDHDFV---LATIVISSVFWYIWVYVSKRFL-P-----PLPPGPRGLPIVG---NLPF
CYP706A5 -----MSMLSNLFPDNAIS-LTPYA---YAVLILATFWSILWYIFK-RSPQ-P-----PLPPGPRGLPIVG---NLPF
CYP706A6 -----MSPISNLFAGNTIN-LTP---YAILILIAIFWYILWYLFK-RSPQ-P-----HLPFGPRGLPIVG---NLPF
CYP706A4 -----MSPISNLFDPNTIN-LTP---YAIIVLTTVFSILWYIFK-RSPQ-P-----SLPPGPRGLPIVG---NLPF
CYP79B2 -----MNTFTSNSSDLTTT-ATETSSFSTLYLLSTLQAFVAITLWMLLKKLMTDP-NKPPP-----YLPPGPTGWPIIG---MIPT
CYP79B3 -----MDTLASNSSDLTTKSSLGSSFTNMYLLTTLQALAALCFLMILNKIKSSSRNKKLH-----PLPPGPTGFPIVG---MIPA
CYP79A2 -----MLAFIIGLLLLALTMKRKEKKKTMLISPTRNL-----SLPPGPKSWPIIG---NLPE
CYP79C1 -----MDYYLNNVIFSVVVTFSITLNIIVFLIKSVVARFLGRRK-----KLPPGPRGFPIIG---NLVG
CYP79C2 -----MTIITNPSSFTLVL---ISITLVLALARRFSRFMKPKG-----QLPPGPRGWPIVG---NMLQ
CYP79F1 -----MMSFTTSLPYPFHILLVFIILSMASITLLGRILSRPTKTKDRSC-----QLPPGPPGWPIIG---NLPE
CYP79F2 -----MMMISFNFCQIILLGFIVFIASITLLGRIFSRPSKTKDRCR-----QLPPGRGPWPIIG---NLPE
CYP703A2 -----MILVLAFLAVLILNVLLWRWLKASAKAQR-----LPPGPPRLPIIG---NLQ
CYP98A8 -----MIIYLISLLPIIVATLMLYQRWWS-----NIPPGPKPKFLLG---NLHQ
CYP98A9 -----MDLLISLTTIIIAAYMQLRRRGS-----NIPPGPPTRFLVG---NLHQ
CYP98A3 -----MSWFLIAVATIAAVVSYKLIQRLRY-----KFPFGPSPKPIVG---NLVD
CYP78A10 -----MTIDMYLSFASRSGSSPFPSLELCLSIIFLISLVFVFLTPGGFAWALYKARF---HTRPESKTGPAIPGPSGLPIFGL---LAF
CYP78A5 -----MSPEAYVLFN---SFNLVTFEAFASVSLIIATVAFLLSPGGAWAGPGS-----SKSRVSIIPGSGS---LSV
CYP78A6 -----MATKLESS-LIFALLSKCSVLQTNLAFSLLAVTIIWLAISLFLWTPGGPAWGKYLFGF---LISGSYKTGNVIGPKGFPIVG---SMSL
CYP78A9 -----MATKLDTSLLLALLSKCSLLTQTNLALSLLVASLALSLLFFWSHPGGPAWGKYFLHR---RRQ---TTVIPGPRGLPIVG---SMSL
CYP78A8 -----MRTEIESL-WVFALASKFNIYMQHFASLLVAIAITWFTIIVFWSTPGGPAWGKYFFTRRFISLDYNRKYKNLIPGPRGFPIVG---SMSL
CYP78A7 -----MELMNLASKESYWMIALPAGFGSQLHDVSTLGYLFLAVVFLSIVTALAGGGGVAVWKNRNLG-----RVAIPGPRGPIVG---SLFT
CYP77A4 -----MFPLISFSPT---SLDFT---FFAIISGFVFIITRWNSNK-----KRLNPPGPPGWPIVG---NLQF
CYP77A6 -----MSILSFPH---FFNISPSLYFYLIISSVLLILTRRSKAS-----KIVKLPPGPPGWPIVG---NLQF
CYP77A7 -----MSFLSFSPISLDLLSSNVFLTILAIISGLLKTITYRKH-N-S-----NHLNPPGPPGWPIVG---NLQF
CYP77A9 -----MLDIS---NYVFFFFTLVITLLSCLVYILTRHSHN-P-----KCANLPPGPKGWPIVG---NLQF
CYP77B1 -----MDLTDVIFLFLALYFINLWRRYFSAGSSQ-----CSLNIPGPKGWPIVG---NLQV
CYP89A4 -----MEIWLLILGSLFLSLLNLLFRRRDS-----SSLPLPPDPNFFPFLG---TLQWL
CYP89A5 -----MEIWLLILGSLFLSLLNLLFFRLRDS-----SSLPLPPDPNFFPFLG---TIQWL
CYP89A6 -----MEIWLLILGSLFLSLLNLLFRRRDSF-----SSLPLPPDPNFFPFLG---TLQWL
CYP89A7 -----MEIWLLILGSLFLSLLNLLFRRLRDS-----SSLPLPPAPNFFPFLG---TLQWL
CYP89A2 -----MEIWLLILASLSGSLLLHLLRRRNS-----SPPLPPDPNFFPFLG---TLQWL
CYP89A3 -----MATWFHIFCVSFTVNFLLYLFRRTNN-----NLPPLPPNFFPMPG---PFQWL
CYP89A9 -----MEITTIIFLISSLTFSIFLKLIFFFSTHK-----LPPGPPRFPPIVG---NIWL
CYP704A1 -----MAIIVVTTIFILLSFALYLTIRIFTGKSR-----NDKRYTPVHAT---IFDL
CYP704A2 -----MEILTSIATVATTIFIVLCFTIYLMIRIFTGKSR-----NDKRYAPVHAT---VFDL
CYP704B1 -----MSLCLVIACMVTSWIFLHRWGQRNK-----SGPKTWPLVGA---ATEQ
CYP86A2 -----MDVSNMML---VAVVAAYWLFQIRSRWLK-----GPRWVPLVGS---LPGL
CYP86A4 -----MEISNAMLL---VAIVTGYWLFKIRSRWLK-----GPRWVPLVGS---LPGL
CYP86A8 -----MEISTALMI---LSAITAYFLWLTFFISRCLK-----GPRWVPLVGS---LPGL
CYP86A7 -----MDGSTAII---LTLIVTYIIFVSLRRSYK-----GPRWVPLVGS---LPAL
CYP86A1 -----MEALNSILTGYAVALSVYALWYFLSRRLT-----GPKVLPFVGS---LPYL
CYP86B1 -----MNFN-SSYNLTFNDVFFSSSSSDPLVSRRLFLLRDQVILELLIAIFVFAIHALRQKKY-----QGLPVWVFLGM---LPSL
CYP86B2 -----MNLSSSYNLTATAVSSSCFGSDELLVSRRLFSLRDVQILELFAFFVFATIHSRLRQKKH-----QGMPVWVFLGM---LPSL
CYP86C3 -----MPLTERVYNHLCLSDVSLALLGLFVFCVREKVTCK-----LGPVWVFLGM---TPEF
CYP86C4 -----MSLTERLYNHLSLFDLLLGLFVFCCLREKLTNK-----RGPVWVFLGM---TPEF
CYP86C2 -----MSLIDRISGHLCLQDVSIALLGLFVFCCLQAKLTNK-----GEPVWVFLGM---TPEF
CYP86C1 -----MNVLISAVVWVYTHLRLSDVALVGLFLLSYLREKLVSK-----GPPVWVFLGM---IPML
CYP94B1 -----MEMLNAIILILFPIIGFVLIFSPTKTLKAKTASP-----SNPTSYQLTGS---ILSF
    
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|-----------|--|
| CYP94B3 | -----MAFLLSFLILAFLLIT--IIFFLSSSSTKKVQENT-----YGFPPSYPLTGS---ILSF |
| CYP94B2 | -----MEASTFILLLVLLVLLLVLSAGKHVIYSCRN-----STPKTYPVLC---LISF |
| CYP94C1 | -----MLLIISFTIVSFFFIIIFSLFHLLFLQKLR-----YCNCEICHAYL---TSSW |
| CYP94D1 | -----MALLIFIFLLCFPIISIFFIFFT-----KKSSE-----FGFKSYPLVGS---FPGL |
| CYP94D2 | -----MEHFILISLLCFPIVIFFFIFFP-----KNSSE-----FGFKSYPLVGS---LPGL |
| CYP96A1 | -----MALITLLEVSISLLFFSFLYGYFLISKKPHR-----SFLTNPVFLGM---LPGL |
| CYP96A9 | -----MALVSLLEISIAFFCF-LIFRIFLISKKPHR-----SFLTNPVLLGM---LPGL |
| CYP96A10 | -----MVFISLFEISIAFFCF-LLFRHFLINKKTHR-----LCPITNPVFFGM---IPGL |
| CYP96A5 | -----MAYVGLVEVFIALLVF---FFFHFLHKKSHQ-----ITPRNPVFLGM---LPGV |
| CYP96A11 | -----MASSISFLEASVAIFCF--LILHYLFKTTTYN-----GRFPRNPVFLGM---LPCL |
| CYP96A2 | -----MASISLLQVSVAILCF--LILHYFLFKKPH-----GRYPRNPVFLRM---LPAM |
| CYP96A12 | -----MASVSLLDVAIAIICL---FFFYMYFKKPH-----GQVFRNPVITGM---LPGF |
| CYP96A13 | -----MASISLFEASIAIFCF---IILHFFLG-----NWPVLLGM---LPGL |
| CYP96A7 | -----MASIGLYEAFIGFLCF--LISFYFLVKKPFRYL-----LIKKTHQSYPNWNPVLLGM---LPGI |
| CYP96A8 | -----MASIGLYEAFIGFLCF--LISFYFLVKKPFSYL-----LIKKTLQSYPNWNPVLLGM---LPGV |
| CYP96A3 | -----MAIVIGLLEIFTAFVFF---IFFQCLLLHKKTP-----KPLLTNPVALLGM---LPGL |
| CYP96A4 | -----MAMIIGLLEIFIAFIFF---FVYQCFSLHKKTP-----KHMVMNPVLLGM---LPGV |
| CYP96A15 | -----MAMLGFYVTFIFFLVC--LFTYFFLQKQPQG-----QPIILKNWVFLRM---LPGM |
| CYP97A3 | -----MAFPLSYTPTITVKPVYSRRSNFVVFSSSSNGRDPLEENSVPNGVKSLEKQEEKRAEL SAR-----IASGAFTVRKSSFSTVK---NGLS |
| CYP97C1 | -----MESSLFSPPSSSSYSSLFTAQPTRLLSPKPKFTFSIRSSIEKPKPLETN--SSKSQS-----WVSPDWLTTLRTLSSCK---NDES |
| CYP97B3 | -----MAFPAAATYPHTFQGGALHLGRTDHCLFGFYPTISSVNSRRASVSIKQSTE-----PKTNGNILDNASNLLTNF---LSGG |
| CYP709B2 | -----MELLSTINLLAIALVLLVVPKIYGACRILVWRPWML-----SRRFKKQGISGP---KYRI |
| CYP709B3 | -----MELISTINLLTIVLLL FVVSKIWKACWILLRPLML-----SKRFFKQGISGP---KYKI |
| CYP709B1 | -----MGLVIFLALIVLILIIIGLRIFKAFMILVWHPFVL-----TRRLKNQGISGP---NYRI |
| CYP735A1 | -----MLLTILKSLLVIFVTTILRVLYDTISCYLWTPRRI-----KKIMEQQQVITGP---KPRP |
| CYP735A2 | -----MMVTLVLKYVLVIVMTLILRVLYDSICCYFLTPRRI-----KKFMERQGITGP---KPRL |
| CYP72A11 | -----MEISVASVTVSVAVVVVSWWWVRTLQWVWFKPKML-----ESYLRRQGLAGT---PYTP |
| CYP72A13 | -----MEISVASVTVSVAVVVVSWWWVRTLQRVWLKPKML-----ESYLRRQGLAGT---PYTP |
| CYP72A15 | -----MEISVASVTISVVLAVVSWWIWRTLQWVWFKPKML-----EHLRQGLAGT---PYTP |
| CYP72A10 | -----MEISVACVTVSVVVVSWWWVRTLQWVWFKPKML-----ESYLRRQGLAGT---PYTP |
| CYP72A14 | -----MEISVSSVTFSLAVVVVSWWWVRTLKWVWFTPKML-----ERSLRRQGLSGT---SYTP |
| CYP72A9 | -----MEIVIA---SLALVVVLWCIWRILEWVWLKPKML-----ESYLRRQGLVGT---RYTP |
| CYP72A7 | -----MSFSVA--ALPVLVAVVWLWTWRIVKWWIKPKML-----ESSLKRQGLTGT---PYTP |
| CYP72A8 | -----MSDTKISAVAVAAVVVVTTVTVWIWKG LNVAWLRPKKN-----EAYLKRQGLSGT---PFTF |
| CYP72C1 | -----MLEIITVRKVFLIGFLILILNWWRAVNWVLRPKRL-----EKYLKKQGFSGN---SYRI |
| CYP734A1 | -----MEEESSWFIPKVLVLSVILSLVIVKGMSSLWWRPKI-----EEHFSKQGITRGP---PYHF |
| CYP721A1 | -----MAVFFILVLVFFFLVFRFIYSNIWVPWRI-----QSHFKKQSVITGP---SYRI |
| CYP715A1 | -----MEFFEMSRVWYIFFKVFWVICLMFLKFLRCWIWPVRA-----QKKLRGNGFVGP---APSF |
| CYP714A1 | -----MENFMVEMAKTISWVWIGVLGLGIRVYGKVM AEQWRM-----RRKLTMQGVKGP---PPSL |
| CYP714A2 | -----MESLVVHTVNAIWCIVIVGIFSVGYHYVGRVVEQWRM-----RRSLKLQGVKGP---PPSI |
| CYP74A | -----MASISTPFPISLHPKTVRSKPLKFRVLTRPIKASGSETPDLTVATRTGSK-----DLPIRNIPGNYG LPIVGP---IKDRW |
| CYP74B2 | -----MLLRTMAATSPRPPSTSLTSQQPPSPPS-----QLPLRTMPGSYGWPLVGP---LSDRL |
| CYP73A5 | -----MDLLLLLEKSLIAVFAVILATVISKLRGKLLK-----LPPGPIPIPIFG---NW |
| CYP722A1 | -----MEHLCLCLVLC AAMLTLGKFLIMFQDRKKSTAG-----VPPGSDGFPVLCGETLQFM LS |
| CYP701A3 | -----MAFFSMISILLGFVISSFIFIFFFKLLSFSRKNMS-----EVSTLPSVPVPGFPVIGNL |
| CYP711A1 | -----MKTQHQWWEVLDPFLTQHEALIAFLTFAAVVIVIYLYRPSWSVCN-----VPGPTAMPV LG---H LPL |
| consensus | 1.....10.....20.....30.....40.....50.....60.....70.....80.....90..... |

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CYP51A1 MKG----PIVLLREEYPKLG-----SVFTVKLLHKNITFLIGPEVSSHFFNAYESELSQKEIYKFN-----
CYP51A2 LKGG----PIIMLREEYPKLG-----SVFTVNLVHKKITFLIGPEVSAHFFKASESDLSSQEVYQFN-----
CYP710A1 PTS----FWDKQSSTANIS-----GLSANYLIGKFIVYIRDTEL SHQIFSNVRPDAFH LIGHPPFG-----
CYP710A2 PTS----FWFKQSDTAGTSP-----GLAANYLIGKFIIYIRDTEL SHQIFSNVRLEAFHPLGHPPFG-----
CYP710A3 PTS----FWDKQSAMADTSV-----GLSVNYLIGKFIIYIKDAEL SNKVFSNIRPDAFQLVGHPPFG-----
CYP710A4 PTS----FWDKQSAMADTSV-----GLSVNYLIGKFIIYIKDAEL SNKVLSNIRPDAFQLTGHPPFG-----
CYP702A1 HDA--FQFPTFIKERIIR-----YGPVIFRTSLFGAKV IISTDIELNMEIAKTNH---APGLTKSI-----
CYP702A2 HDA--LQFSTFIKDRVLR-----HGPVVFRTSLFGDKAII SMDMELNLEMAKANS---VPGVTKSV-----
CYP702A8 HDA--LQFSTFIKRVLI FFFFFFFLCMF---NMDRFFRTSLFGGKVI IISMDNELNLEMAKTNR---TPGITKSI-----
CYP702A5 HDA--IQLPTFVKEKLLR-----HGPVVFRTSLFGGKVI IISTDIGLNMEIAKTNH---IPGMFKSL-----
CYP702A6 HDA--IQLPTFVKEKVL R-----HGPVVFRTSLFGGKVI IISTDIGLNMEIAKTNH---IPGMFKSL-----
CYP702A3 FDIS-LVVSPYLKKRISR-----YGSKVVFRTSLFGAKVIVSIDPDV NMEIAKASS---QLRATESV-----
CYP708A2 HGL--YEISPFVKKRMLKYG-----PLFRTNIFGSKNTV VSTLEPDIIFEVFRQENKSFVFSYPEAF-----
CYP708A3 CGV--EGIPTFVKKRMIRY G-----PLFRTNIFGSKTV VSTDPDVIHQIFRQENTSFELGYPDIF-----
CYP708A4 YGF--YEISPYLKKKMLRY G-----PLFRTNILGVKT VVSTDKDVNMEILRQENKSFILSYPDGL-----
CYP708A1 YSF--NEIHPFVKKRMFKHGG-----SLFRTNILGSKTIV S TDPEVNF EILKQENRCFIMSYPEAL-----
CYP87A2 NKT--SDIPPFIKERVKKY G-----PIFKTNLVGRPVIV S TDADLSYFVFNQEGRCFQSWYDPTF-----
CYP90A1 YKT--ENPEPFIDERVARY G-----SVFMTHLFGEP TIF S ADPETNRFV LQNEGKLFECSPASI-----
CYP90B1 YTA--TTLGDFMQQHVSKY G-----KIYRSNLFG EPTIVSADAGLNRFILQNEGRLFECSYRSI-----
CYP90C1 GYS--SRPVTFMDKRKS LYG-----KVFKSNIIGTPII IISTDAEVNKVVLQNHGNTFVPAYPKSI-----
CYP90D1 AYS--DRPESFMDKRRLMY G-----RVFKSHIFGTATIV S TDAEVNRAVLQSDSTAFVPPFYPKTV-----
CYP724A1 HRS--DSIGTFLQQRVSR YG-----KVFKSNICGGKAVV SCDQELNMFILQNEGKLFTSDYPKAM-----
CYP720A1 VAG--SHPSSFVEKQIKKY G-----RIFSCSLFGKWAVV S ADPDFNRFIMQNEGKLFQSSYPKSF-----
CYP85A1 G-----PNFMRNQLRY G-----SFFKSHLLGCPTL I SMDSEVNRYILKNESKGLVPGYQSM-----
CYP85A2 G-----PDFMKNQLRY G-----SFFKSHLLGCPTIV SMDAELNRYILMNESKGLVAGYQSM-----
CYP707A1 --S--QDPNVFFQSKQKRY G-----SVFKTHVLGCP CVMIS SPEAAK FVLVTKSHL FKPTFPASK-----
CYP707A3 --S--QDPNVFFAAKQRRY G-----SVFKTHVLGCP CVMIS SPEAAK FVLVTKSHL FKPTFPASK-----
CYP707A2 --T--ENPNSFFATRQNKY G-----DIFKTHILGCP CVMIS SPEAA R MVLVSKAHL FKPTYPPSK-----
CYP707A4 --S--QPNVFFFTSKQKRY G-----EIFKTRILGYPCV MLASPEAA R FVLVTHAHMFKPTYPRSK-----
CYP88A3 FKT--SDPDSFTRTLIKRY GPK-----GIYKAHMFGNPSI I VTTSDTCRRVLT-DDD A FKP GWP TST-----
CYP88A4 FKT--SDPESFIQSYITRY GRT-----GIYKAHMFGPSV CVLVTTPETCRRVLT-DDD A FHIGWPKST-----
CYP716A1 GRQ--GHPEKFITDRVRR FSSSS-----SCVFKTHLFGSPTAVV T GASGNKFLFTNENKLVVSWW PDSV-----
CYP716A2 GRQ--GHPEKFVTDVRV RHFSSG-----IFKTHLFGSPFAV V T GASGNKFLFTNENKLVISWW PDSV-----
CYP718 QK-----SNRVFEDFVN PRIIKH-----GNIFKTRIMGSP TIVVNGAEANRL ILSNEFSLVVSSW PSSS-----
CYP71A12 LSLH---PHRSLHSLSLRY GP-----LMLLHFGRVP----ILVVS SGEAAQ E VLK-THDLKFANRPR----SKAVHGLMNG
CYP71A13 LSLH---PHRSLRSLSLRY GP-----LMLLHFGRVP----ILVVS SGEAAQ E VLK-THDHFANRPR----SKAVHGLMNG
CYP71A18 LSLH---PHRSLHSLSLRY GP-----LMLLHFGRVP----ILVVS SGEAAH E ILK-THDLKFANRPK----SKAVHGLMNG
CYP71A14 LSLH---PHRSLRSLSHRY GP-----LMLLHFGRVP----VLVVS SSDVAHDLMK-THDLKVANRPQ----LKVVEKIFNG
CYP71A15 LSLH---PHRSLRSLSHRY GP-----LMLLHFGRVP----ILVVS SSDVAHDLMK-THDLKVANRPR----LKVIETILNG
CYP71A28 LSLH---PHRSFRSLSLRLWS-----AHAPSLRSCPYPRFSKYI S SSDVAHDVMK-THDLKFANRPK----TKAVDIIING
CYP71A19 LSLN---THRSLRSLSLRY GP-----LMLLHFGRTP----VLIVS SADVAHDILK-TYDVICANRPK----TKVIDKILRG
CYP71A20 LSLH---THRSLRSLSLRY GP-----LMLLHFGRTP----VLIVS SADVAHDVMK-THDLVCANRPK----TKVVDKILSG
CYP71A16 LSLH---PHRALSSL SARHGP-----LMLLRFGRPV----VLIVS SADVAHDVMK-THDLKFANRPI----TKSAHKISNG
CYP71A27 LGPN---PHRYLHSLSLRY GP-----LMLLHFGRVP----VLVVS SCPDVTNDIMK-THDLKFANRPK----SKAINIFMEG
CYP71A21 LGHH---PHRSLCSLSHRY GP-----LMLLHLGRVP----VLVVS SADVAHDILK-THDRVFASRPR----SKLFEKLFYD
CYP71A22 LGRH---PHRSLCSLSNRY GP-----LMLLRFGLVP----VLVVS SADVAHDILK-TYDRVFASRPR----SKIFEKIFYE
CYP71A24 LGRH---PHRSLCSLSHRY GP-----LMLLHFGSVP----VLVVS SADA AKDVLK-THDRVFASRPR----SKIFDKIFYN
CYP71A26 LGRH---PHRSLCSLSHRY GP-----LMLLHFGRVP----VLVVS SAELARDVLK-THDRVFASRPR----SKIFEKLLYD
CYP71A25 LGRH---THRSLCDLSRRY GP-----LMLLHLGRVP----VLIVS SADMAQ E ILK-THDQAFANRPR----SKLSQKLLYN
CYP71A23 LSQH---PHRSLCYLSHRY GP-----LMLLHFGSVP----VIVAS TAEAA R DVLK-THDRVFASRPR----SKIFEKLLYK
    
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CYP71B26 LGEL---QHQLWKLKSKYGP-----VMLLKLGVKVP---TLILSSSETAKQALR-DYDLHCCSRPS----LAGGRELSYN
CYP71B33 LGEL---PHQLWKLKSKYGP-----VMLLNLGVKVP---TVILSSSETAKQALR-DYDLHCCSRPS----LAGGRELSYN
CYP71B34 LGEL---PHQLWKLKSKYGP-----VMLLKLGRVP---TVIVSSSETAKQALK-IHDLHCCSRPG----FAGARELSYN
CYP71B35 IGEL---PHQLWKLKSKYGP-----VMHMLLGRVP---TVVVS SSDTARQVLR-VHDLHCCTRPS----LSGPRESYN
CYP71B36 LGEL---PHQLWRLKSKYGH-----VMLLKFGSIP---TVVVS SSETAKQVLK-IHDLHCCSRPS----LAGPRALSYN
CYP71B37 LGEL---PHQLWLSLKSKYGP-----VMLLKFGSIP---TVVVS SSETAKQALK-IHDLNCCSRPS----LAGPRALSYN
CYP71B9 LGEL---PHQLWLSLKSKYGP-----VMLLKLGSVP---TVVVS SSETAKQVLK-INDLHCCSRPS----LAGAKELSYN
CYP71B10 LGEL---PHQLWLSLKSKYGP-----VMLLKLGRVP---TVIVS TPETAQVLR-DYDLHCCSRPS----LEGTRKLSYN
CYP71B11 LGSK---PHSSMFKLSEKYG-----LMAIRFGSVS---TVVASTPETVKEVLR-TFDAECCSRPY----MTYPARLTYN
CYP71B12 LGSK---PHRSMFKLSEKYG-----LMSLKFGSVS---TVVASTPETVKEVLR-TFDVECCSRPN----MTYPARVTYN
CYP71B14 LGSK---PQRSLFKLSEKYG-----LMSLKFGNVS---AVVASTPETVKDVLK-TFDAECCSRPY----MTYPARVTYN
CYP71B13 LGSK---PHRSMFKLSEKYG-----LVYLLKGVKVP---SVVASTPETVKDVLK-TFDKCCSRPF----LTYPARISYN
CYP71B6 LGSL---PHRSLRDLKSKYGP-----VITVYLGSVR---TVVVSHPETAEEVLR-LHDSECCTRPK----LSITKFFDYD
CYP71B28 RREL---HPRNSRNLSEKYG-----IVFLRYGFVP---VVVVS SKEAAEEVLR-THDLECCSRPE----TVGTRALSYN
CYP71B29 LQEL---PPR---NLNHKYG-----VILLRFGFVP---LVVVS SKEAAEEVLR-IHDLLECCSRPE----TAGTRKISYN
CYP71B15 RRTL---HPRNRRNLAEMYGP-----VALLYQGFVP---VVAISSKEAAEEVLR-INDLECCSRPE----AAGMRATFYN
CYP71B23 LNGL---PHKCLLNLWKIHGP-----VMQLQLGYVP---LVVVS SNQAEEVLR-THDLDCSRPE----TIASKTISYN
CYP71B7 LTGL---PHTCFRNLKSKYGP-----VMLLHFGFVP---VVVVS SKEGAEVLR-TQDLECCSRPE----TVATRMISYN
CYP71B16 VGEL---PHRSFQRLAERTGH-----VMLLHFGFVP---VTVVS SREAAEEVLR-THDLKCCTRPK----LVGSRLLSRG
CYP71B17 VGEL---PHRSFRRLAERTGH-----VMLLHLGFVP---VTVVS SREAAEEVLR-THDLDCSRPN----LVGSRLLSRG
CYP71B18 LGEL---PHRSLQRLAECTGD-----VMLIHLGFVP---VTVVS SKEAAEEVLR-THDLNCCSRPN----LVGTRLLSRG
CYP71B19 IGEL---PHRSLQHLAERYGP-----VMLLHFGFVP---ITVVS SREAAEEVLR-THDLDCSRPK----LVGTRLLSRD
CYP71B20 IGEL---PHRSLQHLAERYGP-----VMLLHFGFVP---VTVVS SREAAEEVLR-THDLDCSRPK----LVGTRLLSRN
CYP71B2 LAGL---PHRCFHKLKSKYGP-----LVFLRLGSVP---VVVVS SAEAAEVLR-TNDLECCSRPK----TVGSGKLSYG
CYP71B27 LTGL---PHRCYHKLKSKYGP-----VILLHLGFVP---VVVVS SEAAEVLR-THDLECCSRPK----TVGTGKLSYG
CYP71B21 LGKS---LHRSFYKLSQEYGP-----VMFLRFGVVP---VVVVS TKEAAEEVLR-THDLETCTRPK----LSATGLFTYN
CYP71B22 LGKS---LHRSFHKLKSKYGP-----VMFLHFGVVP---VVVVS TREAAEEVLR-THDLETCTRPK----LTATKLFSTYN
CYP71B38 LGKL---LYKSFHKLSQEYGP-----VLLRLGVVP---VIVVS SKEGAEVLR-THDLETCTRPK----TAATGLFTYN
CYP71B5 FGRF---LHKSLHKLSQEYGP-----VMLLHFGVVP---VIIVVS SKEGAEVLR-THDLETCSRPK----TVGSGLFTYN
CYP71B31 LGRL---LHSSLHKLKSKYGP-----VMLVRWGVVP---MAVVS SNEAAEVLR-THDLETCSRPK----LVANGLFTHG
CYP71B8 LGRL---LHSSFHKLKSKYGP-----VMLLRFGVVP---MVISS SKEAAEVLR-SRDLETCSRPK----LVANGLFTRN
CYP71B32 LGRS---LHSVFKLSLXYGP-----VMLLRFGVVP---VVVVS SKEAAEVLR-THDLDTCTRPK----LVANGLFSRN
CYP71B24 LRGL---FHKCLHDLKSKHGP-----VLLRLGFLD---MVISS STEAAEALK-VHDLLECCTRPK----TNVTSKLWRD
CYP71B3 LRGL---FHRCLHDLKSKHGP-----VLLRLGFID---MVISS SQETTEVLR-VHDLLECCTRPK----TNASSKFSRD
CYP71B25 LQGM---VHRCLHELKSKHGP-----VMHLQLGFVP---LVLISS SAEAEALK-THDIECCTRPN----TNAARVFSRN
CYP71B4 LQGL---LHKCLHDLKSKHGP-----VMHLRLGFAP---MVISS SAEAEALK-THDLECCSRPI----TMSARVFSRN
CYP83A1 LQKLN--PQRFFAGWAKYGP-----ILSYRIGSRT---MVISS SAEAEALK-TQDVFADRPP----HRGHEFISYG
CYP83B1 MEKFN--PQHFLFRLSKLYGP-----IFTMKIGGRR---LAVISS AELAKELLK-TQDNLNFTARPL----LKGQQTMSYQ
CYP84A1 MDQL---THRGLANLAKKYG-----LCHLRMGFLH---MYAVS SPEVARQVLR-VQDSVFSNRPA----TIAISYLTID
CYP84A4 MNQF---NHRGLAKLSRIYGG-----LLHLRLGFVSH---IFVVS SPDIARQVLR-VQDHVFSNRPT----TIAIRYLTID
CYP705A1 LLS--TLIHKSLQKLSKYG-----LLHLRIFNIP---FILVSSD-SLAYEIFR-DHLDVNVSSRGV----GAIDESLAYG
CYP705A24 LLF--ASIHKCFQKISSYGP-----FLHLRIFHVP---IVLVSSA-STAYDIFK-TNDINVSYRGD----VAIDECIVFG
CYP705A15 LLS--VLVHRSLQTLSTKYGS-----ILYLRVFSFP---VALVSSA-SIAYEIFR-EHDVNISSRGF----PTDDSLFAG
CYP705A4 LLS--VLLHRSLQKLSKYG-----ILYLRVFRFP---VLISSA-SIAYEIFR-AHDLNISYRGF----TPTDDSLFAG
CYP705A16 ILS--SLVHKSFKKISSYGP-----LLHLRIFNVP---IVLVSSA-SVAYDIFR-VHLDVNVSSRGP----PPFEESLLFG
CYP705A19 ILS--SLVHKSFKKISSNYGP-----LLHLRIFNVP---IVLVSSA-SVAYDIFR-VHLDNVSSRGS----PPFEESLLFG
CYP705A20 LLS--SLAHKSLQKLSKYG-----LLHLRIFNFP---VVLVSSA-SVAYEIFK-AHDLNISSRDN----PPINESLLVG
CYP705A21 LLS--SLAHKSLQKLSKYG-----LLYLRVFNFP---VVLVSSA-SVAYEIFK-AHDLNISSRDN----PSIDDSLLIG
CYP705A23 LFS--NLTHKSLQKLSKYG-----LLYLRIFNVP---IIFVSSA-SVAYEIFR-GHDVNISSFRGN----PPIEESLLVG
CYP705A28 LLS--VLVHKSFKKISSYGP-----LLHLRIFHVP---IVLTSSA-SVAYEIFR-AQDINVVSSRGH----PPVEESLWFG
    
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CYP705A30 LLS--ALVHKSFQNISSKYGP-----LLHLRVFHIP---IVLASSA-SVAYEIFK-AQDVNVSSRGH----APVGESLWFG
CYP705A32 LLS--ALVHKSFQKISYKYGP-----LLHLRVFHVP---IVLASSA-SVAYEIFK-AQDVNVSSRGH----APAGESLLFG
CYP705A2  ILLS-TLTHKSFQRLSSKYGP-----LLHLRIFHVP---IVLASSA-SVAYEIFR-DQDVNVSFRRHS----PPIEESLFLG
CYP705A5  ILF--VPIHQSFQNISSKYGP-----LLHLRFFNFP---IVLVSSA-STAYEIFK-AQDVNVSSRPP----PPIEESLILG
CYP705A8  LLS--LFMHRSLQKLSSKYGP-----LLYLHVFVNP---ILLVSSP-SIAYEIFR-AQDVNVSTRDF----PTNEGSLFLG
CYP705A9  LLS--LFMHRSLQKLSSKYGP-----LLYLHVFVNP---ILLVSSP-SIAYEIFR-TQDVNVSSRDF----PTNEGSLFLG
CYP705A18 LLS--SLTHKSLQKLSSKYGP-----FLHLRIFVSP---IILVSSA-SVAYEIFK-AHDVNVSSRGA----AAIDESLFLG
CYP705A6  LFS--PLTHKSLQKLSSKYGH-----LLHLRIFVNP---IILVSSA-SVAYEIFR-AHDVNVSSRGV----AAIDESLFLG
CYP705A33 LLS--SLSHKSLQKISSKYGP-----LLHLRIFVNP---IILVSSA-SVADEVFR-IHDMNISSRGA----AAIDESLVFG
CYP705A3  LLS--VLTHKSLQKLSSKYGP-----LLLIRIFVYP---IILVSSS-SMAYEIFK-AHDVNVSSRGI----IALDES LMFG
CYP705A22 LLS--TLTHKSLQKLSSRYGP-----LLYLIRIFVNP---IILVSSA-SVAYEIFR-TQDVNISSRGV----TAVDES LVFG
CYP705A12 LLS--SLPHKSFQKLSFKYGP-----LLHLRIFNFP---MLVSSA-SMAYEVFR-TNDVNVSYRFV----PVNKDSL VFG
CYP705A13 LLF--DLPHKAFQKLSKYGP-----LLCLRIFVNP---IVLVSSA-SVAYEIFK-THDVNISSHGH----PIDECLFFG
CYP705A25 LLS--VPCYKSFQKLSSKYGP-----FLHLRAFNP---IVLVSSG-SMANEVL R-IODLNFASTRDSGQ--TPIMEKSLFLG
CYP705A27 LLS--VPCHKSFQKLSSKYGP-----LLHLRAFNP---IVIVSSG-SMANEVL R-TQDLNFATRQR-E-VSIMEKSLFLG
CYP712A1  IGK---VLPVSFQSLAHKYGP-----LMEIRLGASK---CWWVSSS-SVAREIFK-EQELNFSRPE----FGSAEYFKYR
CYP712A2  LRS---SLPRSLQALAHTYGP-----LMTIRIGSLR---VLVWSDS-DTAKLILK-THDPDFASKFV----FGPRQFN VYK
CYP93D1   LGP---IAHQALHKL SIRYGP-----LMYLFIGSIP---NLIVSSA-EMANEILK-SNELNFLNRPT----MQNV DYLTYG
CYP81D6   LKLP---LHRTFLSFSQSLGG-----APIFCRLGNRL---TWWVSSY-SIAEECF T-KNDIVFANRPE----LILGKHIEYN
CYP81D7   LKQP---LHRTFLSFSQSLGD-----APIFSLR LGNHL---TWWVSSY-SIAEECF T-KNDIVLANRPK----FILGKHIEYN
CYP81D11  LKLP---LHRRFLSLSLNN-----AKIFSLSGSRL---VFVSSH-AVAEECF T-KNDVLANRPE----FLVGKHIGYN
CYP81D2   LKPP---LHRVFLSVSLSLGD-----APIISLRLGNRL---LFVSSH-SIAEECF T-KNDVILANRQT----TISTKHISY G
CYP81D3   LKPP---LHRVFLSVSLSLGD-----APIISLRLGNRL---VFVSSH-SIAEECF T-KNDVLANRPN-----LASKHISY G
CYP81D8   LKPP---IHRTFLSLSQSLNN-----APIFSLR LGNRL---VFVSSH-SIAEECF T-KNDVLANRPN-----FILAKHVAYD
CYP81D4   LKPP---LHRTFLSLSKIGN-----APVFHRLGNRL---VYVSSR-SIAEECF T-KNDVLANRPK----FTISKHLGY N
CYP81D5   LKQP---VHRTFHSISKSLGN-----APIFHLR LGNRL---VYVSSH-SIAEECF T-KNDVLANRPN-----IIMAKHVGY N
CYP81D1   LKPP---IHRTLRSFSETLDHNDG---GGVMSLRLGSRL---VYVSSHKVAAEECF G-KNDVLANRPN-----VIIGKHVGY N
CYP81F3   LKPP---VHRLFHRLSKTHGP-----IFSLQFGSRR---AVWISSS-SLATQCFTGQNDIILSNRPC----FLTAKYVAY N
CYP81F4   IKPP---VHRLFHRLSNIHGP-----IFYLRLGSRR---AVWISSS-SLARECF TQNDVIVSNRPR----FLT SKYIAYN
CYP81F2   VKPP---VHRLFRRFAEKYGD-----IFSLRYGSRQ---VWVSSL-PLVRESFTGQNDVILTNRPH----FLTAKYVAY D
CYP81F1   MKPP---IHRLQRYSNQYGP-----IFSLRFGSRR---VWVITSP-SLAQESFTGQNDIVLSSRPL----QLTAKYVVY N
CYP81H1   LKKPL---LHRTLSHLSLGP-----VFSLRLGSRL---AVIISP-TAAEECF LTKNDIVLANRPN-----FIMGYVAY D
CYP81G1   LKEP---VHRLRDL SRNLGID-----VFILRLGSRR---AVVVTSA-SAAEEFLSQQNDVVFANRPL----ATL TEYMGYN
CYP81K1   IKKYP---LPQALRHLSNRYGP-----VFLKFGCRN---VLTLS SP-DSIEECF T-NHDVTLANRPK----TITSDHFSY G
CYP81K2   INKYP---LPQALHHLSSNRYGP-----VFLKFGCRE---VLTLS SP-DSIEECF T-NHDIALANRPK----TITSDHFSY G
CYP82C3   LGGKEQLLYRTL GK MADHYGP-----AMSLRLGSSE---TFVGS SF-EVAKDCF T-VNDKALAS-LM-----TAAAKHMGY-
CYP82C2   LSGKEQLLYRTL GK MADHYGP-----AMSLRLGSSE---TFVGS SF-EVAKDCF T-VNDKALASRPI----TAAAKHMGYD
CYP82C4   LGGKEQLLYRTL GK MADHYGP-----AMSLQLGSNE---AFVGS SF-EVAKDCF T-VNDKALASRPM----TAAAKHMGY N
CYP82F1   FDTVN-PTHVTFGAMADVYGP-----VFMAKLSIK---VMIINSK-EVAKETIY T-VHDKLLER-PE----LTASKLLGY N
CYP82G1   LRGKK-LLCKKLAAMSQKHGP-----IFSLKLG FYR---LVWASDP-KTVKDCF T-TNDLATATRPN----IAFGRYVGY N
CYP76C2   VG---RNP HSFADLSKTYGP-----IMSLKFGSLN---TWWVTSPEAAREVLR-TYDQILSSRTP----TNSIR SINHDK
CYP76C4   VG---KNPHSSFADLAKIYGP-----IMSLKFGCLN---SVWITSPEAAREVLR-THDQILSGRKS----NDSIRCFGHEE
CYP76C1   VG---KHPHRSFAELSKTYGP-----VMSLKLGS LN---TWWIASPEAAREVLR-THDQILSARSP----TNAVRSINHQD
CYP76C5   VG---KNPHHSFTDLSKTYGP-----VMSLKLGYLN---SVVITSRDAAREVLR-AHDQILSGRYI---TQATKSNNHHE
CYP76C6   VG---KNPHHSFTDLSKTYGP-----VMSLKLGS LN---SVVIASRDAREVLR-THDQILSGRYI---SEATKSNNHHE
CYP76C3   LG---FNPHRSLAASF SKTYGP-----IMSLKLGRLT---AVWISSPEAAREALR-THDHVMSARTF----NDALRAF DHHK
CYP76C7   TV---EKPHRSLADLSRIYGS-----VMSFKLGCLT---TWWISSPETAKEVLR-THDHVLSYRVS----SDPVRAAGHHE
CYP76G1   LAG--LPPHDSLTKLSRRHGP-----IMTLRIGSML---TWWISSSEVAREIFK-KHDAALAGRKI---YEAMKGGKSSD
CYP75B1   MG---TKPHRTL SAMVTYGP-----ILHLR LGFVD---VVAASKSVAEQFLK-IHDANFASRPP----NSGAKHMAYNY
CYP706A1  LNSD--VLHTQFQALTKHGP-----LMKIHLSGSKL---AIVVSPDMAREVLR-THDITFANHDL P----EVGKINTY G
    
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CYP706A2 LNSD--VLHTQFQALTLKYGP-----LMKIHLLGSKL----AIVVSSPDMAREVLK-THDITFANHDLP----EVGKINTYG
CYP706A3 LQP---ELHTYFQGLAKKHGP-----IFKLLWLGAKL----TIVVTSSEVAQEILK-TNDIIFANHDVP----AVGPVNTYG
CYP706A7 LHP---ELHTYFHSLAQKHGP-----VFKLLWLGAKL----TIVVTSSEATRDILR-TNDVIFANDDVP----VAGSLSTYG
CYP706A5 LDP---DLHTYFTKLAQSHGP-----IFKLLNLGSKL----TVVVNSPSLASEILK-DQDINFSNHDVP----LTARAVTYG
CYP706A6 LDP---DLHTYFTKLAESYGP-----IFKLLNLGSKL----TVVVNTPSLAREILK-DQDINFSNHDVP----LTARAVTYG
CYP706A4 LDP---DLHTYFANLAQSHGP-----IFKLLNLGSKL----TIVVNSPSLAREILK-DQDINFSNRDVP----LTGRAATYG
CYP79B2 MLK-SRPVFRWLHLSIMKQLNT-----EIACVKLGNTH---VITVTCPKIAREILK-QQDALFASRPL----TYAQKILSNG
CYP79B3 MLK-NRPVFRWLHLSLMKELNT-----EIACVRLGNTH---VIPVTCPKIAREIFK-QQDALFASRPL----TYAQKILSNG
CYP79A2 ILGRNKPVFRWIHLSLMKELNT-----DIACIRLANTH---VIPVTSPRIAREILK-KQDSVFATRPL----TMGTEYCSRG
CYP79C1 MLK-NRPTSKWIVRVVMDMKT-----DIACFRFGRVH---VIVITSDVIAREVVR-EKDAVFADRPD----SYSAEYISGG
CYP79C2 MII-NRPAHLWIHRVMEELQT-----DIACYRFARFH---VITVTSSKIAREVLR-EKDEVLADRSE----SYASHLISHG
CYP79F1 LFM-TRPRSKYFRLAMKELKT-----DIACFNFAGIR---AITINSDEIAREAFR-ERDADLADRPO----LFIMETIGDN
CYP79F2 LIM-TRPRSKYFHLAMKELKT-----DIACFNFAGTH---TITINSDEIAREAFR-ERDADLADRPO----LSIVESIGDN
CYP703A2 LGP----LPHRDLASLCKDYG-----PLVYLRLLGNVD---AITTNDPDTIREILL-RODDVFSSRPK----TLAAVHLAYG
CYP98A8 MKPL---WTHSFSEWSETYGP-----IISVWIGSGLT---VVVSSDLARQVLR-DKDHQLSNRHR-----IARMTQT
CYP98A9 LKPL---WTQSFSEWSQTYGP-----IISVWLGSQLA---VVVSSDLAKQVLR-DKDYQLCNRHR-----TARMTQN
CYP98A3 IKPV---RFRCYYEWAQSYGP-----IISVWIGSILN---VVVSSAELAKEVLK-EHDQKLADRHRN-----RSTEAFSRN
CYP78A10 VNNA--LTHRILANIADTCKAKA-----LMAFSVGSTR---FVITSEPETAKELLN---SSAFADRPVK----ESAYELLF
CYP78A5 FSGS--NPHRVLAALAKRFKASP-----LMAFSVGFSTR---FVISEPETAKEILS---SSAFADRPVK----ESAYELLF
CYP78A6 MSST--LAHRRIAAAEKFGAKR-----LMAFSLGETR---VIVTCNPDVAKEILN---SPVFADRPVK----ESAYSLMF
CYP78A9 MSNT--LAHRCIAATAEKFRAER-----LMAFSLGETR---VIVTCNPDVAKEILN---SPVFADRPVK----ESAYSLMF
CYP78A8 RSSH--VAHQRIASVAEMSNAKR-----LMAFSLGDTK---VVVTCHPAVAKEILN---SSVFADRPVD----ETAYGLMF
CYP78A7 LSRG--LAHRTLAAMAWSRANTE-----LMAFSLGSTP---VIVASEPNIAREILM---SPHFADRPVK----QSAKSLMF
CYP77A4 ARS-GKPFPEYAEDLKITYGP-----IFTLRMGTRT---MIIISDALTVEHALI-QRGALFASRAE---NPTRTIFSCN
CYP77A6 ARS-GKQFYEYVDDVRKKGYP-----IYTLRMSGRT---MIIISDSALVHDVLI-QRGPMFATRPTE---NPTRTIFSSN
CYP77A7 TRS-GKQFFEYVEDLVKIYGP-----ILTLRLGTRT---MIIISDASLAHEHALI-ERGAQFATRPVE---TPTRKIFSSS
CYP77A9 ARS-GKQFFEYVDEMNIYGP-----IFTLRMGTRT---MIIISDANLAHQALI-ERGAQFATRPAE---TPTRKIFSSS
CYP77B1 IFQ-RRHFVFLMRDLRKKYGP-----IFTMQMGQRT---MIIITDEKLTHEALV-QRGPTFASRPPD---SPIRLMFSVG
CYP89A4 RQG-LGGLNNYLRSVHHRLGP-----IITLRITSRP---AIFVADRSLAHQALV-LNGAVFADRPPA---APISKIISSN
CYP89A5 RQG-LGGLNNYLRSVHHRLGP-----IITLRITSRP---SIFVADRSLAHQALV-LNGAVFADRPPA---APISKIISSN
CYP89A6 RKG-LGGLDNYLRSVHHHLGP-----IITLRITSRP---AIFVDRSLAHQALV-LNGAVFADRPPA---ESISKIISSN
CYP89A7 RQG-LGGFNYYVRSVHHRLGP-----IITLRITSRP---AIFVADGSLAHQALV-LNGAVFADRPPA---APISKILSNN
CYP89A2 REG-LGGLESYLRSVHHRLGP-----IVTLRITSRP---AIFVADRSLTHEALV-LNGAVYADRPPP---AVISKIVD--
CYP89A3 RQG-FDDFYSYLRSIHHLGP-----IISLRIFSVP---AIFVSDRSLAHKALV-LNGAVFSDRPPA---LPTGKIITSN
CYP89A9 KKNFSDFDQGLRDLASRHGP-----IITLHVGGSKP---SIWVTDRLSLAHQALV-QNGAVFSDRPSLA---LPTTKVITSN
CYP704A1 FFHSH-KLYDYETEIARTKP-----TFRFLSPGQSEIFTADPRNVEHILKTRFHNYSGK---VGTVNADL
CYP704A2 LFHSD-ELYDYETEIAREKP-----TYRFLSPGQSEILTADPRNVEHILKTRFDNYSGKH---SSRENADL
CYP704B1 LTNFD-RMHDWLVEYLNSR-----TVVVPMPFTTYTYIADPINVEYVLKTNFSNYPKGE---TYHSYMEVLL
CYP86A2 IEQRD-RMHDWITENLRACGG-----TYQTCICAVPFLAKKQGLVTVTCDPKNIEHMLKTRFDNYPKGP---TWQAVFHD
CYP86A4 IEQRD-RMHEWITENLRACGG-----TYQTCIFAVPFLAKKQGLVTVTCDPKNIEHMLKTRFDNYPKGP---TWQSVFHD
CYP86A8 IENCE-RMHDWISDNLRACSG-----TYQTCICAI PFLAKKQGLVTVTCDPRNLEHILKTRFDNYPKGP---TWQAVFHD
CYP86A7 ITNAH-RMHDFIADNLRMCGG-----TYQTCIFPI PFLAKKQGHVTVTCDPKNIEHILKTRFDNYPKGP---SWQSVFHD
CYP86A1 IANRS-RIHDIADNLRATGG-----TYQCTMVI PFLAKKQAGFYTVTCHPKNVEHILKTRFDNYPKGP---MWRAAFHD
CYP86B1 AFGLRGNIEYEWLSDVLCQNG-----TFQ---FRGPWFSSLNS--TITCDPRNVEHLLKTRFVFPKGS---YFRDNLRD
CYP86B2 ISAVRSNIYEWLSDVLISQNG-----TFR---FRGPWFSTLNC--VVTCDPRNVEHLLKTRFSIYPKGS---YFRETMD
CYP86C3 FFHRN-DVYGWATRCLKKCRG-----TFL---YNGIWLGGSYG--AVTCVPANVEYMLKTNFKNFPKGA---FFKERFND
CYP86C4 FFHIN-DVYGWVTRSLKKCRG-----TFL---YRGVWLDGSYG--AVTCVPANVEYMLKTNFKNFPKGT---FFKSRFND
CYP86C2 FLHVH-DMFGWVTRCLTKSRG-----TFP---YQGIWFSGSYG--AMTSVPANIEYMLKTNFKNFPKGE---FYKERFRD
CYP86C1 ALNKH-DLFTWCTRCVVRSGG-----TFH---YRGIWFGGAYG--IMTADPANVEHILKTNFKNFPKGA---FYRERFRD
CYP94B1 NKNRH-RLQWYTDLLRLSP-----SQTITVDLLFGRRITITANPNEVEHILKTNFYNFPKGG---PFTDLLGD
    
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CYP94B3  NKNRH-RLQLQWYTELRLSP-----SQITILVPLLGNRRITITNPLNVEYILKTNFFNFPGKG--PFTDLLGDLL
CYP94B2  YTNRN-RLLDWYTELLTESP-----SRTVVIRRLAARRTVVTANPSNVEYILKTNFDNYPKGK--PFTEILGDFL
CYP94C1  KKDFI-NLSDWYTHLLRRSP-----TSTIKVHVLN---SVITANPSNVEHILKTNFHNYPKGK--QFSVILGDLL
CYP94D1  VNNRH-RFLDWTVETLSRCP-----TQTAIFRRRPGKQQLIMTANPSNVEYMLKTKFESFPKGQ--QFTSVLEDFL
CYP94D2  VNNRH-RFLDWTVETLSRCP-----TQTAIFRRRPGKLQFVMTANPANVEYMLKTKFESFPKGE--RFISILEDL
CYP96A1  LVEIP-RVYDFVTELEASN-----LTYPFKGPFCFGLDMLITVDPANIHHIMSSNFANYPKGT--EFK-KIFDVL
CYP96A9  LTVLP-RVYDFITEVLEDGN-----LNYLFIGPFLGGIDMLFTVDPANIHHIMSSNFANYPKGT--EFK-KLFDVL
CYP96A10 LVEIH-RVYDFITEILEVTN-----LTYPCTGPCFANLDMLVTVDPANIHHIMSSNFANYPKGP--EFK-KLFDIL
CYP96A5  LVMLH-RINDYVAEILEVSN-----LTFAFKGPWFSGMNLITADPSNIQHVFSNFSNYDKGP--EFK-EMFDFL
CYP96A11 LVVLH-RIYDYIVEILEISD-----LTFSEFKGPFAGMDTLLTVDPANIHHMMNSNFSNYIKGS--DFK-EVFDVF
CYP96A2  LKALH-RIYDYSVKILETSD-----LTFPFKGPFRFTGMDMLLTVDPANIHHIMSSNFSNYIKGP--EFQ-DVFDVL
CYP96A12 LMVLH-RIYDFGVEALEMSH-----LTFLEFKGPFWAEMDMLFTVDPANIHYILSSNFSNYTKGA--DFK-EVFDVF
CYP96A13 LLEFH-RIYDFSVEVLENSD-----LTFPFKGPWFTGMDMLFTVDPNIHHIMSSNFSNYTKGP--DFK-QVFDVF
CYP96A7  LLRLQ-RIYDYSVEFLENSN-----MTFQFKGPFVFGMDILATADPTNIHYIMSSNFSNYIKGP--IFH-EIFEAF
CYP96A8  LLRLQ-RIYDCSVEVLENSN-----MTFQFKGPFVFGMDVLATVDPANIHHIMSSNFSNYIKGP--IFH-EIFEAF
CYP96A3  LLQVP-RIYDWITEVLEATD-----MTFCFKGPCLSGMDILLTVDPVNIHYILSSNFANYPKGM--EFK-KIFEVV
CYP96A4  LFQIP-RIYDFVTEALEAEN-----MTGCFIGPWLSGTDILLTVDPVNIQYILSSNFVNYPKGK--KFN-KIFEFL
CYP96A15 LHQIP-RIYDWTVEVLEATN-----LTFYFKGFWLSGTMDLFTADPRNIHHILSSNFGNYPKGP--EFK-KIFDVL
CYP97A3  KIGIPSNVLDWMFDWTGSDQDYPKVPEAKGSIQAVRNEAFFIPLYELFLTYGGIFRLTFGPKSFLIVSDPSIAKHILKDNKAYSKG---ILAEILDVFM
CYP97C1  GIPIANAKLDDVADLLGG-----ALFLPLYKWMNEYGPIYRLAAGPRNFVIVSDPAIAKHVLRN-YPKYAKG---LVAEKFSEFLF
CYP97B3  SLGSMPTAEGSVSDLFGK-----PLFLSLYDWFLEHGGIYKLAFGPKAFVVISDPIIARHVLRENAFSYDKG---VLAIEILEPIM
CYP709B2 LYGNLREIRKMKNEAKLMVLDP-----NSNDIVPRVLPHLQQWKSQYGETFLYWQGTDPRLCISDHELAKQILSNKFVFFSFSK---TKPEILK-LS
CYP709B3 LYGNLSEIKMKKKEADLCVLDP-----NSNDIFPRVFPQYHQWMSQYGDTFWFWTGKPTIYISNHELAKQVLSKFGFTIIPV--KRPEVFI-LF
CYP709B1 FYGNLSEIKMKKRESHLSILDP-----SSNDIFPRILPHYQKWSQYGETFLYWNGTEPRICISDPELAKTMLS NKLGFVVK---ARPEAVK-LV
CYP735A1 LTGNILEISARLTAEAKSKPIPSG-----RNPHEFVHRVAPHYHWSRVYKTFFLYWFSGKPVVATSDPRLIREALTTGGSFDRIG---HNPLSK-LL
CYP735A2 LTGNIIDISKMLSASNDCCS-----IHHNIVPRLLPHYVSWSKQYKRFIMWNGTEPRCLCTETELIKELLMKHNGVSGRSW---LQQQGTG-NF
CYP72A11 LVGDLKKNFSMRAEARSKPIN-----LTDDITPRIVPYPLQMLKTHGRTFFTFWFGAIPITITIMDPEQITEVLNKVYDFQKAH---TFPLGR-LI
CYP72A13 LVGDLKRNFSMLAEARSKPIN-----LTDDITPRIVPYPLQMLKTHGRTFFTFWFGPIPTITIMDPEQIKEVFNKVYDFQKAH---TFPLGR-LI
CYP72A15 LVGDLKKNFTMLSEARSKPLK-----LTDDISPRVVPYPLQMFKTYGRTYFTWFGPIPTITIMDPEQIKEVFNKVYDFQKPH---TFPLAT-II
CYP72A10 LIGDLKRNVNMLTEATSKPIK-----LTEDITPRVLPHPFQMLKTHGRTFFTFWLGPKPTITITIMDPELIKEVFNKVYDYPKAQ---TFLLGR-LI
CYP72A14 LIGDFKKMISMFIATSKPIK-----PTDDITPRVMPHPLQMLKTHGRTNLTWFGPIPTITIMDPEQIKEVFNKVYDFQKAH---TFPLSK-IL
CYP72A9  LVGDVRRSFSMLKEARSKPMK-----PTDDLISLVMPYSFHMLNTYKKTFFTFWSGPIPAITIMNPQLIKEVYNKFYDFEKTTH---TFPLTS-LL
CYP72A7  LVGDIKRNVDMMMEARSKPIN-----VTDDITPRLLPLALKMLNSHGKTFEVIWIGLPTIVITNPEQIKEVFNKVNDFEKAS---TFPLIR-LL
CYP72A8  LVGDIKREASMVEQEKSRLPIN-----LTDDYTHRVMPLIQQTVKDHGKTSYMMWMPGPIASVIVTKPEHIKDVLRVYDFPKPP---VHPIVE-LF
CYP72C1  LMGDMRESNQMDQVAHSLPLP-----LDADFLPRMMPFLHHTVLLKHGKCCFTWYGPYPNVIVMDPETLREIMSKHELFPKPK---IGSHNH-VF
CYP734A1 FIGNVKELVGMMLKASSHPMP-----FSHNILPRVLSFYHHWRKIYGATFLVWFGPTFRLTADPDLIREIFSKSEFYEKNE---AHPLVK-QL
CYP721A1 FSGNSEGEVSRMTAEAKSKPIPSG-----RNPHEFVHRVAPHYHWSRVYKTFFLYWFSGKPVVATSDPRLIREALTTGGSFDRIG---HNPLSK-LL
CYP715A1 PFGNLNDMKKLMASVVVDNSKSS-----TIINHDIHSIALPHFARWQEQYKGVFVYWLGIPEFVYVADPEFLSVMSKGVLGKSWGK---NVFKKDREPM
CYP714A1 FRGNVPEMQKIQSQIMSNSKHYSGD---NIIAHDYTSSLFPYLDHWRKQYGRVYTYSTGVKQHLNHPPELVKELNQANTLNLGKVS---YVTKRLK-SI
CYP714A2 FNGNVSEMQRIRI---SEAKHCSGD---NIIASHDYSSSLFPHFHDHWRKQYGRVYTYSTGLKQHLNHPPELVKELNQANTLNLGRIT---HITKRLN-PI
CYP74A  DYFYDQGAEEFFKSRIRKYNS-----TVYRVNMP---GAFIAENPQVVALLDGKSFPVLFVDVKVEK-----
CYP74B2 DF---QGPDKFFRTRAEKYKS-----TVFRNTNIPPTFPFFGNVNPNIIVAVLDVKSFSHLFMDLVDK-----
CYP73A5  LQVGDDLNRNLVDYAKKFGD-----LFLLRMGORN-----LVVSSPDLTKVELH-TQGEFGSRTN-----VVDIFTGK
CYP722A1 VNSG-KGFYEFVRSRRIRYGS-----CFRTSLFGETHVFLSTTESARLVNNDSGMFTKRYIKSIG-----
CYP701A3 LQLKEKPKHTFTRWSEIYGP-----IYSIKMGSSS---LIVLNSTETAKKAMVTRFSSISTRKLSN---ALTVLTC
CYP711A1 MAKYG---PDVFSVLAKQYGP-----IFRFQMGROPLIIIAEAEELCREVGIKKFKDLPNRSIPSPISAS-----
consensus 101.....110.....120.....130.....140.....150.....160.....170.....180.....190.....
    
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CYP51A1 -----VPTFGPGVVFVDYVPRMEQFRFFSSALKGQQLRGYVDQMTKETEDYFSKWGE-----SGEVDLKAELERITLTASRCLLGREVRDQ-----
CYP51A2 -----VPTFGPGVVFVDYSVRQEQRFFTEALRVNKLKGYVDMMVTEAEDYFSKWGE-----SGEVDIKVELERITLTASRCLLGREVRDQ-----
CYP710A1 -----KKLFGDHNLIYFMFGEDHKSVRRLAPNFTPALSTYSALQQLVILRHLRQWEGSTSGGSRPVSLRQLVRELNLETSQTVFVGPYLDKE-----
CYP710A2 -----KQLFGDHS LIYLFGE DHKTVRRHLAPNFTPALSTYSDLQQIVMLRHLRQWEEFSFGGTPKPVSMRDLVRELNLETSQTVFVGPYLDKE-----
CYP710A3 -----KKLFGDHS LIYFMFGENHKSVRRLQVAPNFTPALSTYSS LQQIVILRHLRQWEEFSFGGSRPVSMRQLIRELNLETSQTVFVGPYLDKE-----
CYP710A4 -----KKLFGDHS LIYFMFGEDHKSVRRLQVAPNFTPALSTYSS LQQIVILRHLRQWEEFSFGGSRPVSMRQLIRELNLETSQTVFVGPYLDKE-----
CYP702A1 -----AQLFGE--NNLFFQSKESHKVRNLTFFQL---LGSQGLKLSVMQDIDLLTRTHMEEGARRGCLDVKEISSKILIECLAKKVTGMEPE-----
CYP702A2 -----IRLFGG--NNLFLQSKESHKVRNLTFFQL---LGPQGLKSRMIEDVDLLARTYMEEGARNGYLDVKETSSKILIGCLAKKVMGEMEPE-----
CYP702A8 -----ARLFGEDNNLFLQSTESHKVRNLTVMQ---LGSQSLKLRIMENIDLLTRTHMEEGARDGSLDVKETTSKILIECLAKKVMGEMEPE-----
CYP702A5 -----ERLFGA--TNLFVN--KDT HKHARSLTNQF---LGSQALKLRMIQDIDFLARTHMKEGARKGCLDVKETASKIVIECLSKKVMGEMEPE-----
CYP702A6 -----ARLFGA--NNL FVN--KDT HKHARSLTNQF---LGSQALKLRMLQDIDFLVTRTHLKEGARKGSLDIKETT SKIIIECLAKKVMGEMEPD-----
CYP702A3 -----TRIFGE--NNPFLQSK EIHKYVRNLTSRF---VGPEGLKTRLIHDIDNLLRNDVENGARNGSFDVREATIKMVGELIAKKIMGETESE-----
CYP708A2 -----VKPFGEKENVFLKHG--NIHKHVKQISLQH---LGSEALKKMKIGEIDRVTYEHLRSKANQGSFNAEAVESVIMAHLPKIIISNLKPE-----
CYP708A3 -----VKVFGKDNLFLKEV--FIHKYLQKITMQI---LGSEGLKQTM LGNMDKATRDHIRSIASQGSFNVRKEVENIVVAYMTPKLIISNLKPE-----
CYP708A4 -----MKPLGKDSLFLKIG--NIHKHIKQITLHL---LSSEGLKRRKILKDMDRVTRHLSKAKTGRDLVKDAVSKIIIAHLTPKMMSNLKQP-----
CYP708A1 -----VRIFGKDNLFFKQGGDFHRYMRHIALQL---LGPECLKQRFIQIDDIATSEHLKSVSFGQWVDVKDTSGRILEEQMILMIISNIKPE-----
CYP87A2 -----THIFGKKNVGS LHG--FMYKYLKNMVLTL---FGHDGLKK--MLPQVEMTANKRLELWSNQDSVELKDATASMI FDLTAKKLISHDPDK-----
CYP90A1 -----CNLLGKHSLLLMKG--SLHHRMHS L TMSF---ANSSI I KDHLMLDIDRLVRFNLD SWS--SRVLLMEEAKKITFELTVKQLMSFDPGE-----
CYP90B1 -----GGILGKWSMLVLVG--DMHRDMRSISLNF---LSHARLRTILLKDRVRLTLFVLD SWQQNSIFSAQDEAKKFTFNLMAKHIMSMDPGEE-----
CYP90C1 -----TELLGENSILSING--PHQKRLHTLIGAF---LRSPHLKDRITRDIEASVVLTLASWAQLPLVHVQDEIKKMTFEILVKVLMSTSPGE-----
CYP90D1 -----RELMGKSSILLING--SLHRRFHGLVGSF---LKSPLLKAQIVRDMHKFLSESMDLWSEDPVLLQDVSKTVAFKVLAKALISVEKGE-----
CYP724A1 -----HDILGKYSLLLATG--EIHRKLKNV IISF---INLTKSKPDLHCAENLSISILKSWKNCREVEFHKEVKIFTL SVMVNQLLSIKPEDP-----
CYP720A1 -----RDLVGKDG VITVHG--DQRRRLHSIASSM---MRHDQLKTHFLEVIPVVM LQTL SNFKDG E VLLQD ICRKVAIHLMVNQLLGVSS E-----
CYP85A1 -----LDILGTCNMAAVHG--SSHRLMRGSLLSL---ISPTMMRDHILPKVDHFMRSYLDQWNELEVIDIQDKTKHMAFLSSLTQIAEGLNRKP-----
CYP85A2 -----LDILGTCNIAAVHG--PSHRLMRGSLLSL---ISPTMMRDHILPKIDDFMRNYLCGWDDLETVDIQEKT KHMAFLSSLQIAGETLKKP-----
CYP707A1 -----ERMLGKQAIFFHQG--DYHAKLRKLV LRA---FMP--ESIRNMVPIESIAQDSLRSWEG--TMINTYQEMKTYTFNVALLSIFG--KDEVL-----
CYP707A3 -----ERMLGKQAIFFHQG--DYHAKLRKLV LRA---FMP--DAIRNMVPHIESIAQESLNSWDG--TQLNTYQEMKTYTFNVALLSIFG--KDEVY-----
CYP707A2 -----ERMIGPEALFFHQG--PYHSTLKR L VQSS---FMP--SALRPTVSHIELLV LQTLSSWTSQKSINTLEYMKRYAFDVAIMSAF G DKEEPT-----
CYP707A4 -----EKLIGPSALFFHQG--DYHSHIRKLVQSS---FYP--ETIRKLIPDIEHIALSSLQSWANMPIVSTYQEMKKFAFDVGILAIFFG--HLESS-----
CYP88A3 -----MELIGRKS FVGISF--EEHKRLRRLTAAP---VNGHEALSTYIPYIEENVITVLDKWTMKGFEFLTHLRKLTFRIMYIFLS--SESEN-----
CYP88A4 -----MKLIGRKS FVGISF--EEHKRLRRLTAP---VNGPEALSVYQFIEETVNTDLEKWSKMG E I EFLSHLRKLTFKVIMYIFLS--SESEH-----
CYP716A1 -----NKIFPSSMQTSSK--EEARKLRMLLSQF---MKPEALRRYVGVMEIAQRHFETEWANQDQIVFPLTKKFTFSIACRSFLS--MEDPA-----
CYP716A2 -----NKIFPSSMQTSSK--EEAIKTRMLL MPS---MKPEALRRYVGVMEIAQKH FETEWANQDQIVFPLTKKFTFSIACRLFLS--MDDLE-----
CYP718 -----VQLMGMN CIMAKQG--EKHRVLRGIVANS---LSYIGLES LIPKLC DTVKFHHETEWRGKEEISLYRS AKVLTFTVVFECLYG--IKVEI-----
CYP71A12 GRDVVFGPYGEYWRQMKSV CILNLLTNKMVASFE--KIREEEELNEMIKKLEKASSS-----SSENLSELFVTLPSDVTSRVALGRKHSED-----
CYP71A13 GRDVVFAPYGEYWRQMKSV CILNLLTNKMVASFE--KVREDEEVNAMIEKLEKASSS-----SSENLSELFITLPSDVTSRVALGRKHSED-----
CYP71A18 GRDVVFGPYGEYWRQMKSV CILNLLTNKMVASFE--KVREEEVNAMMEKLEKASSS-----SAENLSELFVTLPSDVTSRVALGRKYSWED-----
CYP71A14 GREMVFSPPYGEYWRQIKSV CIVNLLNKKKVQSFE--KVREEEISEMMERVEKASSDS-----SPLNLS ELLLTITSDVTSRVALGRKYSKE-----
CYP71A15 GREVVFSPPYGDYWRQIKTVCV VHLNKKM VQSFA--KVREEEERSVMMEKVEKASSDS-----SPLNLSKLLITLITSDVASRVSFGKKHSNE-----
CYP71A28 GRDVAFSSYGEYWRQMKSLCTV HLLGRQM VRSFE--KVREEEITSVIWKL EKQSSS-----LPVNLSDLLNMSNDVICRIAVGRKYSRE-----
CYP71A19 GRDVAFAPYGEYWRQMKSI C I QNLLSNKMVRSYK--KIREDEIKLMIEKVENASSCSP-----PSPVNLSQLFMTLTNDIICRAALGRKYSK-----
CYP71A20 GRDVAFAPYGEYWRQMKSI C I QNLLNKNM VRSYE--KIREEEIKRMIEKLEKASSS-----PSPVNLSQLM L TNDIICRVALGRKYS GK-----
CYP71A16 GRDLVFAPYGEYWRNVKSLCTI HLLSNKMVRSSE--KRREEEITLLMETLEEASLS-----SSVNL SKLITNMVSDIMGKVVLGKYSGE-----
CYP71A27 GRDIIFFGPGYGEDWKSMSLGVHLLNKNM VRSFE--NLREEEIKVMTEKLEEASLS-----SSVNL SKL LMTL TNDIICRITLGRKYSNEE-----
CYP71A21 GRDVAFAPYGEYWRQIKSV CVLRLLSNKM VTSFR--NVRQEEISLMMEKIQKSSSLQ-----VNVSELLGSLTNDVISRIVALGRKYS-----
CYP71A22 ARDVALAPYGEYWRQMKSV CVLHLLTNKM VRSFR--NVRQEEISLMMEKIQKSSSLQ-----VNLSELLGSLTNDVISRIVALGRKYS-----
CYP71A24 GRDVALAPYGEYWRQMKSV CVLHLFSNKM VRSFR--DVRQEEISLMIEKIRISSSLR-----INLSEILVNL TNNVICRVALGRKYG-----
CYP71A26 KHDVASAPYGEYWRQMKSV CVLHLFSNKM VRSFR--EVREEEISLMMEKIRKSISLP-----VNL SKILVSLTNDVICKVALGRKYG-----
CYP71A25 NRDVASAPYGEYWRQMKSV CVIHL LSNKM VRSFR--DVREEEITLMMAKIRKSSSLP-----FNVSKVLECLTNDVICRVALGRKYG-----
CYP71A23 SRNMAFAPYGEYWRQMKSV SVLHLLSNKM VRSFQ--DVRQEEITLMMETIRKSSSKP-----VNL SKILSSLTNDVICRVALGRKYG-----
    
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CYP71B26  NLDMSSSPYNEYWKELRKLCSQELFSANKIQSIQ--PIKDEEVKKVIDSIAESSSLK-----NPVNL SKTFLALTTSVVCKAAFGVSFEGS-----
CYP71B33  NRDISFSPYNDYWKELRKLCTQELFSAKNIHSTQ--HIKDEEVKKLIVSIAESASLK-----TPINLNKKCLALTVSIVCRIAFGVSFEGT-----
CYP71B34  YLDIAFSPYDDYWKELRKLAVQELFSSKQVHSIQ--PIKDEEVKKLIDSISESAAQK-----TPINLNKTLALTVSVVCRATFVSNFEGT-----
CYP71B35  YLDIAFSPYDDYWKELRKLAVQELFSTKQVHSIQ--PIKDEEVKKMIDSIAESASQK-----NPVNLNNKCLELTVSVVCRATFVSNFEGT-----
CYP71B36  YLDIAFSPFDDYWKELRRICVQELFSVKRVQSFQ--PIKDEEVKKLIDSVSESASQK-----TPVNLSEKFTSLTVRVCTKATFVSNFQGT-----
CYP71B37  YLDIVFSPFDDYWKELRRMVCVQELFSPKQVHLIQ--PIREDEVKKLMNSFSESAAQK-----TPVNLSEKLASLTVGVICKAAFGVSFQGT-----
CYP71B9    YLDIAFSPFDDYWKELRRICVQELFSAKRVSISIQ--PIKEEVVKRLIVSATESASQK-----SPVNLSEKFLDLTVSVICKAAFLSDFHTS-----
CYP71B10  YLDIAFSRFDDYWKELRKLCEELFCNKRINSIQ--PIKEAEMEKLIDSIAESASQK-----TLVNLSDTFLSLNVNVICKAVFGVNFQGT-----
CYP71B11  LKDIGFCPYTKYWRVVRKMTVVELYTAKRVQSFQ--HTRKEEVASLVDFITQAASLE-----KPVNLNTKLMKLSGSVICRVVFGINLKGS-----
CYP71B12  LKDLCFSPYSKYWRVVRKMTVVELYTAKRVQSFQ--HTRKEEVAALVDFIKQAASLE-----KPVNLNKKLMKLSGSVICRVAFGINLQGS-----
CYP71B14  FNDLAFSPYSKYWRVVRKMTVIELYTAKRVKSFQ--NVRQEEVASFVDFIKQHASLE-----KTVNMKQKLVKLSGSVICKVGFISLEWS-----
CYP71B13  LKDLAFAPYSKYWKAVRKMVVELYTAKRVKSF--NIREEEVASFVEFIKHSASLE-----EIVNLNQTQVVKLSGSVICRVGFGINLEGS-----
CYP71B6    FLGLGFTKWDYRDKLVLELFSVKRANSFR--NIREEEVSRVNSFSDSASSG-----SSVDTANLAKFVASFCTCRMAFGLSFOGS-----
CYP71B28  FKDIGFAPYGEDWRTMRKLSVVELFSSKKLQSF--YIREEENDLCVKKLSDLASRR-----SLVNLKTLFTLVGSIVCRIGFGINLREC-E-----
CYP71B29  FKDIGFAPYGEWVKAMRKL SVVELFTA KKHQYFR--SIREEENDLLVKKLTELALTR-----SPVNLKTLFTLVGSIVCRIGFGINLHEC-E-----
CYP71B15  FKDIGMAPFGDEWLMRKL SVVELF SVKKLQSF--YIIEEENDLCVKKLSEFATRQ-----SPVNLERAIFTLVGNIVCRIGYGINLYEC-D-----
CYP71B23  FKDIGFAPYGEWRALRKLAVIELFSLKKFNSFR--YIREEENDLLVKKLSEASEKQ-----SPVNLKALFTLVASIVCRLAFGQNLHES-E-----
CYP71B7    FKDIGFAPYGEWKALRKLVMLELNTKFKQSF--YIREEENDLLIKKLTESALKK-----SPVNLKTLFTLVASIVCRLAFGVNIHKC-E-----
CYP71B16  FKDISFTPYGEWRERRKFLVLELFCFKKQYFG--YIVEEENCLLVKKLTESAVGR-----PPVDSLKSLFWLAASILFRVAFGQSFHDN-K-----
CYP71B17  FKDLNFTPYGEWKERRRFLVLELFCSKKLQSF--YIKEVECNFLVKKLSESAVDQ-----SPVDLSKTLFWLAASILFRVAFGQSFHES-E-----
CYP71B18  FKDVGFPTYGEWKERRKFLVREFFSLKVKQSF--YIREEECNFLVKKLSESAVDQ-----SPVDLSKTLFWLTASVMFRVAFGQSFHES-E-----
CYP71B19  FKDIGFTPYGNEWKARRKFALRELFCLKVKQSF--HIREEECNFLVKKLSESAVDR-----SPVDLSKSLFWLTASILFRVALGQNFHES-D-----
CYP71B20  FKDVCFPTYGNEWKARRKFALRELFCLKVKQSF--HIREEECNFLVKKLSESAVNR-----SPVDLSKSLFWLTASIFFRVALGQNFHES-N-----
CYP71B2   FKDITFAPYGEYWRVVRKLA VIELFSSKVKQSF--YIREEEVDFVKKVSESAKQ-----SPVDLSKTFFSLTASIICTRALGQNFNESGF-----
CYP71B27  FKDISFTPYGEYWRMRKLAVTELFSLKKVQSYR--YIRGEEIEFMVKLSESAKQ-----SPVDL--TFFSLTASIICTRALGQNFHESGS-----
CYP71B21  FKDIGFAQYGEDWREMRKLAMLELFSSKKLKAF--YIREEESELLVKKVTESAQTQ-----TLVDLRKALFSYTASIVCRLAFGQNFHE-CD-----
CYP71B22  YKDIGFAQYGDWREMRKLAMLELFSSKKLKAF--YIREEESEVLVNLKSKSAETR-----TMVDLRKALFSYTASIVCRLAFGQNFHE-CD-----
CYP71B38  FKDIGFAPFGDDWREMRKITTLELF SVKKLKSF--YIREEESELLVKKIKSVDETQ-----NSSVDLRKVLFSFTASIICTRALGQNFHQ-CD-----
CYP71B5   FKDIGFAPYGENWREMRKIAVSELF SQKKLKSF--YIREDESQLLVKRVKSALETP-----TSSVNLRKVIFTFAASIICTRLSFGQNF---CD-----
CYP71B31  YKDIGFTQYGEWREMKKLVLELFSPPKHKFSFR--YIREEEGDLLVKKISNSAQQTQ-----TLVDLRKSLFSYTASIIIFREAFGQNFRE-CD-----
CYP71B8   FKDIAFAQYGEDWREMKKLVLELFPKHKHFFR--YIREEEGDLLVKKLSNSAQQTQ-----TLVDLRKAFFSFTAGIIFRVSFQGNFRE-CD-----
CYP71B32  FKDIGFTQYGEDWREMKKLVLELFSPPKHKFSFR--YIREEEGDLLVKKLSNSAQQTQ-----TLVDLRKASFSFTAGIIFRVAFGQNFHQ-CD-----
CYP71B24  GQDIGLAPYGESLRELRLKLSFLKFFSTTKVRSFR--YIREEENDLMVKKLKEAALKK-----SSVDLSQTLFGLVGSIIFRSAFGQRFDEG-N-----
CYP71B3   GKDIAFAPYGEVSRELRLKLSLINFSTQKVRFSFR--YIREEENDLMVKKLKEAALKK-----NTVDLSQTLFYLVGSIIFRATFGQRLDQN-K-----
CYP71B25  NKNIGLGAYSDEWRELRLKVAVREYFSVKKVQSF--YVREEENHLMVKKLRDLALKQ-----SPVDLSKTLFCLAASTVFRPVFGQSFSDN-K-----
CYP71B4   GKDIGFGVYGDWRELRLKLSVREFFSVKVKQSF--YIREEENDLMIKKLELASKQ-----SPVDLSKILFGLTASIIIFRTAFGQSFDDN-K-----
CYP83A1   RRDMALNHYTPYYREIRKMGMNHLFSPTKVATFK--HVREEEARRMMDKINKAADKS-----EVDISELMLTFTNSVVCRAFGKKYFNE-----
CYP83B1   GRELGFGQYTAAYREMRKCMVNLFSPNRVASF--PVREEECQRMMDKIYKAADQS-----GTVDLSELLSFTNCVVCRAFGKRYNEY-----
CYP84A1   RADMAFAHYGPFWRQMRKVCVMKVSFRKRAESWA--SVR-DEVDMVRSVSCNVGKP-----INVGEQIFALTRNITYRAAFGSACEKGQ-----
CYP84A4   GSDLAFCNYPGPFWRMRKLYVMMLFSRKRASWV--SVD-EEVHKSRLVANSVNGKP-----LNICKLAFSLSRDITFRAAFGSSSSTSDE-----
CYP705A1  SSGFIQAPYGDYWKFMKKLIATKLLGPQLVRSQ--DFRSEELERFYKRLFDKAMK-----KESVMIHKEASRFVNNSLYKMCGRSFSVENN-----
CYP705A24 SFGYFRAPCEDYWKFMKKLIMARALGPQALERT--GVRAAELERFHRKLLDKAMK-----KQSLKIGEEARLVNNTLGKMSLGSFSFIENN-----
CYP705A15 SFSFTSAPYGDYWKFMKKLLVTNLLGPQALERSR--GFRADLDLFYENLDDKAMK-----KESVDICVALKLSNNSICKMIMGRSCSEENG-----
CYP705A4  SFSFISAPYGDYWKFMKKVLVTNVFGPQAHEQSR--GVRADVLERFYGNLFDKAIK-----KQSVIECAEALKSNSSICKMIMGRSCSE-----
CYP705A16 SSSFISAPYGDYWKFMKKLMVTKLLGPHALERSR--KIRADELYRLYTNLDDKAMK-----KESVEIGKETMKLTNNTICKMIMGRSCSEENG-----
CYP705A19 STGFISAPYGDYKFMKKHLVTKLLGPQALERSR--LIRTNELERFYINLDDKATK-----KESVEIGKEAMKLSNNSICKMIMGRSCLEEK-----
CYP705A20 SSVFVGAPYGDYWKFMKKLLVTKLLGPQALERSR--SIRADELERFYRSLDDKAMK-----KESVEIGKEATKLSINSICRMSMGRSFSEESG-----
CYP705A21 SSVFGSAPYGDYKFMKKLLVTKLLGPQALERSR--GIRADELERFHSSLDDKAVK-----KEIVEIGKEATKLSNNSLWRMSIGRSFSEKNG-----
CYP705A23 SFGFFTAPYGDYWKFMKKVMVTKLLGPQALQRSR--GIRADALERFYNNLDDKAMK-----KESVEIGKETMKLIYDSICKMIMGRNFSEENG-----
CYP705A28 FSSFFFAPYGDYKFMKKLIATKLLGPQALDRSR--KIRADELDRFYNNLDDKAMK-----KESVEIGEAAKLNNTICKMIMGRSCSEKNG-----
    
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CYP705A30 SSSFFFAPYGDYFKFMRKLIATKLLGPQALERSR--KIRADELDRFYKTL LDKAMK-----KESVEIGEAAKLNNNIICKMIMGRSCSEENG-----
 CYP705A32 SSSFFFAPYGDYFKFMRKLIATKLLGPQALERSR--KIRADELDRFYRNL LDKAMK-----KESVDIVEEAAKLNNNIICKMIMGRSCSEDNG-----
 CYP705A2 SYSFISAPYGDYWKFMKRLMVTIKLGPQALERSR--RFREDELDRFYKTL LDKAMK-----KESVEIVEEAAKLNNTTICKMIMGRSCSEETG-----
 CYP705A5 SSSFINTPYGDYSKFMKKFMVQKLLGPQALQRSR--NIRADELERFYKTL LDKAMK-----KQTV EIRNEAMKLTNNTICKMIMGRSCSEENG-----
 CYP705A8 SFSFITAPYGEYWKFMKLLIVTKLLGPQALERSQ--RIRANEVERFYSNLLDKAMK-----KESVEIADEAMKLVNNIICKMIMGRSCSEENG-----
 CYP705A9 SFGFGTAPS-----SGLKHSR--GHKKSQRSYLLRL LDKAVK-----KESVEIAEEAMKLVNNTVCQMIMGRSCSEENG-----
 CYP705A18 SSSFIYAPYGDYWKFMKKIFATKLLRPQVLENSR--GVRAEELKRFYRRL LDKARK-----NENIEISKESAMLMNNILCRMMSGRSFSEENG-----
 CYP705A6 SSGIITAPYGDYWKFMKLLIATKLLRPQSLSSR--GIRGEELTRFYNSLLDKARM-----TESVEISTEAMKLVNNTLCRMSMGRSFSEENG-----
 CYP705A33 SSGVVYAPYGDYLFKFKKIIATKLLRPQVLENSR--GLRAEELQRLYNRIL LDKAKM-----NENVEIGKEATMLMNNIFCRMMSGRSFSEENG-----
 CYP705A3 ASGILNAPYGDYWKFMKLLMATKLLRPQVLENSR--GVRVEELHRFYRSIL LDKATK-----NESVEIGKEAMKLMNNTLCKLIMGRSFSEENG-----
 CYP705A22 SSSFVTAPYGDYWKFMKLLTVMKLLGPQAQEQSR--DIRADDIKRFCRNLL LDKARK-----KESVEIGKEAMNLMNNILCKMSMGRSFSEENG-----
 CYP705A12 SSGFVTAPYGDYWKFMKLLISTKLLRPALHLELSK--GNRAEELRRFCLD LQ GKARK-----KESVEIGKVALKLTNNIICRMSMGRSCSEKNG-----
 CYP705A13 SSSFVMAPYGDYWKFMKLLMVTKLFGPALEQSR--GARADELERFHANLL SKEMK-----SETVEIAKEAIKLTNNSICKMIMGRGCLEENG-----
 CYP705A25 SFGFVSVPYGDYWRFMKLLLVKLLGSHSLEQTR--LLRKGELQTFRAML FDKAAK-----NETVDVGKEMMKLTNNSICRMTMGRSCSEENG-----
 CYP705A27 SFGFVSAPYGDYWRFMKLLLVTNLFGSHSLEQTR--LIREKELKTFRTML FDKAAK-----KGTVDVGKEMMKLTNNSICRMTMGRRCSEENS-----
 CYP712A1 GSRFVLAQYGDYWRFMKLLCMTKLLAVPQLEKFA--DIREEEKLKLVD SVAKCCRE-----GLPCDLSSQFIKYTNNVICRMASTRCSGTDN-----
 CYP712A2 GSEFFNAPYGSYWRFMKLLCMTKLFAGYQLDRFV--DIREEETLALLSTL VERSRN-----GEACDLGLEFTALITTKILSKMVMGKRCRQNSN-----
 CYP93D1 SADFFSAPYGLHWKFMKRICMVELFSSRALDSFV--SVRSEELKLLIRVL KKA EA-----EESVNLGEQLKELTNSIITRMMFRKMQSDSDGG-----
 CYP81D6 STTMTSAPYGDHWRNLRRIATLEIFSAHKLNGFL--SVRKDEIRQLLRL SSKNSRH-----G-FAKVEMRHLLFELTINNVMFRMVAGKRFYGE-----
 CYP81D7 FTTMTSAPYGDHWRNLRRIATLEIFSSHKLNGFL--SVRKDEIRHLLRL SSKNSQH-----G-FAKVEMRQLFYDLTINNILRMVAGKRFYGE-----
 CYP81D11 STTMVGAAYGDSWRNLRRIATLEIFSSRLNSFV--SIRQDEIRRLIICLAKNSQH-----G-FVKVEMKPLFMCLTINNIIRMVAGKRFYGDG-----
 CYP81D2 NSTVVSASYSEHWRNLRRIAGALEIFSAHRLNSFS--SIRRDEIRRLIGRLLRNSY-----G-FTKVEKSMFSDLTFNNIIRMLAGKYGG-----
 CYP81D3 CTTVVTASYGDHWRNLRRIAGALEIFSAHRLNSFS--SIRRDEIRHLLIA-CLRNSSL-----E-FTKVEKSMFSDLTFNNIIRMLAGKYGG-----
 CYP81D8 YTTMIAASYGDHWRNLRRIAGALEIFSNHRLNSFL--SIRKDEIRRLVFR LSRNFSQ-----E-FVKVDMKSMLSDLTFNNIIRMLAGKYGG-----
 CYP81D4 ATYLLSASYGDHWRNLRRIAAVEIFSSHRLNSFL--YIRKDEIRRLISHL SRDSLH-----G-FVEVEMKTLTNLASNTTIRMLAGKRYFG-----
 CYP81D5 FTNMAIASYGDHWRNLRRIAAVEIFSSHRLNSFV--SIRKDEIRRLIITHS-RDSLH-----G-FVEVEMKTLTNLAFNNIIMMVAGKRYYGTG-----
 CYP81D1 NANMIAAPYGDHWRNLRRLCTIEIFSTHRLNCFV--YVRTDEVRRILSR LSRLAGT-----K-KTVVELKPLMDLTFNNIIMRMTGKRYYGEE-----
 CYP81F3 YTTVGTAPYGDHWRNLRRIASLEILSSNRLTNFL--HIRKDEIHRMLTR LSRD-----V-NKEIELEPLLSDLTFNNIIVRMVTKRYYGDE-----
 CYP81F4 YTTIATTSYGDHWRNLRRIASLEIVSSKRLANFL--HIRKDEIQRMLTR LSRDAR-----V-GKEVELESILYDLTFNNIIVRMVTKIYYGD-----
 CYP81F2 YTTIGTAAAGDHWRNLRRIASLEILSSNRLTGFL--SVRKDEIRRLTKL SREY-----D-GRVVELEPLLADLTFNNIIVRMVTKRYYGDQ-----
 CYP81F1 HTTVGTAPYGDHWRNLRRIASLEIVSSHRLNIFQ--HIRKDEIRRLTR LSRYSQTSNESND--FTHIELEPLLSDLTFNNIIVRMVTKRYYGD-----
 CYP81H1 YTSMTAPYGDHWRNLRRIATALEVFSSHRLNLSA--EIRHDEVKMLLQKL HDLSVER-----PAKVELRQLLTGLTLNVIMRMTGKRFYFEED-----
 CYP81G1 NTLVSTAPYGEHWRRLRRFCVAVDILSTARLRDFS--DIRRDEVRAMIRKINVELVTSG---G-SVRLKLPFLYGLTYNILMSMVAGK-----
 CYP81K1 YKNFGFAPYGLWRTLRLSTLEVFSSASLQKNS--SIRNEEVSNLCLII FRLSR-----D-SRIVDLKYQFTLLTAHIMLRLVSGKRGVKKS-----
 CYP81K2 YKNFGFAPYGLWRTLRLSTLEVFSSVSLQKNS--SIRTEEVSNLCSSLFR FSGG---N-SCKVDLRYQFTLLTAHVMLRLVSGNRGVNES-----
 CYP82C3 -----VFWLEMRKIAMI ELLSNRLLQMLN--NVRVSEISMVQDLYSLWVKKGGS-E-PVMVDLKSLEDMIANMIMRVMVAGKRYFGGGGA---E
 CYP82C2 CAVFGFAPYSAFWREMRKIATLELLSNRLLQMLK--HVRVSEISMVQDLYSLWVKKGGS-E-PVMVDLKSLEDMSLNMMVIRVMVAGKRYFGGG-S---L
 CYP82C4 FAVFGFAPYSAFWREMRKIATLELLSNRLLQMLK--HVRVSEITMGVKDLYSLWFKNGGT-K-PVMVDLKSLEDMLNMMVIRVMVAGKRYFGGGGS---V
 CYP82F1 DSFLTFSPLYGLYWRIRKIAVSELFSTSGVDMHM--VSRAREADLAFRAL YVRWEKRGKPKG--GVLVDMKQEFIDLTANISLMMVSGKRYFGEN-----
 CYP82G1 NASLTLAPYGDYWRERLKRIVTVHLFSNHSIEMLG--HIRSSEVNTLIKHL YK---GNGGT---SIVKIDMLFEFLT FNIIILRKMVGRKIFG-----
 CYP76C2 VSVVWLPPSSSRWRLRLKLSATQLFSPQRIEATK--TLRENKVKELV SFMSESSER-----EEAVDISRATFITALNII SNILFSVDLGNYS-----
 CYP76C4 VSVIWLPPSSARWRLRLKLSATQLFSPQRIEATK--ALRMKKVQELV SFMSESSER-----KEAVDISRASYTTVLNII SNILFSVDLGSYS-----
 CYP76C1 ASLVLPPSSARWRLRLKLSATQLFSPQRIEATK--ALRMKKVQELV SFISSSDR-----EESVDISRVAFITLNLII SNILFSVDLGSYNA-----
 CYP76C5 FSVGWIHSSPRFRKVEEMTFTQLFSPQRIEATK--ALRMKKVQELV NFLSESSER-----GEAVDISRASVFTALNII SNILFSVDLGSYS-----
 CYP76C6 FSVGWIHSSSRFRMLRLKLSATQLFSPQCIQATK--ALRMKKVQELV NFLSESCER-----EEAVDISHVSFVTALNII SNILFSVNLGSYS-----
 CYP76C3 HSIWVIPP SARWRRLKKTITIKYLLSPQNLDAIQ--SLRMRKVEELVSLVNEFRER-----GEAVDLARASFVTSFNII SNALFSVDLATYDS-----
 CYP76C7 LSLWLWIPPLARWR-FLRKITRNQLFSTQRLEATS--AIRTRKVQELMNFVNKCCER-----REAVNISRASFITSLNII SNALFSTNLANFDD-----
 CYP76G1 GSLITAQYG-AYWRMLRLKCTTQFFVTRRLDAMS--DVRSCVDQMLRFVEEGQNG---TKTIDVGRYFFLMAFNLI GNLMFSRDLLDPDS-----
 CYP75B1 QDLVFAPYG-HRWRLRLKISSVHLFSAKALEDFK--HVRQEEVGTLTRELVRVGTK-----PVNLGQLVNMCVVNLGREMIGRRLFGADA-----
 CYP706A1 GEDILWSPYGTHTWRRLRLKLCVMKFTTPTLEASY--STRREETRQTIVHMS EMAREG-----SPVNLGEQIFLSIFNVVTRMMVAGATVEG-----

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CYP706A2 GEDILWSPYGTWRRRLRKLKVMKMFPPSLEASY--STRRETRQTVIHMSEMAREG-----SPVNLGEQIFLSIFNVVTRMMWGATVEG-----
CYP706A3 GTEIIWSPYGPQWRMLRKLKLVNRILRNAMLDSS--TDLRRRETRQTVRYLADQARVG-----SPVNLGEQIFLMMLNVVQMLWGTTVKE-----
CYP706A7 GVDIIVSPYGPPEWMLRKCINKMLSNATLDSNSFSALRRQETRRTVRYLADRARAG-----LAVNVGEQIFVVTILNVVQMLWGTVADD-----
CYP706A5 GLDLVWLPGAEWRMLRQVCAAKLFSRKTLDSEFY--ELRRKEIRERTRCLYQKGLEK-----SPVNVGEQLFLTMMNLMNMLWGGSVKA-----
CYP706A6 GLDLVWLPGAEWRMLRQVCAAKLFSRKTLDSEFY--ELRRKEIRERTRYLYQKQEE-----SPVNVGEQVFLTMMNLTMMNMLWGGSVKA-----
CYP706A4 GIDIWVTPYGAWRQLRKCICVLKLLSRKTLDSEFY--ELRRKEVRERTRYLYEQGRKQ-----SPVNVGDQLFLTMMNLTMMNMLWGGSVKA-----
CYP79B2 YKTCVITPFGEQFKKMRKVMTEIVCPARHRWLHQ--KRSEENDHLTAWLYN-MVKNSG-----SVDFRFMTRHYCGNAIKKLMFGTRTFFSKNT--APD
CYP79B3 YKTCVITPFGEQFKKMRKVMTEIVCPARHRWLHD--NRAEETDHLTAWLYN-MVKNSE-----PVDLRFVTRHYCGNAIKRLMFGTRTFSEKT--EAD
CYP79A2 YLTVAVEPQGEQWKKMRVAVSHVTSKKSFMMLQ--KRTEEADNLVRYINNRSVKNRGNF--VVIDLRLAVRQYSGNVARKMMFGIRHFGKGS--EDG
CYP79C1 YNGVVFDEYGERQMKMKKVMSSSELMSTKALNLLK--VRNLESDNLLAYVHNLYNKDESKTKHGAVNVRDIVCTHTHNVMKRLLLFGRRHFKET---TMD
CYP79C2 YKNISFSSYGENWKLKVKVMTTKLMSPTTL SKTLG--YRNI EADNIVTYVYNLCQLGSRKP----INVRDITLTYCHAVMMRMMFGQRHFDEV---VEN
CYP79F1 YKSMGISPYGEQFMKMKRVITTEIMSVKTLKMLEA--ARTIEADNLIAYVHSMYQRSE-----TVDVRELSRVYGYAVTMRMLFGRRHVTKENVFSDD
CYP79F2 YKTMGTSSYGEHFMKMKKVITTEIMSVKTLNMLEA--ARTIEADNLIAYIHSMYQRSE-----TVDVRELSRVYGYAVTMRMLFGRRHVTKENVFSDD
CYP703A2 CGDVALAPMGPHWKRMRRICMEHLLTTKRLESFTT--QRAE EARYLIRDVFKRSETGKP-----INLKEVLGAFSMNNVTRMLLCKQFFGPGS-----
CYP98A8 GTDLWSDYSPHYVLRKLCLEL FSLKSIENFR--SLREMEARSMVVSILKDLMSNSGDDQERKPIVRKYLAAVLNTISRMLIGKEFG-----
CYP98A9 GSDLIWSDYGAHYVVMRKLCTLEL FSLKSIECFR--SMREMEVSSMVKSIFNDFMSD-----DQKPVVLRNYLDSVALNIVSRLVIGKTFE-----
CYP98A3 GQDLIADYGPVYVVRKLVCTLEL FTKRLESRL--PIREDEVTAMVESVFRDCNLP---ENRAKGLQLRKYLGAFAFNNITRLAFCKRFMNAEG-----
CYP78A10 DRAMGFAPYGDYWRRLRRISSTHL FSPKRIFFSSG--ESRRKIGQNMVGEIKN--AMECYG----EVHIKKILHFGSLNNVMSSVFGKTYNFNEGI----
CYP78A5 HRAMGFAPYGEYWRNLRRISSTHL FSPRRIASFE--GVRVIGMKMVKKIKSLVTSDACG-----EVEVKKIVHFGSLNNVMTTVFGEYDFDE-----
CYP78A6 NRAIGFAPHGYYWRTLRRIASNHL FSTKQIRRAE--TQRRVISSQMVFELEKQ--SSNE-----PCFVRELLKTASLNNMMSVFGKEYELEK-----
CYP78A9 NRAIGFAPYGVYWRTLRRKIASNHL FSPKQIKRSE--TQRSVIANQIVKCLTKQ--SNTKG----LCFARDLIKASLNNMMSVFGKEYELEK-----
CYP78A8 NRAMGFAPNGTYWRTLRRIGSNHL FNPQKIQSE--DQRRVIATQMVNAFAR---NPKS-----ACAVRDLLKTASLNNMGLVFGREYELES-----
CYP78A7 SRAIGFAPNGTYWRMLRRIASSTHL FAPRRILAHE--AGRQLDCAEMVKAVSVE--QNGAG----SVVLRKHLQLAALNMMGVSFGRRYDPLA-----
CYP77A4 KFTVNAAKYGPVWRSLLRRNMVQNMLSSIRLKEFG--KLRRQSAMDKLIERIKSEARDND-----GLIWLKLNARFAAFACILLEMCFGIEMDEET----
CYP77A6 TFTVNASAYGPVWRSLLRRNMVQNMLSSIRLKEFG--SLRRQSAMDKLIERIKSEARDND-----GLVWVLRNARFAAFACILLEMCFGIEMDEES-----
CYP77A7 EITVHSAMYGPVWRSLLRRNMVQNMLSSNRLKEFG--SVRRQSAMDKLIERIKSEARDND-----GLVWVLRNARFAAFACILLDICFVEMEEES-----
CYP77A9 DITVHSAMYGPVWRSLLRRNMVQNMLCSNRLKEFG--SIRKSAIDKLVKIKSEAKEND-----GLVWVLRNARFAAFACILLDICFVEMEEES-----
CYP77B1 KCAINSAEYGLWRTLRRNFVTELVTAAPRVKQCS--WIRSWAMQNHMKRIKTENVEK-----GFVEVMSQCRLTICSLICLFCGAKISEEK-----
CYP89A4 QHNISSSLYGATWRLRRNL TSEILHPSRVRSYS--HARRWVLEILFDRFGKSRGEE-----PIVVVDHLHYAMFALLVLMCFGDKLDEKQ-----
CYP89A5 QHNISSSLYGATWRLRRNL TSEILHPSRVRSYS--HARRWVLEILFDRFGKSRGEE-----PIVVVDHLHYAMFALLVLMCFGDKLDEKQ-----
CYP89A6 QHNISSSLYGATWRLRRNL TSEILHPSRVRSYS--HARRWVLEILFDRFGKSRGEE-----PIVVVDHLHYAMFALLVLMCFGDKLDEKQ-----
CYP89A7 QHTITSCLYGVTWRLRRNIT-EILHPSRMKSYS--HARRWVLEILFDRFRKSGGEE-----PIVVVDHLHYAMFALLVLMCFGDKLDEKQ-----
CYP89A2 EHNISSSY GATWRLRRNITSEILHPSRVRSYS--HARRWVLEILFERFRNHGGEE-----PIVLIHHLHYAMFALLVLMCFGDKLDEKQ-----
CYP89A3 QHTISSGSYGATWRLRRNL TSEILHPSRVKSYS--NARRSVLENLCSRIRNHGEEAK-----PIVVVDHLRYAMFALLVLMCFGDKLDEEQ-----
CYP89A9 QHDIHSSVYGLWRTLRRNL TSEILQPSRVKAHA--PSRKKWSLEILVDLFETEQRKQ-----HISDALDHLRHAMFYLLALMCFGEKLRKEE-----
CYP704A1 GHGIFAVD-GEKWQQRKLVSEFESTRVLRFNSYSVFRFASAKLVGFIAEFALSG-----KSFDFQDMLMKCTLDSEIFKVGFG--VELGCLDGF---
CYP704A2 GHGIFAVD-GEKWQQRKLVSEFESTRVLRFNSYSVFRFASAKLVGFIAEFALSG-----KAFDAQDLMRCTLDSIFKVGFG--VELKCLDGF---
CYP704B1 GDGIFNSD-GELWRKQRKTASFEFASKNLRDFSTVVFKEYSLKLFITL SQASFKE-----QOQVDMQELLMRMTLDSEICKVGFG--VEIGTLAPE---
CYP86A2 GQGIFNSD-GDTWLFQRKTAALEFTTRTLRQAMGRWVNRGIKLRFPCILETAQNN-----YEPVDLQDLILRLTFDNICGLAFG--KDTRTCAPG---
CYP86A4 GQGIFNSD-GDTWLFQRKTAALEFTTRTLRQAMGRWVNRGIKLRFPCILATAQDN-----AEPVDLQDLILRLTFDNICGLAFG--KDTRTCAPG---
CYP86A8 GQGIFNSD-GDTWLFQRKTAALEFTTRTLRQAMARWVNRGIAKLRFLPILENARLG-----SEPIDLQDILLRLTFDNICGLTFG--KDPRTCAPG---
CYP86A7 GDGIFNSD-GDTWRFQRKTAALEFTTRTLRQAMARWVNRGIAKLRFLPILESARSR-----AEPIDLQDVLLRLTFDNICGLTFG--KDPRTLSPE---
CYP86A1 GQGIFNSD-GDTWLMQRKTAALEFTTRTLRQAMARWVNRGIAKLRFLPILESARSR-----NKPVDLQDLFLRLTFDNICGLTFG--KDPRTLSLD---
CYP86B1 GDGIFNAD-DETWQRQRKTASIEFHSAKFRQLTSQSLHEL VHNRLPVLETSGK-----SSPIDLQDVLLRLTFDNVCMIAFG--VDPGCLGPD---
CYP86B2 GDGIFNTD-DGTWQRQRKAASVEFHSAKFRQLTSQSLHEL VHNRLPVLETSGK-----IDLQDILLRLTFDNVCMIAFG--VDPGCLSPK---
CYP86C3 EDGIFNAD-AESWKEQRRRIIITEMHSTRFVEHSFQTTQDLVRKLLKVMESFARS-----QEAFDLQDVLLRLTFDNICIAAGL--DDPGTLDSD---
CYP86C4 EEGIFNAD-DDSWKEQRRRIIITEMHSTGFVEHSFQTTQHLVRKLLKVMESFAKS-----QEAFDLQDVFLRLTFDIIICLAGL--ADPETLAVD---
CYP86C2 EDGIFNAD-DESWKEQRRRIIITEMHSTRFVDHSFQTTTRDLIERKLLKVMESFASKS-----QEAFDLQEI LLRLTFDNICIAAGL--DDPGTLDDD---
CYP86C1 EDGIFNAD-DELWKEERRVAKTEMHSSRFLEHTFTTMRDLVDQKLVPLMENLSTS-----KRVFDLQDILLRFTFDNICISAFG--VYPGSLETG---
CYP94B1 GGGIFNSD-GELWSSQRKLAASHEFTMRSLREFTFEILREEVQNRLIPVLSAVDC-----GETVDFQEVLRKFAFDVVKVSLG--WDPDCLDLT---
    
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CYP94B3  GGGIFNVD-GHSWSSQRKLASHEFSTRSLRSFAFEVLKDEVENRLVPVLSTAADV-----GTTVDLQDVLKRFADFVVCVSLG-WDPDCLDLT---
CYP94B2  GNGIFNVD-GNLWLKQRRRLATHDFTPKSLREY-VTVLRNEVEKELLAFLNAAAED-----SQPFDLQELLRRFTFNIVCIVFLG-IDRCTLNPS---
CYP94C1  GRGIFNSD-GDTWRFQRKLASLELGSVSVRVFAHEIVKTEIETRLLPILTSFSDNP-----GSVLDLQDVFRRFSFDTISKLSFG-FDPDCLRLP---
CYP94D1  GHGIFNSD-GDMWVKQRKTASYEFSTKSLRDFVMSNVTVEINTRLPVPLVEAATT-----GKLIDLQDILERFAFDNICKLAFN-VDCACLGHG---
CYP94D2  GRGIFNSD-GEMWVKQRKTASYEFSTKSLRDFVMSNVTVEINTRLPVPLAEAATN-----GKLIDLQDILERFAFDNICKLAFN-VDSACLGDG---
CYP96A1  GDGIFNAD-SELWKDLRKSQAQSMTHQDFQRFTLRTIMSKLEKGLVPLLDHYVAEK-----KQVVDLQDVFQRFTFDTSFVLATG-VDPGCLSTE---
CYP96A9  GDGIFNAD-SDLWKDLRKSSQSMNHQDFQRFLSATSLSKLEKGLVPLLDHVAK-----KLVVDLQDVFQRFTFDTTFVLATG-YDPGCLSVE---
CYP96A10 GDGIFNAD-SELWKDLRKSQAQSMMNPEFQKFSLATSLSKLEKGLVPLLDHVAK-----KLVVDLQDMFQRFTFDTTFVLATG-YDPGCLSVE---
CYP96A5  GNGIFTAD-SKLWEDMRKSALVVLSHQGFQSFSLRTITCKIKNGLVPVLDHFVAK-----NTVFDLQDVFQRFAFDVTLTLVTG-CDSSSLSIE---
CYP96A11 GDGIITTD-SELWKNLRKSYQEMLHHQAFQSFSLSTRSKLKDGLVPLLNHFVAK-----GTTVDLQDVLGRFTFDTLILITG-SDPRSLSIE---
CYP96A2  GDSFITTD-SELWKNMRKSYQAMLHSQEFQRFSMSTMTSKLKYGLVPLLNHFVAK-----GTTDLQSVFGRFTFDTIFILVTG-SDPRSLSIE---
CYP96A12 GEMIFSSD-SELWKNQRKAAQFMLNHQGFQKLSLSATRSLKYDGLVPLFNQCCE-----EKVVDLQDVFQRFTFDTTFIVTGT-FDPKLSIE---
CYP96A13 GDGILTDDSELWKNLKKASLVMLNHQGFQSLSMSTT-EVLKDGVLPLFNHFVAK-----GTVVDLQDVFQRFMFDTTLVTVTGSADPRSLSIE---
CYP96A7  GDGIINTD-AELWRDWRNASQLIFNHQRYQNFASSTTKTKVNDGLVPLFNHFVAK-----IVVDLQDVFQRFMFDTTFIFITG-TDPRSLSIE---
CYP96A8  GDGIINTD-AELWRDWRNASQLIFNHQRYQNFASSTTKTKVNDGLVPLFNHFVAK-----EIVVDLEDVFQRFMYDITFFIFITG-TDPRSLSIE---
CYP96A3  GDSIFNVD-SGLWEDMRNSSHAIQNFQDFQMFVSTSVKLRQGLVPILENAADK-----NILVDLQDLQRFQFLFDTSLILMTG-YDPKCLSVE---
CYP96A4  GDGIFNVD-SGLWEDMRNSSHAIQNFQDFQSFVSTSVSKLSQGLVPIILDNAVEK-----HILVDLQDLQRFQFLFDTSSITMAG-YDPKLSVE---
CYP96A15 GEGILTVD-FELWEEMRKSNAHLFHNQDFIELSVSSNKSKLEKGLVPFLDAAQK-----NIIELQDVFQRFMFDTSSITMAG-YDPMSLSIE---
CYP7A3   GKLIPAD-GEIWRRRRAIVPALHQKYVAAMIS-LFGEASDRLCQKLD-----AAALK-GEVEMESLFSRLTLDIIGKAVFN-YDFDSLND---
CYP97C1  GSGFAIAE-GPLWTARRRAVPSLHRRYL SVIVERVFCCKAERLVEKLD-----PYAED-GSAVNMEAKFSQMTLDVIGLSLFN-YNFDSLTTD---
CYP97B3  GKGLIPAD-LDTWKLRRRAITPAFHKLYLEAMVK-VFSDCSKMLKSEKLIREKETSSGED-TIELDLEAEFSSALDIIGLSVFN-YDFGSVTKE---
CYP709B2 G-NGLIFVNGLDWVRHRRILNPAFMSDK--LKLMTQLMVDCTFRMFLEWKKQRNGVE---TE--QFVLISREFKRLTADIIATAAFG-----SSYAE---
CYP709B3 G-KGLSFIQGGDDWIRHRRILNPAFMSDR--LKAMTQPMGDCTLRIFEEWRKQRRNGE---VL--IKIEISKEFHKL TADIIATTAFFG-----SSYAE---
CYP709B1 GSKGLVFIEGADWVRHRRILNPAFSDIR--LKIMYTMVMDCTLKMLEEWKREKSTKEETEHPK--IKKEMNEEFQRLTADIIATSFAFG-----SSYVE---
CYP735A1 IGRGLLMANGDWHHQHRLAQAFTGER--LKYARHMVECTSKLVERLRKEVGEA-----NEVEIGEEMHKL TADIIISRTKFG-----SSFKE---
CYP735A2 IGRGLLMANGEAWHHQHRLAQAFTGER--LKYARHMVECTSKMAERLRKEVGE-----EVEIGEEMRRL TADIIISRTKFG-----SSCDK---
CYP72A11 AT-GVLSYDGDKWAKHRRRIINPAFHLEK--IKNMVPAFHQSCSEIVCKWDKLVSDKES-----CEVDVWPGLVSMTADVISRTAFG-----SSCVE---
CYP72A13 AA-GLVSYDGDKWTKHRRRIINPAFHLEK--IKNMVPAFHQSCSEIVGEWDKLVTDKQSS-----CEVDIWPWLVSMTADVISRTAFG-----SSYKE---
CYP72A15 AK-GLANYDGDKWAKHRRRIINPAFHIEK--IKNMVPAFHQSCREVVGEWDQLVSDKGSS-----CEVDVWPGLVSMTADVISRTAFG-----SSYKE---
CYP72A10 AT-GIINYDGDKWAKHRRRIINPAFHIEK--IKNMVPAFHQSCSDVVGESDKLVSDKGSS-----SCEVDVWPWLVSMTGDVISRTAFG-----SSYKE---
CYP72A14 GT-GLVSYDGDKWAQHRRRIINPAFHLEK--IKNMVVFHESCSDELVGEWDKLVSDKGSS-----CEVDVWPGLTSMADVISRTAFG-----SSYRE---
CYP72A9  TD-GLANADGDKWVKHRRRIINPAFHFEK--IKNMVPTFYKSCIEVMEWEKLVSDKGSS-----CELDVWPWIVNMTGDVISRTAFG-----SSYKE---
CYP72A7  AG-GLASYDGDKWASHRRRIINPAFHLEK--IKNMIPAFYHCCSEVVQWEKLFDTKESP-----LEVVDVWPWLVNMTADVISHTAFG-----SSYKE---
CYP72A8  AT-GVALYEGEKWSKHRRIINPSFHLEK--LKIMIPAFYESCSEMISKWEKLVTEQGSS-----NEIDVWPYLGDLTSDVISRTAFG-----SSYEE---
CYP72C1  LS-GLLNHEGPKWSKHSILNPAFRIDN--LKSILPAFNSSCKEMLEEWERLASAKGTM-----ELDSWTHCHDLTRNMLARASFG-----DSYKD---
CYP734A1 EGDGLLSLKGEKWAHHRKIISPTFHMEN--LKLVPVVLKSVTDMVMDKWSDKLSENVE-----EVDVYEFQILTEDVISRTAFG-----SSYED---
CYP721A1 YAQGLPGLRGDQWAFHRRRIAKAFTMEK--LKRWPQMVSTTMMLEKWKEDMRNGEEI-----ELEVHKEMHNSAEMLSRTAFG-----NSVEE---
CYP715A1 FGTGLVMVEGDDWTRHRRRIITPAFAPLN--LKVMTNMVSVSNMLDRWGIQINSNPE-----FDMESIIGTAGEIIAKTSFG-----VTGEN---
CYP714A1 LGRGVITSNGPHWAHQHRRRIIAPEFFLD--KVKG MVGLVVESAMPMLSKWEEMMKREGEMV---CDIIVDEDLRAASADVISRACFG-----SSFSK---
CYP714A2 LGNGIITSNGPHWAHQHRRRIIAYEFTHDKIKVKGMVGLMVESAMPMLNKWEEMVKRGGEMG---CDIRVDEDLKDVSAADVIKACFG-----SSFSK---
CYP74A   -KDLFTGTYPSTELTGGYRILSYLDPSEPKHEKLNLLFLLKSSRNRIIFPEFQATYSELFDLSLEKEAFPLRESGFRFRQRNRLLFLGSSFL-----
CYP74B2  -RDVLIIGDFRPSLGFYGGVVRGVVLDTTEPKHAQIKGFAMETLKRSSKWWLQELRSNLNIFWGTIESEISKNGAASYIFPLQRCIFSFCLCASLAG-----
CYP73A5  GQDMVFTVYGEHWKRMRRIMTVPFNTKVVQQRN--EGWFEAASVVEDVKKNPDSAT-----KGIVLRKRLQLMMYNNMFRIMFDRRFESEDD-----
CYP722A1 -----ELVGRSLLCAPQHHRKILRSRLINLFS-----KRSTALMVRHFHDLDVVDALGGWEHRGTVLLTDLQLQITFKAMCKMLVLSLEKEEELG-----
CYP701A3 KSMVATSDYDDFHKLVKRCLLNLGLL GANAQKRKR--HYRDA LIENVSSKLHAHARDHP-----QEPVNFRAIFEHELFGVALKQAFGKDVESIYVKELG---
CYP711A1 -----PLHKKGLFFTRDKRWSKMRNTILSLYQPSHLTSLIPTMHSFITSAATHNLDKSP-----RDIVFSNLFLKLTDTIIGQAAFGVDFGLSGKKP---
consensus 201.....210.....220.....230.....240.....250.....260.....270.....280.....290.....
    
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CYP51A1 -----LFD DVAPL FHDLDKGMQPISVIFPKLPIPAHNCRDRARGKIAKIFSNIITATRKRS GDKSEN-----DMLQCFIDS KYKD---
CYP51A2 -----LFDV SAL FHDLDNGMLPISVLFPYLPPIPAHRRDRAREKLSEIFAKIIGSRKRSG-KTEN-----DMLQCFIES KYKD---
CYP710A1 -----AKNRFRTDYNLFNLGSMALPIDLPGFAFGARRAVKRLGETLGCAGKSKARMAAG-EEPA-----CLIDFWMQATVAE---
CYP710A2 -----ARNTFCTDYNLFNLGSMALPINLPGFAFNKARRAVMNL EKTLSVCAGKSKKR MATG-EEPT-----CLIDFWMHAFVTEIES
CYP710A3 -----VKNTIRDDYNVFNPGTMALPIDLPGFTTFGEARRAVSRLVNTMSLCVRKSKEKMAAG-ENPT-----CLVDFWTHSIVAE---
CYP710A4 -----VKKTICDDYSLLTLGTMAIPIDLPGFTFGEARQAVSRLVNTMSVCVKGSKAKMAAG-ENPT-----CLVDFWTHSITIEE---
CYP702A1 -----AAKELALCWRCFSPSGWFRFPLNLPGTGVYKMMK-ARKRMLHLLKETILK KRASGE-----ELGEFFKIIF---EG
CYP702A2 -----AAKELALCWRYFQSGWFRFFLNLPGTGVYKMMK-ARKRMMKLLRKTVLTKRASGE-----ELGEFFNIIFGEMEG
CYP702A8 -----AAKKLALCWRYFPSGWFRLPFNLPGIGVYNNMK-ARKRMKTLLKEEVLK KREAGE-----EFGFESKIIFGEKEG
CYP702A5 -----AAKELTLCWTFPPRDWFRFAWNFPGTGVYRIVK-ARNRMMKVIKETVVKKRASGK-----KLGFEFFETIFGD TES
CYP702A6 -----AAKELTLCWTFPPREWF GFAWNIPGTGVYRMVKVARNRMMKVLKETVLK KRASGE-----ELGDFFKTIFGDTER
CYP702A3 -----AVKELGLCWSA FRTSWFQFSYNI PGTTVYRLVK-ARRKAAKLLKALILK KASKE-----GLGDFLDIIFDEMEK
CYP708A2 -----TQATLVDNIMALGSEWFSPLKLTLLISYKVF IARRYALQVIKDVFTRRKASRE-----MCGDFLDTMVEEGEK
CYP708A3 -----TQSKLIDNLNAFNLDWFKSFLRLSTWKAVTKALKSREEAIQVMKDVLM MRKETRE-----KQEDFLNTLLEELEK
CYP708A4 -----TQAKLMGIFKAFTFDWFRTSYLISAGKGLYNTLWACREGMREIKDIY TMRKTSEE-----KYDDFLNTAIEESEK
CYP708A1 -----TKSKLIESFRDFS FDLVRSPPDFSFWNALYNGLMVRSARSNMV MMLKRMFKERREEATSDD-----SKYDFMETMIYEVEK
CYP87A2 -----SSENLRANFVAFIQGLISFPFDIPGT-AYHKCLQGRAKAMKMLRNMLQ ERRENPRK-----NPSDFFDYVIEEIQK
CYP90A1 -----WSESLRKEYLLVIEGFFSLPLPLFSTTYRKAIQARRKVAEALT VVVMKR---REEEEEGA-----ERKKDMLAALLAADDG
CYP90B1 -----ETEQLKKEYVTFMKGVVSAPLNLPGTAYHKALQSRATILKFIERKMEERKLDI KEEDQEEE-----EVKTEDEAEMS KSDHV
CYP90C1 -----DMNILKLEFEFEFIKGLICIPKIPGRTLYKSLKAKERLIKVMKVV EERQVAMTTTSP-----ANDVVDVLLRDGGDS
CYP90D1 -----DLEELKREFENFISGLMSLPINFPGTQLHRS LQAKKNMVQVERIIEGKIRKTKNKEEDDV-----IAKDVVDVLLKDSSEH
CYP724A1 -----ARLYVLQDFLSYMKGFISLPIPLPGTYTNAIKARKRLSARVMGMIKER EREEEEDMNNAIR-----EEDFLDSIISNEDLN-
CYP720A1 -----EVDMSQLFSDFDV DGLSVPIDLPGFTYNKAMKARKEIRKINKTIEKRLQNK AASDTAGN-----GVLGRLLFEESLPNES
CYP85A1 -----FVEEFKTAFFKLVVGTLSVPIDLPGTNYRCGIQARNNIDRLREL MQERRDSGETFTDMLG-----YLMKKEGNRYPLTDEE
CYP85A2 -----EVEEYRTEFFKLVVGTLSVPIDLPGTNYRSGVQARNNIDRLL TELMQERKESGETFTDMLG-----YLMKKEGNRYLLTDKE
CYP707A1 -----YREDLKRCYYILEKGYNSMPVNLPGTLFHKSMKARKELSQLARILS ERRONQ-----SSHNDLIGSFMGDKE-
CYP707A3 -----YREDLKRCYYILEKGYNSMPINLP GTLFHKAMKARKELAQILANILSKRRQNP-----SSHTDLLGSFMEDKA-
CYP707A2 -----TIDVIKLLYQRLERGYNSMPLDLP GTLFHKSMKARIELSEELRKVIEKRRENG-----REEGLLGVLLGAKDQ
CYP707A4 -----YKEILKHNYNIVDKGYNSFPMSLP GTSYHKALMARKQLKTIVSEIICERREKR-----ALQTDFLGHLLNFKNE
CYP88A3 -----VMDALEREY TALNYGVRAMAVNIPGFAYHRALKARKTLVA AFQSIVTERRNQRKQNIL-----SNKMDLNDLLNVKDE
CYP88A4 -----VMSLEREYTNLYGVRAMGINLP GFAYHRALKARKLLVA AFQSIVTNRNQRKQNIS-----SNRMDLNDLIDVKDE
CYP716A1 -----RVRQLEE QFNVAVGIFSIPI DLPGTRFNRAIKASRLLSKEVSAI VRQRKEELKAGKA-----LEEHDILSHMLMN---
CYP716A2 -----RVRKLEEPFTTVM TGVSIPIDLPGTRFNRAIKASRLLSKEVSTIIRQRKEELKAGKV-----SVEQDILSHMLMN---
CYP718 -----G---MLEVFERVLEGVFALPVEFPCSKFARA K KARLEIETFLVGK VREKRREMEKEGA-----EKPNTTIFSR LVEELI
CYP71A12 -ETARDLKKRVRQIMELLGEFP IGDYVP---ALAWIDRINGFNARIKEVSQGFSD LMDKV VQEHLE-----AGNH--KEDFVDILLSIESEKSI
CYP71A13 -ETARDLKKRVRQIMELLGEFP IGEYVP---ILAWIDRINGFNANKI KEVSRGFSDLMDKV VQEHLE-----ASND--KADFVDILLSIEKD KNS
CYP71A18 -ETAGLKKRVRQIMELLREFPIGDYVP---ALAWIDRINGFNSKIVE SRAVSDLMKV VQEHLE-----AGEH--KADFVNILLSIEKEKN
CYP71A14 -ESMSDFKIQRKITELVGGFPVGEYIP---CLAWIDKLRGVDEKAEVSKAFGDLMEKVLQEHLD-----ATDKP-TLDFVDVLLSLERHERN
CYP71A15 -ASMSDFKNQVRKITELVGGFPVSEYIP---CLAWIDQIRGLYNRAEEVSKIFGDLMDKV VQEHLD-----ATNKP-TKDFVDILLSFERQSKD
CYP71A28 -ENTSDFENQLRKVMELLGAFPVGDYIP---GLAWIDKVRGLDRKMEEVSKTFVEFLERVVQEHVD-----EGENKETFD FVDILL-IQLEKTN
CYP71A19 -EDGIDVENIVRAFSALVGEFP IGEYIP---SLSWIDKIRGQDHKMEEVDKRFDEFLERVVKEHED-----ANKDTRS-DLVDTLTITQSD---
CYP71A20 -KDGIDVENIVRTFAALLGEFPVGEYIP---SLSWIDIRIGLDHKMEVVDKRFDEFLERVVKEHEE-----ADKETRS-DLVDKLTITQSDKTG
CYP71A16 -EGTIDVKTITKSF LDVAVGLSPVGEYIP---SLAWIGKITGSDGKLEKITKQFGDFIEKVLQEHED-----TTADKETPDFVMDLTIQRDETA
CYP71A27 -EGGIDIKNLVMTSSEFFGKFFGDFIP---SLAWIDWISGIDDKMKDINNKLDCFLDSMVQEHVD-----ADHKEPS-DFIDMLLLIQKD KTK
CYP71A21 --GETDSKELMKRLMMLMG FSVGYTP---WLGWIDWISGLDGQLNKTGN DLDEFLEKVVQDHVD-----GDG--QRTDFVDVLLRIQREKSI
CYP71A22 --DETDFKELMKRLTKLLGEFCVGYTP---WLA WIDWISGLDGQLKKTGN DLDEFLEKVVQDHED-----GDA--QRTDFVDVLLRIQREKSV
CYP71A24 --GKTDFKDLMKRLTRLLGEFSVGSYVS---WLA WIDWIRGLDGQLIKISNDLDEFLERVVQDHVD-----GDG--HKND FVDVLLTIERE KSV
CYP71A26 --GETDFKELMERLNKLLGTF SVGSYVP---WLA WIDWIRGLDCQLEKTANDVDKFFERVVQDHVD-----GNR--DMTDFVDVLLAIQRDKTV
CYP71A25 --GETDFKLLTDRLSELLGTF SIGSFVP---WLA WVDWIRGWDAQLDKMGKLDLDFFEKVVQDHED-----GDRR-DGTDLIDALLRVKREKSP
CYP71A23 --VGTDFKELIDRLMRQLGTF TIGSYVP---WLA WTDWVSGLEARLEK TANDFDKLLERIVQDHED-----GDG--DKTDFVDVLLAAQRDKSF
    
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CYP71B26 VLNSDRFNKLVDRDTFEMLGFSFSASDFIP--YVGWIIDKFNGLQGRKKSFRLDAFYEQIFDLHKE-----EKEVGSED-LVDVLRLEKEEIV
CYP71B33 VLSNDSFNKLIREFEMLGFSFSASDFIP--YIGWIIDRFTGLQGRREKSVXDLDAFYEQIIDLHKE-----EKEVGSED-FVDLRLKLEKEETV
CYP71B34 VLNSERFNNIVREAL EMLGFSFSASDFIP--YVGRIIDLLTGLQGRRERSMRDLDAFYEQMFDLHKQ-----KKEEGSED-FVDLRLLEKEEAV
CYP71B35 VLNSDRFNKIVREAL EMLGFSFAADFIP--YVGWIIDVLTGLQGRRERSKRDLNAFFEQMFIDLHKE-----GKKEGNED-FVDLRLLEKEEAV
CYP71B36 VLNSDRFEKLIHDTYFLGFSFSASDYFP--NGGWIIDWLTGLHGQRERSVRALDAFYEQMFDLHKQ-----GNKEGVED-FVDLRLLEKEEETV
CYP71B37 VLNSDNFDKLIHDAFLFLGFSFSASDYFP--NVGWIIDWLTGLQGRRERSVRLDAFYEQMFDLHKQ-----GNKEGVED-FVDLRLKLEKEETV
CYP71B9 VLNNDGFDKLIHDAFLFLGFSFSANFFP--NGGWIIDWLTGLQRRREKSVKDLVDFYQMFIDLHKQ-----ENKQGVED-FVDLRLKLEKEETV
CYP71B10 VLNNDKFDQLVHEALEMLGFSFSASDFP--YVGWIVDWFTGLHARRERSVRDLDAFYEQMIDLHLQ-----KNRESEDDFVDLRLLEKEEAV
CYP71B11 KLEN-LYEEVIQGTMEVVGSAADYFP--IIGRIIDRITGLHSHKCEKIFKAMDAFFDQSIKHHLE-----D--ESIKDDIIDLRLKMERGEIE
CYP71B12 KLEN-TYEEVIQGTVELVGSFAADYFP--VVGRIIDRITGLHSHKCEKLFKAMDAFFDQSIKHHLE-----D--EIKDDIIDLRLKMERGETT
CYP71B14 KLAN-TYEEVIQGTMEVVGSAADYFP--IIGRIIDRITGLHSHKCEKVFKEMSFFDQSIKHHLE-----D--TNIKDDIIGLRLKMEKGETG
CYP71B13 KLEN-TYEEVIHGTMEVLGSAADYFP--VIGGIIDRITGLHSHKCEKVFQGTDSFFDHCIIKHHLE-----D--GGSKDDIVDLRLKVERGEIG
CYP71B6 GMDNETFLELFTANRVIGKFAADYFP--GFGWILDRISGLDSSRRKSFQDLTFYQKAIVDHRE-----KKTEDREDLIDVRLKLSQSETK
CYP71B28 FVDEDSIDDLVHKSEDVIRNSIFSDFP--GLMGRILIEWIFSERKRLNRLYSEVDTFYQNILDDHLK-----PGR---ESSDIIDVMIDMMKKQEK
CYP71B29 FIDENSISDLVDKSEILEMTSMFSDFP--GGIGRFIDWISGQNKRFDNVFSDLDTFFQNILDYHLK-----PGRKVADSSDIIDVVMINMIKKQEK
CYP71B15 FFEADRVDLVLKAEAVIRETVFSDFP--GRIGRFIDCISGQNRRLKNNFSVVDTFYQNVLNEHLK-----PGR---ESSTIVDLMIDMCKKQEN
CYP71B23 FIDEDSMEDLASRSEKIQAFAFNFPP--G--GWILDKITGQSKSLNEIFADLDGFFNQVLDLHKL-----PGRKVLETPDVVDVMIDMMNKQSQ
CYP71B7 FVDEDNVADLVNKFEMLVAGVAFDTFFP--GV--GWLVDRIISGQNKTLNNVFFELDTFFQNVLDLHKL-----PGRQVSNPDVVDVMDLMMKKQEK
CYP71B16 FIDEDKIDELIFETETAQASFTCSDFPPIAGLGLWADWISGKRWLNNVFFKLDALFQRVIDDHSD-----PGRW--KDHKDIVDVMIDVMHKQGK
CYP71B17 FTDTDKIDELVFETETAQASFTCSDFPPIAGLGLWVWISGQKRLNDVFLKLDALFQHVIDDHNS-----PGRS--KDHKDIVDVMIDVMHKQGK
CYP71B18 FIDKDKVDELVFEAETAQASFTCSDFPPIAGLGLWVDCISGQKRLKDVFFKLDALFQXXXXXXXXX-----XXXX-XXXXXXXXXMDVMQKQRK
CYP71B19 FIDKEKIEELVFEAETALASFTCSDFP VAGLGLWVWISGQKRLNDVFKLDALFQHVIDDHLN-----PGRS--KEHEDIIDSMIDVTHKQGE
CYP71B20 FIDKEKIEELVFEAETALASFTCSDFP VAGLGLWVWISGQKRLNDVFKLDALFQHVIDDHLN-----PGRS--KEHEDIIDSMIDAIHKQEK
CYP71B2 VIDQDRIEELVTEAEALGFTTFSDFFP--GGLGRFVDLFRHKKINKVFKELDAFYQHVIDDHLK-----PEGR--KNQ--DIVTLIDMIDKQED
CYP71B27 IIDQEGIEELVTAATTAIGSFTSDFP--SGLGRFLDCLFRTQTNINKVSEKLDALFYQHVIDDHLK-----PSTL--DSSGDIVALMDMIKKKGH
CYP71B21 FVDMDKVEELVLESETNLGSAFIDFFPAG--LGWAIDRISGQHSRLHKAFAFLSNFFQHVIDDHLK-----PWQS--EDHSDIVGVMIDMINKESK
CYP71B22 FVDMDKVEDLVLESETNLGSAFTDFFPAG--LGWVIDRISGQHSRLHKAFAFLSNFFQHVIDDHLK-----PGQS--QDHSDIIGVMIDMINKESK
CYP71B38 FVDMKVEELVLESEANLGTFAFADFFP--G--GWLIDRISGQHSRVNKAFAFLSNFFQHVIDDHLK-----TGQP--QDHSDIVSVMIDMINKPTK
CYP71B5 FVDMETVEELVLESETNLGSLAFADFLPA--G--GWIIDRISGQHSVMKAFSKLTNFFELVIDDHLK-----SGKI--EDHSDIISVMIDMINKPTE
CYP71B31 YINMDKLEELVQETETNVCSLAFTDFFP--G--GWLVDRIISGQHSRMNIAFSKLTFFFDVIDELLK-----TKQL--DDHSDLVTAMIDVINRPRK
CYP71B8 FIDMDRLEELVQESETNVFSFAFTDFFPTG--LGWLVDRIISGQHSRIEKAFAFLSNFFQHVIDEELK-----IGQS--QDHSNLVSSMIDMINRSTE
CYP71B32 FMDMDRLEELVLEAETNGCILALTDLPTG--LGWLVDRIISGRHSRMNKAFAFLSNFFQHVIDEQLK-----IGQL--QDHSNLVSAMIDMIIRPSK
CYP71B24 HVNAEKIEDLMFEVQ--KLGALSNSDLFP--GGLGWVDFVSGHNKLLHKVFVEVDLTLNHIIDDHLKN-----SIEEITHDRPDIIDSLIDMIRKQEQ
CYP71B3 HVNKEKIEELMFEVQ--KVGSLSSSDIFP--AGVGWFMDFVSGRHKTLHKVFVEVDLTLNHIIDGHLKN-----PEDKTNQDRPDIIDSLIETIYKQEQ
CYP71B25 HFSEEKIEELVFEAQ--KSLTFKFSDFLPPIPLGWFIFVSGQHKGLHKVFIEDNFLNHMIDDHOK-----QNQPQDRSDIVGSLIDMIHNQEQ
CYP71B4 HVDQESIKELMFESL--SNMTRFSDFFPTAGLWGFIFVSGQHKRLYNVFNQVDTFNHIVDDHHS-----KKATQDRPDMVDATIDMIDNEQQ
CYP83A1 GEEMKRFIKILYGTQSVLKGIFSDFFP--Y--YCGFLDDL SGLTAYMKECFERQDTYIQEVNETLD-----PKRVKPETESMIDLMGIYKQPF
CYP83B1 GTEMKRFIDILYETQALLGTLFFSDLFP--Y--YFGFLDNL TGLSARLKAFAKELDTYLQELLDETLD-----PNRPKQETESFIDLMQIYKQDPF
CYP84A1 ----DEFIRILQEFKSLFGAFNVADFP--Y--YFGWIDPQ--GINKRLVKARNLDGFIIDIDEHMKKKEN---QNAVDDGDVVDTDMVDLDAFYSEEAK
CYP84A4 -SRLDEFLEIIQEFKSLFGAFNVADYVPS--W--WLSWIDPQ--GINGRVEKARKSLDGFIESVIDDHLHKKKR---E---HDNVDEETDMVDLDAFYEEVVK
CYP705A1 -----EVERIMELTADLGALSQKFFVSKMFRKLLKLGISL FKTEIMVVSRRFSELVERILIEYE-----EKMDGHQ--GTQFMDALAAAYRDENT
CYP705A24 -----DGTKVSEYSIKLADLSQMFCVAQIFHKPLEKLGISL LKKQIMDVSHKFELELLENIVVKEYE-----EKMDNHQ--STEFMDALAAAYQDENA
CYP705A15 -----EAERVALATQLDGLTKKILLANMLRAGFKKLVSL FRKEMMDVSSRFDELLERILVEHE-----DKLDMHH--QRTDLVALLAACRDKNA
CYP705A4 -----RFRALATLDVLTCKLFFANMLRAWFKKLVSL FKKETTIVSYRFDELLERILVEHE-----KKLDVHH--QRTDLVALLAAYRDENA
CYP705A16 -----EAKIVRGLIAESFTLSKFFLAATLRLLEKLGISL FQKEIMGVSRRGFDELLERILREHE-----EKPD--EH--HDTDMMDALAAAYNDEKA
CYP705A19 -----EAERVRLIIESFYLTKKFFLAFTLRGLLEKLGISL FKKEIMGVSRRFDDLLERYLREHE-----EKPDNEH--QDTDMIDALAAAYRDEKA
CYP705A20 -----EAERVRLVTELDGLTKKVLVFNILRWPLEKLRISL FKKEIMVVSNSFDELLERILVERE-----KKPN--EH--QGTYLMDVLEAYEDEKA
CYP705A21 -----EAERVRLVTELDGLTKKVLVFNILRWPLEKLRISL FKKEIMVVSNSFDELLERILVEHE-----QKLD--DH--QDRDMMVLEAYGDENA
CYP705A23 -----EAERVRLVTESTALTKKIFMANVLHKPLKLGISL FKKEIMVVSNSFDELLERFLVEHE-----EKLN--ED--QDMMDMVLAAACRDKNA
CYP705A28 -----EAERVRLVIESLALSPKIFLGMIFHKPLKLGISL FQKDIKSVSPKFDELLERFLVEHE-----EKMEEDHYKANDMMDLLEAYGDENA
    
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CYP705A30 -----EAEKFRHLVIESMALTQIFFGMIFHKPLKKGISLFQKDILSLSRKFDELLEKILFEHE-----EKKA EHN-QANDMDFLEAYGDENA
CYP705A32 -----EAERVRGLVIESTALTKQIFLGMIFDKPLKKGISLFQKDIKSVS-RFDELLEKILVEHE-----ERMGKHY-KANDMDFLEAYGDENA
CYP705A2  -----EAERIRGLVTESMALTKKIFLATIFHKPLKKGISLFKKEIMSVSRKFDELLEKILVEHE-----EKME EHH-QGTDMMDFLEAYRDENA
CYP705A5  -----EAETVRGLVTESIFLTKKHFLGAMFHKPLKKGISLFAKELMNVSNRFDELLEKILVEHE-----EKLQ EHH-QTSDMLDFLEAYGDENA
CYP705A8  -----EAERIRGLVTKSDALLKKFLLAAILRKPLKKGITL FKKVFMDISLKFDEVLEKILVENE-----ERLE ENQ-QGTDIMDFLEVYGDKTS
CYP705A9  -----EAERVRGLVTKTDALTKKIFLAGILRKPLQKIGISLFKKEIMDASCRFNEVLEKILVEYK-----EKV EEEH-QGTDMMDFLEVYGDEKA
CYP705A18 -----EAERVRGLVGESYALVKKIFFAATLRRLLLEKLRIP LFRKEIMGVSDFDELLEKILVEHE-----DKLEK EEH-QVMDMDFLEAAYRDKNA
CYP705A6  -----EAEKIRGLVGESYALTKKMFLLASLLRKPLKLRISL FEKEIMGVSDFDELLEKILVEHE-----EKLHE EEH-QGTDMMDFLEAASGDENA
CYP705A33 -----EAERVRGLVAESYALAKKIFFAVLRLLKLRIP LFKKDIMDVSNRFNELLEKILVEHN-----EKLDE EH-KDMDMDFLEAAYADENA
CYP705A3  -----ESNRVRGLVDETYALSEKIFLAAILRRPLAKLRISL FKKEIMGVSDFDELLEKILQERK-----ENLEE KNNEGMDMDFLEAYGDENA
CYP705A22 -----ETEKLRLGLVTESIGLMKKMFLAVLLRRQLQKLGISL FKKDIMGVSDFVLEKILVEHR-----EKPEK DQ--GTVMLDFLEAAYGDENA
CYP705A12 -----VAERARELVNKSFAFSVKLFFS-----NMFRK DIMGVSDFEFLERILVEHE-----ENLEGDQ --DRDMIDHLEAYRNEEA
CYP705A13 -----EAERVRGLVTETFLFKKFLTQVLRRLFEILRISP FKETLDVSRKFDELLEKILVEHE-----EKTDY D--GMDLMDHLEAVYRDGKA
CYP705A25 -----EAEQVRGLVTKSLSLTKKFLIASIVGQFSKLVGISL FGKEIMEVSQRYDELLEKILKEHE-----ENPN NGE--DRDMDFLEVCADDNA
CYP705A27 -----EAEKVEDLVIKSFSVLVKKVLIANTVGRLLK KFGISLFEKEIMEVSQRYDELLEKILKEHE-----EDP NKKE--DRDMDFLEVCADDKA
CYP712A1  -----EAEI ERELVKKSL ELAGKISVGDVLG-PLKVMDFSGNGKLVAVMEKYDLLVERIMKERE-----AKAK KKDGRKDIIDILLETYRDPTA
CYP712A2  -----IPKEIRKIVSDIMACATRFGMELFG-PLRDLDFG NGKLRSSIWRYDELVEKILKEYEN-----DKSNE EEEKDKDIVDILDTYNDPKA
CYP93D1   ----EKSEEVIKMMVELNELAG-FFNVSETFWLKRDLQ LKRLKRNARDKYDVIIRIMEEHES-----SKKNAT G--ERNMLDILDIYEDKNA
CYP81D6   TEQDE-VAQVRHLMDEIVTSAGAGNAADYLPIMRWFTN-- FEKRVKNLAIRIDKFLQSLVDEKR-----ADKEK --GTTMIDHLLSLQES
CYP81D7   TEQDE-VARRVTQLIDEIVYRAGVGNAAADYIPILRWITD --FEKGVKELASRVDFLQSLVDERR-----VHKQK ---GNTMMDHLLSLQET
CYP81D11  TENDN-EAKHVRQLIAEVVSSGGAGNAADYFPILRYVTN --YEKHVKKLAGRVDFLQSLVNEKR-----VEKVK ---GNTMIDHLLSLQET
CYP81D2   KEDDP-EAKRVRTLIAEAMSSSGPNAADYIPILTWITY-- SETRIKLAGRLDFLQGLVDEKR-----EGKEK K--ENTMVDHLLCLQET
CYP81D3   AEDDP-EAKRVRELIAEGMG-CGAGNTADYLPILTWITG-- SEKRIKIASRLDFLQGLVDERR-----EGKEK R--QNTMVDHLLC-QET
CYP81D8   VEDDP-EAKRVRLIADVACAGNAVLYLPVLRVSD--YET RVKLAGRLDFLQGLVDEKR-----EAEK E--GNTMIDHLLTLQES
CYP81D4   -EDND-DAKLVKNLVSEAVTSAGAGNPIDYLSILRWVSS-- YEKRIKNLGNRFDTFLQGLVDEKR-----AEK E--GETMIDHLLALQDI
CYP81D5   TEDND-EAKLVRELIAEIMA-AGSGNLADYLP SINWVTN--FENQTKILGNRLDRVLRQGLVDEKR-----AEK E--GQTLIDHLLSFQET
CYP81D1   TTDEE-EAKRVRLVADVGANTSSGNAVYVPIRLRFSS-- YENRVKKG EETDKFLQGLIDDKR-----GQQ E--GTTMIDHLLVLQKS
CYP81F3   VHNEE-EANVFKKLVADINDCSGARHPGDYLPFMKMF GGS-FEKKVKALAEAMDEILQRLLEECK-----RDK D--NTMVNHLLSLQQN
CYP81F4   VSDKE-EAELFKKLFITTFITNSGARHPGEYLPFMKIF GGS-FEKEVKA AAKVIDEMLQRLLECK-----SDK D--NTMVNHLLSLQQD
CYP81F2   VHNKE-EANLFKKLVTDINDNSGASHPGDYLPILKVF GHG-YEKKVKALGEAMDAFLQRLLECR-----INGE S--NTMVSHLLSLQLD
CYP81F1   VNNKE-EAELFKKLVYDIAMYSGANHSADYLPILKFG NK-FEKEVKAIGKSMDDILQRLLECR-----RDKE G--NTMVNHLLSLQQQ
CYP81H1   DGGKAGISLEFRELVAEILEL SAADNPADFLPALRWF DYKGLVKRAKIRGERMDSLQGLFDEHR-----ANK DRLEFKNTMIAHLLDSQEK
CYP81G1   REEDE-ETKEVRKLIREVDFDFAGVNYVGDFLPTLKL FDLGGRKRAKKLASKLDFMQLVDEHR-----KNR GKAELEKTMITRLLSLQES
CYP81K1   DPES E--KRFLDDFKLRFSSMS-MNVCDYFPVLRWIGY KGLEKRVIDMQMRDEYLQRLIDDIR-----MKN ID--SGSVVEKFLKLQES
CYP81K2   DSESE--TKFLDEFKSRFFSSLSSMNVCDYFPVLRWIGY KGLENRVIEIQMRDEYLQRLIDDIR-----MK KFD--TGSVVEKFLKLQES
CYP82C3   SSEHTEARQWRKGIAKFFHLVGI FTVSDAFPLGLWLD QGHEKEMKQTRRELDVILERWIENHRQQ-----RK VSGTKHNDSDFVDM SLAEQKLS
CYP82C2   SPEDAEARQCRKGVANFFHLVGI FTVSDAFPLGLWFD FQGHEKEMKQTRRELDVILERWIENHRQQ-----RK VSGTKHNDSDFVDM SLAEQKFS
CYP82C4   SSEDTEAMQCKKAIKFFHLVGI FTVSDAFPTLSFFDL QGHEKEMKQTRRELDVILERWIENHRQQ-----RKF SGTKENDSDFIDVMM SLAEQKLS
CYP82F1   PNCEVKEARRCGKLIREFLDYFALFLLSDVAPV LGFLDWK-TKRGMKRTAKGLDKVAEGWIEEHKNK-----RSD HGRSEND--YLDILIKILGQDKIP
CYP82G1   --EVNSDEWRYKEALKHCEYLAVIPMIGDVIPWLGWLD FA-KNSQMKRLFELDSVNTKWLHEHLK-----RS -RNEKDQERTIMDLLDILPED---
CYP76C2   NKSGV-FQDTVIGVMEAVGNPDAANFFPFLGFLDLQGN RKTLLKACSERLKVFRGFIDAKLAEKSLRDT-----NSK DVREDFVDMIDLTEGDEA
CYP76C4   KKSNE-FQDTVIGAMEAAGKPDAAANYFPMGFLDLQGN RKAMRGLTERLFRVFRGFMDAKIAEKSLGN-----Y SKDVSNRDFLDSLILNEGDEA
CYP76C1   KASINGVQDTVISVMDAAGTDAANYFPLRFLDLQGNV KTFKVCTERLVRVFRGFIDAKIAEKSSQN-----NPK DVSKNDFVDMLDYK-GDES
CYP76C5   KNSSA-FQEMVIGYMESIGNPDVSNFFPFMRLLDLQGN SKKMKKEYSGKLLQVREFYDARILENSSRI-----DEK DVSKDFLDAIDLQGGDES
CYP76C6   KNSSA-FQEMVIGYQESIGNPDANFFPFMRFLDLQGN SKKMKRESSGRLQVREFYDARIVEKSSRS-----VEK DVSSKDFLDAIDLQGGDET
CYP76C3   NSSSYEFHNTVVHLTDIAGIPNVGDYFQYMRFLDLQ GTRKKA VLCIEKLFRVQEFIDARLAKRFSRTEK-----EPKE ASSIDMLDSLIDL TQQNEA
CYP76C7   SKTFHDFQNVVIRMM EISGKPNLADFFPFLGFLDLQ GARKEARLLMHKLFRVQGFIDTKRSS-----TSR NNDMLDSLIDLIAHKKES
CYP76G1   KRGSE-FFYHTGKVM EFAGKPNVADFFPLRFLDPQ GIRRKTQFHVEKAFEIAGEFIRERTEVREREK-----SDEK TKDYLDVLEFRGGDGV
CYP75B1   DHKADEF RSMVTEMMALAGVFNIGDFVPSLDWLDLQGVAG KMK----RLHKRFDAFLSSILKEHEMNG-----QD QKHTDMLSTLISLKGTDLD
CYP706A1  -DERTSLGNELKTLISDISDIEGIQNYSDFFPLSRFDF QGLVKQMKGHVKKLDLLFDRVMESHVKM-----V GKKSE--EEDFLQYLLRVKDD
    
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CYP706A2 -DERTSLGNELKTLISDISDIEGIQNYSDFFPLFSRFDLQGLVQKMGHVKKLDLLFDRVMESHVKM-----VGKKSE--EEDFLQYLLRVKDD
CYP706A3 -EEREVVGAEFLEVIEMNDLLLVPNISDFFPVLSRFDLQGLAKRMRRPAQRMDQMFDRIINQRLG-----MDRDSDDGRAVDLFDVLLKVKDE
CYP706A7 -EEREKVGAEFLELITEIIDVVGKPNVSDFFPVLSRFDLQGLAKRVRRAQRMDRMFDRIISQRMG-----MDK-GSKGNGGDFLMVLLNAKDE
CYP706A5 -EDMESVGTTEFKGVISEITRLLGVPNVSDFFPMLARFDLQGLVKKMHLIYARDLDAILDRAIEQMQRLL-----RSRDGDDGECKDFLOHLMKLRDQ
CYP706A6 -EEMESVGTTEFKGVISEITRLLGEPNVSDFFPRLARFDLQGLVKKMHLVHCARELDAILDRAIEQMQLL-----RTRDGDGGECKDFLOHLMKLRDQ
CYP706A4 -EEMESVGTTEFKGVISEITRLLSEPNVSDFFPWLARFDLQGLVKKMGVHCARELDAILDRAIEQMQLL-----RGRDDD--EVKDFLQYLLMKLRDQ
CYP79B2 GGPTEVDVEHMEAMFEALGFTFAFCISDYLP-MLTGLDLNGHEKIMRESSAIMDKYHDPIDIDERIKMWR-----EGKRTQIEDFDIFISIKDE
CYP79B3 GGPTLEDIEHMDAMFEGLGFTFAFCISDYLP-MLTGLDLNGHEKIMRESSAIMDKYHDPIDIDERIKMWR-----EGKRTQIEDFDIFISIKDE
CYP79A2 SGPGLLEEIEHVESLFTVLTHLYAFALSDYVP-WLRFLDLEGHEKVVSNAMRNVSKYNDPFVDERLMQWR-----NGMKMEPODFLDMFIIAKDT
CYP79C1 GSLGLMEKEHFDAIFAALDCFFSFYVADYYP-FLRGWNLQGEAEELREAVDVIARYNKMIIDEKIELWRGQNKDYNRAETKNDVPMIKDWLDLFTLKDE
CYP79C2 GGLGPKKEHEMDAIYLALDCFFSFNLTNYIP-FLRGWNVDKAETEVEAVHIINICNDPIIQERIHLLWR-----KGGKQMEEDWLDLITLKDD
CYP79F1 GRLGNAEKHHLVIFNTLNCLPFSFADYVVERWLRGWNVDDGQEKRVTENCNIVRSYNNPIIDERVQLWR-----EEGKAAVEDWLDTFITLKDD
CYP79F2 GRLGNAEKHHLVIFNTLNCLPGFSPVDYVDRWLGGWNIDGEEERAKTVNVLVRSYNNPIIDERVEIWR-----EKGKAAVEDWLDTFITLKDD
CYP703A2 LVSPKEAQEFLHITHKLFWLLGVIYLDGYLP-FWRWVDPGSGCEKEMRDVEKRVDEFHTKIIDEHRRAKLE-----DEDKNGMDVFDVLLSLPGE
CYP98A8 ---SEEGKEFKAIVEKEHLLSGSGTILDHVWVWKWVSSWFFSDKEFLAHKDRRTKWFRGAIMVEEDIEI-----EDHRGFVRKLLVLEKQKE-
CYP98A9 ---PKDGREFRSIVERETRLPGATKMLDYTVWLKRLSSWFTSDKAFMKHMARKRNWFKRAVMDEVYGG-----RDQKCFVQSLLELKEKDE-
CYP98A3 -VVDEQGLEFKAIVSNGLKLGASLSIAEHIPWLRWM---FPADEKAFAEHGARRDRLTRAIMEEHTLARQ-----KSSGAKQHFDALITLKDDQYD-
CYP78A5 -VYSKESNELVSEGYELLGIFNWSDFHPGMR-WLDFLQGVRRRCRSLVGRVNVFVGGIINDHKSKRSLRDN---PEESTYDDDFVDVLLGMHGNSKL
CYP78A5 --VNGKGCFLERLVSEGYELLGIFNWSDFHFWR-FLDFQGVRRRCRSLVSEVNTFVGGIIEKHMKKGNLNLN---GEE-----NDFVDVLLGLQKDEKL
CYP78A6 -NH----VELREMVVEEGYDLLGTLNWDHLPWLS-EFDPQRLRSRCSNLVPKVNRVFSRIISEHRNQTGDLP-----RDFVDVLLSLHGSDDL
CYP78A9 -EHEEV-SELRELVEEGYDLLGTLNWDHLPWLS-EFDPQRLRSRCSNLVPKVNRVFNRIISDHREQTRDSP-----SDFVDVLLSLDGPDKL
CYP78A8 -NNNLESECLKGLVEEGYDLLGTLNWDHLPWLA-GLDFQQIRFRCSQLVPKVNLNLSRIIHEQRAATG-----NFLDMLSLQSGEKL
CYP78A7 --QKEDLDELTSMVREGFELLGAFNWSDYLPWLGYFYDSIRLNQRCSDLVPRIRTLVKKIIDEHRVSNSEKRR----DIG-----DFVDVLLSLDGDDEKL
CYP77A4 IEKMDIEILKTVLMTVDPR--IDDYLPILAPFFSKERKRALVRRREQVDYVGVIERRRAIQNPQS-----DKTASS----FSYLDLFDLTKIE-GR
CYP77A6 ILNMDQVMKVLITLNP--LDDYLPILAPFFSKERARALEVRREQVDYVGVIERRRAIQKPGT-----DKTASS----FSYLDLFDLTKIE-GR
CYP77A7 IEKMDQMLTAILNAVDPK--LHDYLPILTPFNYNERNRALKLRRELVDVFGVIEKRRKAIR-----TATVSS----FSYLDLFDLRLIEGS
CYP77A9 IEKMDQMMTEILTAVDPR--IHDYLPILTPFYFKERKNSLELRRKLVQFVGVIEKRRLAIRNLGS-----DKTASS----FAYLDLFDLRLVD-GR
CYP77B1 IKNIENVLKDVMLITSPT--LPDFLPVFTPLFRRQVREARELRKTQLECLVPLIRNRRKFVDAKEN-----PNEEMVSPIGAAYVDSLFRNLNI-ER
CYP89A4 IKQVEYVQRRQLLGFSRFNILNLWPKFTKLILRKRWEFFQMRREQHDVLLPLIRARRKIVEERKNRSS-----EEEEENKVVQSYVDLLELELPDE-
CYP89A5 IKQVEYVQRRQLLGFSRFNILNLWPKFTKLILRKRWEFFQMRREQHDVLLPLIRARRKIVEERKNRSS-----EEEEENKVVQSYVDLLELELPDE-
CYP89A6 IKQVEYVQRRQLLGFSRFNILNLWPKFTKLILYRKRWEFFQMRREQDVLPLIRARRKIVDERKKRSS-----EEEEENKVVQSYVDLLELELPDE-
CYP89A7 IKQVEYVQRRQLLGFARSILNLCPKFTKLILRKRWEFFQMRREQDVLPLIRARRKIVDERKKRSS-----EEEEENKVVQSYVDLLELELPDE-
CYP89A2 IKEVEFIQRLQLLSLTKFNIFNIWPKFTKLILRKRWEFFLQIRRQRDVLPLIRARRKIVEERKR-----SEQEDKKDYVQSYVDLLELELPDE-
CYP89A3 IKQVEFVQRRELITLPRFNILNVFSPFTKLFLRKRWEFFLFRREHKNVLLPLIRARRKIMIESKD-----SGKEYIQSYVDLLELELPDE-
CYP89A9 IREIEEAQYQMLISYTKFVNLIFPSVTKFLLRKWKFELELRKSQESVILRYVNARS-----KETTGDVLCYVDLLELELPDE-
CYP704A1 --SKEGEEFMKAFDEGNATSSRFVDPF---WKLKCFLNIGSESRLLKKSIAIIDKFVYSLITTKRKELSKEQN---TS-----VREDILSKFLLESE
CYP704A2 --SKEGQEFMEAFDEGNVATSSRFVDPF---WKLKWFNIGSESRLKKSIAIIDKFVYSLITTKRKELAKEQN---TV-----VREDILSRFLVESE
CYP704B1 --LPEN-HFAKAFDTANIIVTLRFIDPL---WKMKKFLNIGSEALLGKSIVVNDFTYSVIRRRKAELLEAQ-----VKHDLITLRFIEISD
CYP86A2 --LPENG-FASAFDRATEASLQRFILPE-FLWRLKWKWLGLEVLSRSLGEIDGYLDAVINTRKQELLSQRE-----SG-V-QR-HDDLITLRFMCKKD
CYP86A4 --LPENG-FASAFDRATEASLQRFIIPK-FMWKLKKWLGLEVLSRSLGEIDGYLAAVINTRKQELMSQRE-----SGTH-QR-HDDLITLRFMCKKT
CYP86A8 --LPVNT-FAVAFDRATEASLQRFILPE-ILWKFKRWLRGLEVLSRSLVQVDNYLSEIITTRKEEMMTQH-----NG---KH-HDDLITLRFIKKK-
CYP86A7 --FPNG-FAVAFDGATEATLQRFIMPE-FIWKIRKWLRLGLEDDMSRSISHVDNYLSEIINTRKLELLGQQQ---DE---SR-HDDLITLRFMCKK-
CYP86A1 --LPDNP-FSVAFDTEATLKRLLYTG-FLWRIQKAMGIGSEDKLKSLEVVEYMNDAIDARKN-----SP-SDDLITLRFMCKKR
CYP86B1 --QPVIP-FAKAFEDATEAAVVRVMPK-CVWKFMYRLDIGTEKLLKESIKGVDDFAEEVIRTRKKELSLEGE-----TTK-----RSDLITLRFMGLRD
CYP86B2 --LPEIP-FAKAFEDATEATVVRVMPK-FVWKLMSRLNLGTEKLLKESINGVDDFAEEVIRTRKKELSLETE-----IAK-----RPDLITLRFMGLRD
CYP86C3 --LPLVP-FAQAFEEATESTMFVFMIPP-FIWKPLKFFDIGYEKGLRKAVDVLEHFVDMVVDRIKCKLKEEGT-----LGN-----RSDVLSRIIEIES
CYP86C4 --LPQVP-FAKAFEEATESTLFRFMIPP-FIWKPMRFLDTGYEKGLRIAVGVVHGFVDMIVDRICELKEEET-----LDN-----RSDVLSRIIQIES
CYP86C2 --LPHVP-FAKAFEEATESTLFRFMIPP-FVWPKMFFDIGYEKGLREAVETVHNFIDKMVVERIAMLKQDGT-----LAN-----SKSDVLSRIIQIES
CYP86C1 --LPEIP-FAKAFEDATEYTLARFLIPP-FVWPKMFLGIGYERKLNNAVRIVHAFVANKTIRRRRNMKRLGN-----LND-----YADLITLRFMQRREY
CYP94B1 --RPVPE-LVKAFDVAEISARRATEPVYAVWVKRFLNVGSEKRLREAIKTVHLSVSEITIRAKKSLDIGD-----VSD-----KQDLITLRFLAAGH
    
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CYP94B3  --RPVNP-LVEAFDTAAEISARRATEPIYAVWTKRVLNVGSEKLRREAIRTVHVLVSEIVRAKKKSLEIGTG-----AEA-----KQDLSRFLAAGH
CYP94B2  --SPVSE-FDRAFQTASAVSAGRGSAPLSFVWKFRLVGFSEKELRKAVGEVHNCVDEIIRDKKR-----KPA-----NQDFLSRLIVAGE
CYP94C1  --FPISE-FAVAFDTASLLSAKRALAPFLLWTKRLLRIGSEKLLQESINVINRLAGDLIKQRRLTG-----LMG-----KNDLSRFMAVVA
CYP94D1  --GAVGVNFMRAFETAATIISQRFRSVASCARWIKKKLNIGSERVLRRESIATVHKFADEIVRNRIDQGRS-----SDH-----KEDLSRFISKEE
CYP94D2  --GAAGVNFMAFETAATIISQRFQSVISYSWKIKKKLNIGSERVLRRESIMIVHKFADEIVRNRIEQGV-----SDH-----KEDLSRFISKEE
CYP96A1  --MPQIE-FARALDEAEEAIFFRHVKPE-IVWKMQRFIGFGDELKMKKAHSTFDRVCSKCIASKRDEI-TNGV----INI--DSSSKDLIMCYMNVDT
CYP96A9  --MPEIE-FARALDAAEAIFFRHVKPE-VWWMQRLIGVGAEKLLKRAHAIFDRVCSKCIASKRDEI-SQGI-----D--SSSKDLMSSINVD-
CYP96A10 --MPEVE-FARALDAAEAIFFRHVKPE-IFWRLQGLLGLGDEKMKTKARSTLDRVCSKYIAIKRDEV-SRGT-----NNV--DSHSKDLTSMYMLD-
CYP96A5  --MPKNE-YAKAMDDAEVVVYRHVKPV-VLWKLQNWIGLGEKKMKEANAADFDRSCAKYISAKREEI-ISHH-----SNIGGEAHAEDLSVYMLD-
CYP96A11 --MHEDE-LAKALDDVGEIGIFFRHVKPK-FLWKLQNWIMFGHEKKMIEANATFDRVCAKYISDKRGEIIRSQR-----FSDISYGEPEDLSSFMKLD-
CYP96A2  --MPEDE-FAKALDDVGEIGILYRHFKPR-FLWKLQNWIGFGQEKLLTEANATFDRVCAKYISAKREEIKRSQ-----GTSNGGSQDLTTSFIKLD-
CYP96A12 --MPEVE-YAKALDDLGEIGIFYRHFKPK-FFWKLQNRFGLGQEKRMTEADATFDRVSAKYILAKREEIRSQGI-----DHHANG-ESEDLTSHIKLD-
CYP96A13 --MPEVE-FAKALDHVGEIGIMHRHVRPR-LLWKLQKCVGFGQEKKFSKADATLNQACAKYLEKREETRSGGF-----DYHSNGSESEDITSHIKID-
CYP96A7  --MPEIE-FAKALDDVGDVIVYRHITPR-FVWKLQKWIGIGTEKKMKSANATLDRVCEKLIIAAKREELRSQGI-----IDNANG-DSEDLTSHIMLD-
CYP96A8  --MPEVE-FSKALDDVGDVIVYRHITPR-FVWKLQKWIGIGTEKKMLKAHATFDRVCEKLIIAAKREELRSQGI-----TYNSNG-EREDLTTSFIKLD-
CYP96A3  --MPKVE-FGDAVDGVS DGVFYRHVKPV-FLWRLQYLIGVGVEKRLKRG LAVFDQLLEKIITAKREEINSHGT-----HHP-SRGEAIDVITYMTMD-
CYP96A4  --MPKVE-FADAMDGADAMFYRHVKPA-FLWSIQSWIGVGIEKKMRRGLDVFQMLGKIIISAKREEIKNHGI-----HD--SKGEAMDVITYMTID-
CYP96A15 --MLEVE-FGEADIGEEAIYRHFKPV-ILWRLQNWIGIGLERKMRALATVNRMAFKIISRRKEEISR-----AK-TEPYSKDALTYMNVDT-
CYP97A3  --TGVIEAVYTVLREADRVSPIVWDIPIWKDISPRQKVATSLKINDTLDDLIATCKRMEVEE-ELQFH-----E-EYMNERDPSLHFLLAGS-
CYP97C1  --SPVIEAVYTLKEAELRSTDLLPYWKIDALCKIVPRQVKAEKAVTLIRETVEDLIAKKEIVEREGERIND-----E-EYVNDADPSLHFLLAGS-
CYP97B3  --SPVIKAVYGTLEAEHRSTFYFPYWNFPARWIVPRQRKFSQDLKIINDCLDGLIQNAKETRQETDVEKLQ-----ERDYTNLKDASLHFLLAGS-
CYP709B2 --GIEVFKSQLELQKCCAAALTDLYFPG-----IQYLP TPSNLQIWKLDKMNSSIKRIIDARLT-----SES-----K---DYGN--DLGIMLTAAS
CYP709B3 --GIELCRSQTELEKYYISL TNVFI PG-----TQYLP TPTNLKLLWELHKKVKN SIKRIIDSRLK-----SKC-----K---TYGYGDLLGVMLTAAK
CYP709B1 --GIEVFRSQMELKRCYTTSLNQVSI PG-----TQYLP TPSNIRVWKLERKMDNSIKRIISSRLQ-----SKS-----DYGD--DLGILLKAYN
CYP735A1 --GKELFNHLTVLQRRCAQATRHLCFPG-----SRFLPSKYNREIKSLKTEVERLLIEIISRRDCAEMGRS-----S---THGD--DLGILLNEMD
CYP735A2 --GKELFSLTLVLRCAQATRHLCFPG-----SRFLPSKYNREIKSLKTEVERLLIEIISRRDCAEMGRS-----S---SYGD--DLGILLNQMD
CYP72A11 --GQRIFELQAELAQLIIQTVRKAIFPG-----YSYLP TKGNNRMKAKAREIQVILRGIVNKRLRAREAG-----EAPNDLLGILLESN-
CYP72A13 --GQRIFELQAELAQLIIQAFRKAIFPG-----YRYFPTKGNRRMKAAREIKFIRGIVNKRLRAREAG-----EAPSDDL GILLESN-
CYP72A15 --GQRIFELQAELAQLIIQAFRKAIFPG-----YSYLP TKSNNRMKAAAREIQVILRGIVNKRLRAREAG-----EAPSDDL GILLESN-
CYP72A10 --GQRIFELQAELVHLILQAFWKVYIPG-----YRYLP TKSNNRMKAAAREIQVILKGI VNKRLRAREAG-----AAPNDLL GILLESN-
CYP72A14 --GHRIFELQAELAQLVMQAFQKFFIPG-----YIYLP TKGNNRMKTAAREIQDILRGIIINKRERARESG-----EAPSEDLL GILLESN-
CYP72A9  --GQRIFILQAELAHLIILALGKNYIPA-----YRHFP TKNRRMKTIVKEIQVILRGII SHREKARDAG-----EAPSDLL GILLKSN-
CYP72A7  --GQRIFQLQGE LAELIAQAFKKSYPG-----SRFYPTKSNRRMKAIDREVDVILRGIVSKREKAREAG-----EPANDLL GILLESN-
CYP72A8  --GKRIFELQEEQRRVLKALELAFIPG-----MRFLP TKNL RMRQINKEVKSRLREIIMKRQRGMDTG-----EAPKNDLL GILLESN-
CYP72C1  --GIKIFEIQEQIDLGLLAIRAVYIPG-----SKFLP TKNRRLRETERDMRAMFKAM IETKEEEIKRGRG-----TDKNSD LFSMLASNT
CYP734A1 --GRAVFR LQAQM L LCAEAFQKVFI PG-----YRFFP TGRN LKSWLKDKEIRKSL LKLIERRRQNAIDGEG-----EEC-KEPAAKDLGLMIQAK-
CYP721A1 --GKGFELQERMRLFYLVRSVYIPG-----FRFFP SKTNR EIWRIEKIRVSLILK IENNKTAVEKS-----GTLLQAFMSPYTNQN-
CYP715A1 --GTQVLKNLRVAVQFALFNSNRYVGVPF-----SNILSYKQTVKAKGLGHEIDGLLLS FINKRKISLAEG-----DDQGHDLGLMLLKADQ
CYP714A1 --GKEIFSKLRCLQKAITHNNILFSLNG-----FTDVVFGTKKHGNGKIDELERHIESLIWETVKERERECV-----G-----DHKKDLMLILEGAR
CYP714A2 --GKAIFSMIRDLLTAITKRSVLRFRNG-----FTDMVFGSKKHGDVDIDALEMELESSI WETVKEREIECK-----D-----THKKDLMLILEGAM
CYP74A   -----RDESRRYK LKADAPGLITKWL FNLHPLL SIG-LPRVIEEPLIHTFSLPPALVKSDYQRLYEFLR-----IRG--ETLVEADKLG-
CYP74B2  -----VDASVSPDIAENGWKTINTWALQV IPTAKLGVVPQPLEEILLHTW PYP SLLIAGNYKVLNYFID-----ENAGDCLRLGQEEFG-
CYP73A5  -----PLFLRLKALNGERSLAQSFEYALQDFIPILRPFRLG YL KICQDVKDRRIALFKKYVDERKQIAS-----SKPTGSEGLKCAIDHILEAEQK
CYP722A1 -----SMQRDVGFVCEAMLAFLPLNLPWTRFHKGIMARGVMEMLK IIRERRNEINSHNN-----HHEDFLQQLLAVDND
CYP701A3 --VTL SKDEIFKVLVHDMMEGAIDVDWRDFFPYLKWIPNKSFEARIQQKHKRR LAVMNALIQDRLK-----QNGSESDDCYLNFLMSEAK
CYP711A1 ---IKDVEVTDFINQHVVSTTQLKMDLSGSLSIILGLLIPILQEPFRQV LKRI PGTM DWRVEKTNARLSGQLNEIVSKRAKEAETDSKDFLSLILKARES
consensus
301.....310.....320.....330.....340.....350.....360.....370.....380.....390.....

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CYP51A1 -----GRETTESEVTGLLIAAGLFAAQHTSSSITATWTGAYLI--QNKHWSAALDEQKKLIQKHG-----DKIDYD
CYP51A2 -----GRQTTESEVTGLLIAALFAAQHTSSSITSTWTGAYLM-RYKEYFSAALDEQKNLIAKHG-----DKIDHD
CYP710A1 -----NPQPPHSGDEEIGGLLDFDLFAAQDASTSSLLWAVTLLD-SEPEVLNRVREEVAKIWSPESEN-----ALITVD
CYP710A2 G-----NPPPLHSEDEAIGGLLDFDLFAAQDASTSSLLWAVTFLE-SHPKVLSKVREEVAKIWSPOSG-----HLITAD
CYP710A3 -----SPPPPHSDKDEEISCVLVDFLFAAQDASTSSLLWAVVLE-SEPEVLRVREDVARFWSPESK-----ESITAD
CYP710A4 -----NPPPPHSDKDEEISCVLVDFMFAAQDASTSSLLWAVVLE-SEPEVLRVREDVARFWSSSEN-----ELITAD
CYP702A1 -----AETMSVDNAIEYIYTLFLLANETTPRILAATIKLIS-DNPKVMKELHREHEGIVRGKTEK-----ETSITWE
CYP702A2 E-----GETMSVENAVEYIYTFLLVANETTPRILAATVKFIS-DHPKVQKELQREHEEIVRGKAEK-----EGGLTWE
CYP702A8 E-----KETMSMKNVIEYIYTFVIANETTPRILAATVKFIS-ENPKVMQELQREHAMIFENKSE-----EAGLTWE
CYP702A5 -----VTMSIEIATEYIIFTLFVLANETTPGVLAATIKLIS-DNPKVMQELRREHEGIVQDKIKKD-ETADLTWE
CYP702A6 G-----VKTISLESATEYIIFTLFLLANETTPAVLAATIKLIS-DHPKVQKELQREHEGIVRDKIEKN-EKADLTWE
CYP702A3 D-----GTALDIDKAVNLIFVFFILSQETTPGVQGVAVKLVADHPSVMEELQREHEAIVQNRADK-----DTGVTWE
CYP708A2 E-----DVIFNEESAINLIFAILLVAKESTSSVTSLAIKFLA-ENHKALAEKREHAAILQNRNGK-----GAGVSWEE
CYP708A3 D-----GSFFDQGSAINLIFLLAFALREGTSSCTALAVKFIS-KDPKVLAELKREHKAIVDNRKDK-----EAGVSWEE
CYP708A4 A-----GELLNENAIITLIFTLSCVTQDTTSCAICLAVKFL-ENPKVLAELKREHEVILESREDK-----EGGVTWE
CYP708A1 E-----GDTINEERSVELILSLLIASYETTSTMTALTVKFIA-ENPKVLMELKREHETILQNRADK-----ESGVTWE
CYP87A2 E-----GTILTEEIALDLMFVLLFASFETTSLALTIAIKFLS-DDPEVLKRLTEHETILRNREDA-----DSGLTWE
CYP90A1 -----FSDEEIVDFVALLVAGYETTSTIMTLAVKFLT-ETPLALAQLKEHEKIRAMKSDS-----YSLEWSD
CYP90B1 RKQRTDDDLLGWVLKHSNLSQILDILSLFAGHETSSVAIALAIFFLQ-ACPKAVEELREHLEIARAKKELGE-----SELNWD
CYP90C1 -----EKQSQPSDFVSGKIVEMMIPGEETMPTMAIIVKFLS-DNPVALAKLVEENMEMKRRKLELG-----EELYWTD
CYP90D1 -----LTHN-----LIANNMIDMMIPGHDSVPVLITLAVKFLS-DSPAALNLLTEENMKLKSLKELTG-----EPLYWND
CYP724A1 -----YEEKVSIVLDILLGGFETSATTLISLVVYFLA-KSPNLLHKLKEHAAIRAKKGDGE-----LLNWE
CYP720A1 -----MADFIINLLFAGNETTSTKTMFAVYFLT-HCPKAMTQLLEHDLRACG-----MLTWQD
CYP85A1 -----IRDQVVTILYSGYETVSTTSMALKYLH-DHPKALQELRAEHLAFRERKRQDE-----PLGLD
CYP85A2 -----IRDQVVTILYSGYETVSTTSMALKYLH-DHPKALEELREHLEIRERKRQDE-----PLTLD
CYP707A1 -----ELTDEQIADNIIGVIFAARDTTASVMSWILKYLA-ENPNVLEAVTEQMAIR-KDKEEG-----ESLTWGD
CYP707A3 -----GLTDEQIADNIIGVIFAARDTTASVLTWILKYLA-DNPTVLEAVTEQMAIR-KDKKEG-----ESLTWE
CYP707A2 K-----RNLSDSQIADNIIGVIFAARDTTASVLTWLLKYLA-DHPNLLQEVSRQFSIRQIKKEN-----RRISWE
CYP707A4 K-----GRVLTQEQIADNIIGVIFAARDTTASCLTWILKYLA-DDQKLLQAVKAEQKAIYEENSREK-----KPLTWQ
CYP88A3 D-----GKTLDDDEEIIDVLLMYLNAGHESSGHTIMWATVFLQ-EHPEVLQRAKAEQEMILKSRPEGQ-----KGLSLKE
CYP88A4 N-----GRVLDDEEIIDVLLMYLNAGHESSGHTIMWATILMQ-EHPMILQAKAEQERIVKKRAPGQ-----K-LTLKE
CYP716A1 -----IGETKDEDLADKIIALLIGGHDTTASIVCTFVVNYLA-EFPHYQRVLEEQ-KEILKEKKEK-----EGLRWE
CYP716A2 -----IGETKDEDLADKIIALLIGGHDTTASIVCTFVVNYLA-EFPHYQRVLEEQ-KEILNNDKVN-----EKLWE
CYP718 -----KGVITEEEVVDNMVLLVFAAHDTTASYAMSMTFKMLA-QHPTCRDTLLQEH-AQIKANKGEG-----EYLTWE
CYP71A12 GF-----QAQRDDIKFMILDMFIGGTSSTLSSTLLEWIMTELI-RNPVMKKLQDETRSTIRPHG-----SYIKEK
CYP71A13 GF-----QVQRNDIKFMILDMFIGGTSSTLSSTLLEWIMTELI-RSPKSMKKLQDETRSTIRPHG-----SYIKEK
CYP71A18 GF-----KVQRNDIKFMILDMFIGGTSSTLSSTLLEWIMTELI-RNPECMKKLQDETRSTIRPHG-----SYIKEK
CYP71A14 GV-----QIRRSDIKFLILDMLAGTETTYALLEWIMTELI-RHPECMKKLQDETRAKATKLI-----LYISEE
CYP71A15 GI-----EVRRSDIKFIILDIFLGGTTTTNSLLEWIMTELI-RHPECMKKLQDETRGDATNLT-----IYRSHE
CYP71A28 EF-----ELERSDIRLIILEFFLGGTTTTFTAIDWAMTLVV-RHPESMKKLQDETRQYSRNK-----LYVPEE
CYP71A19 -----KSALKLIIWDMFLAGTATLSLFLWAMTELM-RNPKVMKKLQDETRSS-SRQG-----LFVTEK
CYP71A20 QF-----ELEKSAKLIWDMFLAGTATLSFLWAMTELM-RNPKVMKKLQDETRSS-SPQD-----LFVTEK
CYP71A16 QC-----QLDKSDLKVIIIFEMFLGTTTTSAVIEWAMTRLM-RNPECLKKLQDETRSV-SKMN-----SYVSGK
CYP71A27 RF-----KFDRSDLILILKDMFFSGTATTASQLWMTTELM-RHPECMKKLQDETRNSF-STHN-----LNVTEK
CYP71A21 GF-----EIDRLCIKAIIVLDVLAAGTDSYALMDWAMTELL-RHPECLRTLQEEVVRTICKGN-----LSVSEE
CYP71A22 GF-----EIDRLSIKAIILDVVGGTDTSYALMEWAMTELL-HRPECLNRLQEEVVRTICKGN-----SSVSED
CYP71A24 GF-----EIDRLSIKAIILDVFGDMDTTYTLLWAMTELL-CHHECLDRLQEEVRMVCCKDK-----SGVSED
CYP71A26 GF-----EINRVSIAKIVMNVFVGGTDTSSSTMWAMTELL-RHPKCLKRLQEEVVRTICKDK-----SSVSEE
CYP71A25 GF-----EIERSVIAKAITLDVFGGSDTSFTLLWAMTELL-RHPKSLNRLQEEVVRTICKGK-----SRVSED
CYP71A23 GF-----DIDRLSIKAIIVLDAFVGGTDTSSSTLVWEMTELL-RHPTCLKKLQEEVVRTICKGK-----SSVSED
    
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CYP71B26 VG-----NGKLTRNHKAILMNVLLGGIDTSAITMTWAMAELA-KNPRVMKKVQAEIRNQIKNKE-----RISFD-----
CYP71B33 VG-----NNNFTRNNVKAILMDILLAGIETTSAGTMAWTMAELA-KNPLVMRKVQSEIRNKFENRE-----LISFE-----
CYP71B34 LG-----NDKLTRNHKAILMDVLLAGMDTSAITMTWAMAELA-KNPRVMKKVQSEIRSQIKNKE-----RISFD-----
CYP71B35 LG-----NDKLTRNHKAILLDVLLAGIDTSAITMTWAMTELA-RNPRVMKKVQSEIRTQMGNRS-----MISFE-----
CYP71B36 IG-----YGKLTRNHKAILMNVLLGGIGTSAITMTWAMTELM-RNPRVMKKVQSEIRNQIGKKS-----MITLD-----
CYP71B37 LG-----YGKLTRNHKAVLMNVLLGGIGTSAITMTWAMTELM-RNPRVMKKVQSEIRNQIGKKS-----MICLD-----
CYP71B9 LG-----YGKLTRNHVKAILMNVLLGAINTSAMTMTWAMAELI-RNPRVMKKVQSEIRNQIMINKS-----VITLD-----
CYP71B10 LG-----YGKLTRNHKAILMNVLLGGINTSAITMTWAMAELI-RNPRVMKKVQSEIRAQIGKNNKT-----RIISLD-----
CYP71B11 LG-----EFQLTRDNTKGILFNILNAGIDTSAQVMTWVMTYLI-SNPRVMKKAQAEVREVIKKNK-----DIIEE-----
CYP71B12 LG-----EFQLTRDHTKGILANILNAGIDTSAQVMTWVMTYLI-SNPRVLKKAQAEVREVIKHKD-----DIIEE-----
CYP71B14 LG-----EFQLTRNHTKGILLNVLIAGVDTSGHTVWVMTHLI-KNPRVMKKAQAEVREVIKKNK-----DIIEE-----
CYP71B13 LG-----EFQFTRNHTKGILLDILLAGVDTSGHTITWVMTHLI-KNPRVMKKAQAEVREVIKKNK-----NITIE-----
CYP71B6 LG-----SSRITDTHIRAIIMDLFVAGVDTSVITLDWTMAELS-RHPRVMKKVQAEIREHVGDKG-----IVTYD-----
CYP71B28 EGD-----SFKLTTDHLKGMISDIFLAGVGTSSSTLIWAMTELI-RNPRVMKKVQDEIRTTLGDKKE-----RITIE-----
CYP71B29 DGD-----SFKLTTDHLKGMISDIFLAGVSTASSTLIWATELV-RNRKVMKKVQDEIRTTLGDKKE-----RITIE-----
CYP71B15 DGD-----ALKFTTDHLKGMISDIFVAGIGGVAGITLWGMTELI-RNPRVMKKVQDEIRTTLGDKKE-----RIKEE-----
CYP71B23 DG-----SFKLTTDHKGIISDIFLAGVNTSATTILWAMTELI-RNPRVMKKVQDEVRTVLGDKRD-----RITIE-----
CYP71B7 DGE-----SFKLTTDHLKGIISDIFLAGVNTSAVTLWAMAELI-RNPRVMKKVQDEIRTTLGDKKQ-----RITIE-----
CYP71B16 DD-----SLRLTIDHIKGLTNIIGIDTGAITMIWAMTELA-RNPELMKNVQGEIRDSFGNKE-----RITKE-----
CYP71B17 DD-----SLRLTIDHIKGLLTNIIGIDTGAITMIWMTTELA-RNPEIMKKVQGEIRDRLGNNRE-----RITKE-----
CYP71B18 DD-----SLKLTINNIKGILTNIIFLGGIDTGAITMIWAMTELA-RNPEVMKKVQGEIRDRLGRNKE-----RITIE-----
CYP71B19 DS-----SLELTIDHIKGLANIFLAGIDTGAITMIWAVTELV-KNPKLIKKVQGDIREQLGSNKE-----RITIE-----
CYP71B20 DS-----SLELTIDHIKGLANIFLAGIDTGAITMIWAMTELV-KNPKLIKKVQGEIREQLGSNKA-----RITIE-----
CYP71B2 SD-----SFKLNMDNLKAVIMDVFLAGIDTSAVTMIWAMTELI-RNPRVMKKAQESIRTTLGLKKE-----RITIE-----
CYP71B27 KD-----DFKLNVDNIKAVLMIIFLAGIDTGAITMIWAMTELV-KKPLVMKRAQENIRGVLGLKRD-----RITIE-----
CYP71B21 VG-----SFKVTYDHLKGVMSDVFLAGVNAGAITMIWALTELT-RHPRVMKKLQGEIRELLGDNKE-----KITIE-----
CYP71B22 VG-----SFQVTYDHLKGVMSDVFLAGVNAGAITMIWAMTELA-RHPRVMKKLQGEIREILGDNKE-----KITIE-----
CYP71B38 AD-----SFKVTYDHLKGVMSDIFLAGVNGGANTMIWTLTELS-RHPRVMKKLQGEIRAMLGPNKE-----RITIE-----
CYP71B5 VG-----SYKVTDHLKGLMSDVFLAGVNAGSITMIWMTTELS-RHPRVMKKLQGEIRATLGPNGE-----KITIE-----
CYP71B31 FG-----SLKITYDHLIAMMSDVFLAGVNAGVTMIWMTTELT-RHPRVMKKLQGEIRATLGPNGE-----RITIE-----
CYP71B8 YG-----SFKITSDDLIAMMTDIVLGGVNAGITMIWMTTELT-RHPRVMKKLREEIRATLGPNGE-----RITIE-----
CYP71B32 FS-----SFNITSNHLIAMMSDVFLAGVNAGTITMWIVTELT-RHPRVMKKLQGEIRATLGSNKE-----RITXE-----
CYP71B24 GD-----SFKLTIDNLKGIIQDIYLAGVDTSAITMIWAMAELV-KNPRVMKKVQDEIRTCIGIKQNE-----KIEED-----
CYP71B3 DE-----SFKLTIDHLKGIIQNIYLAGVDTSAITMIWAMAELV-KNPRVMKKAQEEIRTCIGIKQKE-----RIIEE-----
CYP71B25 DK-----SFKLTIDHLKGITQDIFLAGIDTSAITMIWAMAELV-NNPRVMKKVQDEIRSCIGIKKE-----RIIEE-----
CYP71B4 YA-----SFKLTVDHLKGVLSNIYHAGIDTSAITLIWAMAELV-RNPRVMKKAQDEIRTCIGIKQEG-----RIMEE-----
CYP83A1 AS-----EFTVDNVKAVILDIVVAGDTTAAAVVWGMTYLM-KYPQVLKKAQAEVREYMEKGGST-----FVTED-----
CYP83B1 SI-----KFTHENVKAMILDIVVPGDTTAAAVVWAMTYLI-KYPEAMKKAQAEVRSVIGDKG-----YVSEE-----
CYP84A1 LVSE-----TADLQNSIKLTRDNIAIIMDMVFGGTETVASAIEWALTELL-RSPEDLKRQQELAELVGLDR-----RVEES-----
CYP84A4 VN-----NSVTKINLDNIKGIIMDMVFGGTETVALAIEWVLTTELL-RSPENMKRVQDELTSVGLDRW-----RVEDT-----
CYP705A1 EYK-----ITRSHIKSLLTVEFFIGAADASSIAIQWAMADII-NNREILEKLRREIDSVVGKT-----RLVQET-----
CYP705A24 EYK-----ITRNHIKALL-AELFFGAGESSTTRWAMGEIF-NNPRIFEKLRTEIDSVVGTT-----RLIQES-----
CYP705A15 EYK-----ISRNHIKSF-ADLLFASTDTFVQTTQWTVAEII-NNPNVLERLRGEIDSVVGKA-----RLIQET-----
CYP705A4 EYK-----ITRNHIKSII-ADLLFAGTENQVQTIQWAMAELI-NNPNVLERLRGEIDSVVGKS-----RLIQET-----
CYP705A16 EYK-----ITRNQIKAFI-VDMFIAGTDISALTTQGTMAEII-NNPNVLRVIREKIDSVVGKS-----RLIQET-----
CYP705A19 EYK-----ITRNQIKAFI-VDFIAGTDISALTTQGTMAEII-NNPNIFVRIREEIDSVVGKS-----RLIQET-----
CYP705A20 EHK-----ITRNHIKSLF-VELLLGGIDTSAQTIQWMTAEII-NNRNVLKRLREEIDSVVGET-----RLIQEK-----
CYP705A21 EHK-----ISRNHIKAFI-VELFFAGTDTSAQSIQWMTAEII-NNPNILKRLREEIDSVVGKT-----RLIQET-----
CYP705A23 ECK-----ITRNHIKSLF-VDLVAGTDTSRHATQWMTAEII-NKPKVLEKVRREEIYSVVGRT-----RLVQET-----
CYP705A28 EYK-----ITRNHIKSLF-VELLVAGTDTSAQTIQWMTAEII-NNPTILERLREEIESVVGNT-----RLIQET-----
    
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CYP705A30 EYK-----ITRNHIKSLF-VDLVIAGTDTTSVQATQWTMGELI--NPKILQRLREETESVVGNT-----RLIQEN-----
CYP705A32 EYK-----ITRNHIKSLF-VDLVIAGTDTSAQTIIEWTMAELI--NPNILERLREETESVVGNT-----RLVQET-----
CYP705A2  EYK-----ITRNHIKSMF-VDLFIAGTDTSSSTTIQWIMAEI--NHPKILERLREETDFVVGKT-----RLIQET-----
CYP705A5  EYK-----ITRDQIKSLF-VDLFSAGTEASANTIQTWMAEII--KNPKICERLREETDSVVGKT-----RLVQET-----
CYP705A8  EYK-----ITRDHIKSLF-VDLFFAGTDTTATHTIEWTMAEIM--NNSLILERLREETDSVVGKT-----RLIQET-----
CYP705A9  EYK-----ITRDHIKSLF-VDLFFAGTDTWTHAIQWIMAEII--NNSYILERLREETDSVVGKT-----RLIQET-----
CYP705A18 EYK-----ITRNHIKSF--VDLFGGDTTSVQTTQWTMAEII--NPNILQTLRKEETDSVVGKS-----RLIHET-----
CYP705A6  EYN-----ITRNHIKSF--VEIFIGATDTTSVQTTQWTMAEIL--NHPNVLERLRKDIETDSVVGKT-----RLIHET-----
CYP705A33 EYK-----ITRNHIKSF--VELFVGGDTTSVQTTQWTMAEII--NNSDVLERLREETDSVVGTS-----RMIQET-----
CYP705A3  EYK-----ITWKHIKAF--VEFFIGGDTTSVQTTQWAMAEMI--NNANVLERLREETVSVVGET-----RLIQET-----
CYP705A22 EYK-----ITKNHIKAF--VDLFIGATDTTSVQTTQWTMAEIM--NNTHILERMREETDSVVGKS-----RLIQET-----
CYP705A12 EYK-----ITRKQIKSL--VEIFLGGTDTSSAQTIQWTMAELI--NPNVLEKLRAEETDSVVGK-----RLIQES-----
CYP705A13 EYK-----ITRDHLKSLF--VELILGGTDTSAQTIIEWTMAKII--KKNILERLREETDSVVGKT-----RLIQEK-----
CYP705A25 EFK-----ISRNQIKALF--VEIFLAGTDTSAQTIQWILAEI--NHPEILEKLRKEETESVVGVR-----RLIQET-----
CYP705A27 EVK-----ITRNQIKALI--VELFLGGTDTSAQTIQWIMAEI--NHPEILKILREETESVVGTT-----RFIQET-----
CYP712A1  EMK-----ITRNDMKSFL--LDVFMAGTDTSAAMQWAMGQLI--NHPQAFNKLREETINNVS--GSK-----RLVKES-----
CYP712A2  ELR-----LTMNQIKFFI--LELFMASLDTTSAALQWTMTLEI--NHPDIFAKIRDEIKSVVGT---N-----RLIKES-----
CYP93D1   EMK-----LTRENKAFI--MNIYGGGDTSAITVEWALAEI--NHPEIMKKAQETEIQVVGNK-----RVVES-----
CYP81D6   QPD-----YYTDVTLKGIIVMIIAGSETIAGTLEWAMLNVL--NHPEVLKARTEIDTKIG---FD-----RLMDEA-----
CYP81D7   QPD-----YYTDVTLKGIIVMIIAGTETIAGTLEWAMLNVL--NHPEVLKARTEIDTEVG---FD-----RLMDEA-----
CYP81D11  QPD-----YYTDVVIKGIILVMILAGTDTSAAGTLEWAMSNLL--NHPEVLRKAKTEIDDDIG---VD-----RLVEEQ-----
CYP81D2   QPE-----YYMDRIIKGTMSLSIAGGDTTAVTLEWALSSLL--NHPEVLNKAARTEIDRMIG---VD-----RLLEES-----
CYP81D3   QPE-----YYTDNIIKGIIMLSLILAGTDTSAVTLEWTL SALL--NHPQILSKARTEIDNKV---LN-----RLVES-----
CYP81D8   QPD-----YFTDRIIKGNLALILAGTDTSAVTLEWALS NVL--NHPDVLNKAARTEIDRKIG---LD-----RLMDES-----
CYP81D4   QPD-----YYTDVVIKGIILTLIIAGTDTSSVTLEWAMSNLL--NHPEILKARMEIDKVG---LD-----RLVES-----
CYP81D5   EPE-----YYTDVVIKGIILALVLAGTDTSSVTLEWAMSNLL--NHPEILEKARAEIDDDKIG---SD-----RLVES-----
CYP81D1   DIE-----YYTDQIIKGIILIMVIAGTNTSAVTLEWALS NLL--NHPDVISKARTEIDNRV---LD-----RLTEEA-----
CYP81F3   EPE-----YYTDVTIKGLMLGMMIAGTDTSAVTLEWAMSSLL--NHPEALEKAKLEIDKIG---QE-----RLIDEP-----
CYP81F4   DPE-----YYTDIIKGLMLGIMVASSSETSALTIEWAMASLL--NHPKVLDKVKEIDDEIG---QD-----RLTEES-----
CYP81F2   QPK-----YYSDVVIKGLMSMLAGDTAAVTLEWAMANLL--KKPEVLKAKAEIDKIG---EE-----RLVDEP-----
CYP81F1   QPE-----YYTDVVIKGLMMSMMLAGTETSALTIEWAMANLL--RNPEVLEKARSEIDKIG---KD-----RLIDES-----
CYP81H1   EPH-----NYSDQTIKGLLMMVGGTDTSAVTLVEWAMSNLL--NHPQILETTRQNIIDTQMETSSSR-----RLKKE-----
CYP81G1   EPE-----CYTDDIIKGLVQVMLLAGTDTTAVTLEWAMANLL--NHPEVLRKKTTELNEVSK---EG-----RVFEES-----
CYP81K1   EPE-----FYADDVIKGIIVLMFNGGDTSPVAMEWAVSLLL--NHPDKLEKLREETKSNVK---HK-----GLIQDS-----
CYP81K2   EPE-----FYSDDVIKGIVVLMFNAGSDTSPVTMEWAMALL--NHPDKLDKVRREETKSNVK---HK-----GLIQDS-----
CYP82C3   HLQ-----YDANTCIKTTCLALILGGSETSPSTLTW AISLLL--NNKDMCLKVQDEIDIHVG---RD-----RNVEDS-----
CYP82C2   HLQ-----HDAITSIKSTCLALILGGSETSPSTLTW AISLLL--NNKDMCLKVQDEIDIHVG---RD-----RNVEDS-----
CYP82C4   HLQ-----YDANTSIKSTCLALILGGSDTSASTLTW AISLLL--NNKEMCLKVQDEIDIHVG---RD-----RNVEDS-----
CYP82F1   GLS-----DHTTKIKALCLNLVLAGSETAIVVLVAVSLLL--NPNHVLKKAQEEIDSKIG---KE-----RVVEEL-----
CYP82G1   -----IVISGHALTLTGSDSTSITLTWAVSLLL--NPPAALAAQEEIDNSVG---KG-----RWTEES-----
CYP76C2   E-----LNTNDIVHLLLDLFGAGTDTNSSTVEWAMAELL--RNPETMVKAQAEIDCVIGQ---K-----GVVES-----
CYP76C4   E-----LDNNDIEHLLLDMFTAGTDTSSSTLEWAMAELL--RNPKTMVKAQAEIMDRVLGQ---N-----SVVQES-----
CYP76C1   E-----LSISDIEHLLLDMFTAGTDTSSSTLEWAMTELL--KNPKTMAKAQAEIDCVIGQ---N-----GIVES-----
CYP76C5   E-----INIDEIEHLLLDMFLAGTDTNSSTVEWAMTELL--GNPKTMTKVQDEINRVIRQ---N-----GDVQES-----
CYP76C6   E-----INIDEIEHLLLDMFVAGTDTNSSTVEWAMAELL--GNPKTMTKVQDEINHVIGQ---N-----GDFQES-----
CYP76C3   E-----LTMNDLKHLLLDLVFVAGTDTNSSTMWAMTELL--RSTKEMVKAQSEIRQVIGQ---N-----GFVQES-----
CYP76C7   E-----LDDNNIKHLLLDLFLAGVDTSSSAVEWAMAELL--RNPKMIVKQVEIRQVIGL---K-----GTVQDL-----
CYP76G1   DEEP-----SSFSSRDINVVFEMFTAGDTTSTLEWALAEI--HNPRTLTKLQTELRTYFKSS---N-----QKLOE-----
CYP75B1   GDG-----GSLTDTEIKALLNMFTAGTDTASASTVDAIAELI--RHPDIMVKAQEEIDIVVGR---D-----RPVNES-----
CYP706A1  ---DE-----KAPLSMTHVKSLLMDMVLGGVDTSVNASEFAMAETV--SRPEVLNKIRLELDQVVGKD-----NIVES-----
    
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CYP706A2  --DE-----KAPLSMTHVKSLLMDMVLGGVDTSVNASEFAMAEIFV-SRPEVLNKRIRLELDQVVGKD-----NIVEEES
CYP706A3  EAE-----KTKLTMNDVKAVLMDMVLGGTDTSLHVFIEFAMAELI-HNPDIMKRAQQEVDKVVGKE-----KVVEEES
CYP706A7  -----DENMSMNHVKALLMDMVLGGTDTSLNTIEFAMAELI-NKLEIMKRAQQEELDKVVGKN-----NIVEEEK
CYP706A5  EADS-----DVPITMNHVKAVLMDMVGGTESSTNTIEFVMAELI-SNPELMRRAQQEELDEVVGKD-----NIVEEES
CYP706A6  EADS-----EVPITVNHVKAVLVDLVGGTDTSTNTIEFAMAELI-RKPELMKRAQQEELDEVVGKD-----NIIEEES
CYP706A4  EGDS-----EVPITINHVKALLTDMVGGTDTSTNTIEFAMAELM-SNPELIKRAQQEELDEVVGKD-----NIVEEES
CYP79B2   QGNP-----LLTADEIKPTIKELVMAAPDNPSNAVEWAMAEMV-NKPEILRKAMEEIDRVVGKE-----RLVOEES
CYP79B3   AGQP-----LLTADEIKPTIKELVMAAPDNPSNAVEWAI AEMI-NKPEILHKAMEEIDRVVGKE-----RFVQES
CYP79A2   DGKP-----TLDSEIEKAQVTELMLATVDNPSNAAEWGAEMI-NEPSIMQKAVEEIDRVVGKD-----RLVIES
CYP79C1   NGKP-----LLTPQEITHLS-DLDVVGIDNAVNVIEWTLAEML-NQREILEKAVEEIDMVVGKE-----RLVOEES
CYP79C2   QGMH-----LFTFDEIRAQCKEINLATIDNTMNNVEWTLAEML-NHPEILEKATNELDIIVGKD-----RLVOEES
CYP79F1   NGKY-----LVTPDEIKAQCVEFCIAAIDNPANNMEWTLGEML-KNPEILRKALKELEDEVVGRD-----RLVQES
CYP79F2   NGNY-----LVTPEIEKAQCVEFCIAAIDNPANNMEWTLGEML-KNPEILRKALKLEDEVVGRD-----RLVQES
CYP703A2  NGKA-----HMEDVEIKALIQDMI A AATDTTSAVTNEWAMA EAI-KOPRVMRKIQEELDNVVGSN-----RMVDES
CYP98A8   -----LSEETVGGVLWNMLTAGADTTAVVIEWAMAEMI-KCPTVQEKAAQQEELDSVVGSE-----RLMTEES
CYP98A9   -----LTEETVMGLVWNMLTAGADTTAITIEWAMAEMI-RCPTVKEKVDQELDSVVGSG-----RLMSDA
CYP98A3   -----LSEDTIIGLLWDMITAGMDTTAITAEWAMAEMI-KNPRVQKQVEEFDRVVGLD-----RILTEEA
CYP78A10  SDS-----DMI AVLWEMIFRGDTVAI LLEWILARMV-LHPDIQAKAAQAEITDCIVGDSG-----RQVTDS
CYP78A5   SDS-----DMI AVLWEMIFRGDTVAI LVEWILARMV-LHQDIQDKLYREIASATSNNI-----RSLSDS
CYP78A6   SDP-----DII AVLWEMIFRGDTVAI LVEWILARMV-LHPDMQSTVQNELDQVVGKS-----RALDES
CYP78A9   SDP-----DII AVLWEMIFRGDTVAI LVEWILARMV-LHPDIQSTVHNELDQIVGRS-----RAVEES
CYP78A8   SES-----DMVAVLWEMIFRGDTVAI LVEWVLARIV-MHPKVQLTVHDELDRVVGSR-----RTVDES
CYP78A7   QED-----DMI AVLWEMIFRGDTTALLTEWMTAEI LV-LNPNVQTKLRDEITLAVGDGAD-----GDVADA
CYP77A4   KTT-----PSNEELVTLCESEFLNGGDTTGTAEI EWGIAQLI-ANPEIQSRLYDEIKSTVGD-----D-----RRVDEK
CYP77A6   ITT-----PSNEELVSLCSEFLNGGDTTGTAEI EWGIAQLI-VNPEIQSRLYDEIKSTVGD-----REVEEK
CYP77A7   ETT-----PSDEDLVTLCESEFLNAGDTTGTAEI EWGIAELI-ANPEIQSRLYDEIKSTVGD-----D-----RAVDER
CYP77A9   ETS-----PSDEDLVTLCESEFLNAGDTTGTAEI EWGIAELI-SNPKIQSRLYDEIKSTVGD-----D-----RTVEEK
CYP77B1   GGE-----LGDEEIVTLCESEIVSAGTDTTATTLEWALFHLV-TDQNIQEKLYEEVVGWVK-----N-----GVVEED
CYP89A4   -----KRKLNEDIIVSLCSEFLNGGDTTATALQWIMANLV-KNPEIQKRLYEEIKSVVG-----EEA-----KEVEEE
CYP89A5   -----KRKLNEDIIVSLCSEFLNGGDTTATALQWIMANLV-KNPDIQKRLYEEIKSVVG-----EEA-----NEVEEE
CYP89A6   -----KRKLNEDIIVSLCSEFLNAGDTTATALQWIMANLV-KNPEIQRRLYEEIKSIVG-----EEA-----KEVEEQ
CYP89A7   -----KRKLNEDIIVSLCSEFLIAGSDTTATVLQWIMANLV-KNQEIQRRLYEEITNVVG-----EEA-----KVVEEK
CYP89A2   -----NRKLNEDIIMNLCSEFLTAGTDTTATALQWIMANLV-KYPEIQERLHEEIKSVVG-----EEA-----KEVEEE
CYP89A3   -----KRKLNEDIIVSLCSEFLNAGTDTTATTLQWIMANLV-RNQEIQKRLYEEIKSVIGE-----EEE-----KEIEEE
CYP89A9   KEGG-----K-----KRKLSDEIVSLCSEFLNAATDPTATSMQWIMAIMV-KYPEIQRKLYEEMKTVFAGEEEER-----EEIRIE
CYP704A1  KD-----P-----ENMNDKYLRDIILNVMVAGKDTTAAASLSWFLYMLC-KNPLVQEKIVQETRDVTFSSHEKTT-----DVNGFIESVT
CYP704A2  KD-----P-----ENMNDKYLRDIILNFMVAGKDTTAAASLSWFLYMLC-KNPLVQEKIVQETRDVTFSSHEKTT-----DVNGFVESIN
CYP704B1  DP-----D-----SKETEKSLRDIVLNFVIAGRDTTATTLTWA IYIM-MNENVAEKLYSELQELEKESAEAT-----NTSLHQYDTEDFNSFNEKVT
CYP86A2   -----QSYSETFLRHVALNFILAGRDTSSVALSWFFWLIT-THPTVEDKIVREICTSVLIETRGT-----DVSSWTAEPL
CYP86A4   -----ESYSDTFLQHVALNFILAGRDTSSVALSWFFWLIT-MHPTVEDKIVREICTSVLIETRGT-----DVASWTEEPL
CYP86A8   -----ESYSDETLQRVALNFILAGRDTSSVALSWFFWLIT-QHPAIEDKILREICTVLVETRGT-----DVALWTEDEPL
CYP86A7   -----ESYSDKYLKYVALNFILAGRDTSSVAMSWFFWLVS-LNPRVEEKIINEICTILIKTRDT-----NVSKWTDEPL
CYP86A1   VN-----G-----NVLPTDYLQRVALNFVLAGRDTSSVALSWFFWLVM-NNREVEETKIVNELMCKILVNETRGN-----DQEKWTEEPL
CYP86B1   EK-----G-----ESFSDKFLRDICVNFILAGRDTSSVALSWFFWLE-KNPEVEEKIMVEMCKILRQRDDHG-----NAEK-SDYEPVF
CYP86B2   EN-----G-----QKFSDKFLRDICVNFILAGRDTSSVALSWFFWLE-KNPEVEEKIMMGTCKILEQRVDHG-----DTKKNMEYEPVF
CYP86C3   HK-----TTDEK---DPSTIKFFRQFCTSFILAGRDTSSVALTWFFWVIQ-KHPEVENKIIREITSEILRQRGDS-----PTSKNES--LF
CYP86C4   HK-----RENEI---DPSTIRFFRQFCTSFILAGRDTSSVALSWFCWVIQ-KHPEVENKIICEITREILRQRGDS-----PTSKNES--LF
CYP86C2   HK-----RGDEN---DRFTA KFFRQFCTSFILAGRDTSSVALTWFFWLIT-KHPEVETKILHEITREILNQREKNK---YKL-----DETGEKESSRHF
CYP86C1   EK-----EEDTTRGNYSFKYFREFCTSFIIAGRDTTSSVALVWFFWLVIQ-KHPEVEKRLREITREIKR-----KLTQTQETEDQF
CYP94B1   -----GEEAVRDSVISFIMAGRDTTISAAMTWLFWLLS-QNDDVETKILDEL R-----NKGSLGL
    
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CYP94B3 -----NGEAVRDMVISFIMAGRDTTSAAMTWLFWLIT-ENDDVERKILEEVD-----PLVSLGL
CYP94B2 -----SDETVRDMVISIIMAGRDTTSAVATRLFWLIT-GHEETEHDLVSEIRSVK-----EEITGGF
CYP94C1 E-----DDDEYL RDIVVSFLLAGRDTVAAGLTGFFWLLT-RHPEVENRIREELDRVMG-----TGFD SVTA
CYP94D1 M-----NSPEILRDIVISFILAGRDTTSSALSWFFWLLS-MHPEVEDKILQELNSIRAR-----TGKRIGE VY
CYP94D2 M-----NSPEILRDIVISFILAGRDTTSSALSWFFWLLS-MHPEVKDKILQELNSIRER-----TGKRIGE VY
CYP96A1 ICH-----TTKYKLLNPSDDKFLRDMILSFMLAGRDTTSSALTWFFWLLS-KNPKAITKIRQETINTQLSPR-----T
CYP96A9 -----TTKYKLLNPSDDRFLRDTILSFMLAGRDTTGSALTWFFWLLC-MNQEAMTKIRQETINTLFPRNKTD----DGSV-----S
CYP96A10 -----TTKYKLLNPSDERFLRDTILTFMLAGRDTTGSALTWFFWLLI-KNPEVIAKIRQETINTALFORSKVD----DDASN-----N
CYP96A5 -----ISKYELLNPDDNFKLDIIKSFMLAGRDAIATTLTWFFWLLS-KNPEAVTKIRQETINTNLPGS-----
CYP96A11 -----TTKYNLLNPSDDKFLRDTILAFILAGRDTTASALTWFFWLLS-ENAQVVS KIRQETI-INTNPSKNG-----
CYP96A2 -----TTKYKLLNPSDDKFLRDNILAFILAGRDTTATALS WFFWLLS-ENPHVVAKIHQETININTDL SRTG-----
CYP96A12 -----TTKYELLNPSDDKFLRDTILAFNLAGRDTTSSALSWFFWLLS-ENPQVVTKIRKETIDKN--ISKDG---R-----
CYP96A13 -----TTKYELLNPSDDKFLRDTILAFVLAGRDTTASALTWFFWLLL-ENPQVVTKIRQETINTSNNGQEKPS---C-----
CYP96A7 -----ATKYELLNPDDKFLRDFTVS FMAAGRDSTSSALTWFFWNL T-ENPNVLSKILQETINTNL PRTGSDQ-----
CYP96A8 -----ATKYEVLPKPSHDKFLRDFITGFMAAGRDSTASTLTWFFWNL S-KNPNVLT KILQETINTNL PRTGSDQ-----
CYP96A3 -----TTKYKYLEPSDDRFIKDTILGLFIAARDTTSSALTWFFWLLS-KNPEAINKIRQEVNKKMPRFDP-----
CYP96A4 -----TTKYKHLKPSNDKFIRDITILGLVIAARDTTSSALTWFFWLLS-KNPEAMTKIRQETINKKMPK FDP-----
CYP96A15 -----TSKYKLLKPNKDKFIRDVIFSLVLAGRDTTSSVLTWFFWLLS-KHPQVMAKLRHEIN---TKFDN-----
CYP7A3 -----DDVSSQLRDDLMTMLIAGHETSAAVLTWTFYLLT-TEPSVVAKLQEEVDSVIGDRFPTI-----
CYP97C1 -----EEVSSVLRDDLLSMLVAGHETTGSVLTWTL YLLS-KNSSALRKAQEEVDRVLEGRNPAF-----
CYP97B3 -----VDIDDRQLRDDLMTMLIAGHETTAAVLTWAVFLLS-QNPEKIRKAQAEITDAVLGQGPPTY-----
CYP709B2 -----SNESEKK--MSIDEIIEECKTFFFAGHETTANLLTWSTMLLS-LHQDWQEKLR EEFVNECCGDKIPD---AE-----
CYP709B3 -----SNEYERK--MRMDEIIEECKNFYYAGQGTTSILLTWTTMLLS-LHQGWQEKLR EEFVNECCGDKIPD---TD-----
CYP709B1 -----TEGKERK--MSIEEIIHECRTFFFGGHETT SNLLAWTTMLLS-LHQDWQEKLR EEFKCEGKEKTPD---SE-----
CYP735A1 -----IDKNNNNNNNNLQLEVTDECKTFFFAGHETTALLTWTTMLLA-DNPTWQEKVREEVICV LGQTGLPT---LD-----
CYP735A2 -----SNKNNLN---VQMIMDECKTFFF TGHETT SLLL TWTLMLLA-HNPTWQDNVRDEVRQVCGQDGVPS---VE-----
CYP72A11 -----LGQTKGNMSTEDLMEECKLFYFVQGETTSVLLVW TMVLLS-QHQDWQARAREEVKQVFGDK-EPD---AE-----
CYP72A13 -----LGQTKGNMSTEELMEECKLFYFAGQETT VLLVW TMVLLS-QHQDWQARAREEVKQVFGDK-EPD---AE-----
CYP72A15 -----LRQTEGNMSTEDLMEECKLFYFAGQETT SVLLVW TMVLLS-QHQDWQARAREEVKQVFGDK-EPD---AE-----
CYP72A10 -----LGQAKGNMSTEDMEECKLFYFAGQETT SVLLVW AMVLLS-HHQDWQARAREEVKQVFGDK-EPD---TE-----
CYP72A14 -----LGQTEGNMSTEDMEECKLFYLAGQETT SALLVW TMVLLS-QHQDWQARAREEVKQVFGDK-QPD---TE-----
CYP72A9 -----SEQSKGNLNMEEIMEECKLFYFAGQETT SVLLAW TMVLLS-QHQDWQARAREEVMQVFGHN-KPD---LQ-----
CYP72A7 -----SEESQGNM SVEDVMKECKLFYFAGQETT SVLLVW TMVLLS-HHQDWQARAREEVMQV LGENNKPD---ME-----
CYP72A8 -----SGD---HGMSIEDVVEECLRFH FAGQETTAVLLVW TMIMLS-HHQKWQDQAREETLKVIGKNNKPN---FD-----
CYP72C1 K-T-----IKEQGPDSGLSLDDLIDDCKAFYLAGQNTSSLFVW TLVALS-QHQDWQNKARDEETLSQAFGNN-EPD---FE-----
CYP734A1 -----NVTVQDIV EECKSFFFAGKQTT SNLL TWTTILLS-MHPEWQAKARDEVL RVC GSRDVPT---KD-----
CYP721A1 -----GQEEKLGIEEVTDECKTFFFAKETTANLMTFVLVLLA-MNQEWQNIAREEVICV LGQTGLPT---LD-----
CYP715A1 -----KGNFTAKELVDECKTFFFAGHETTALMTWTFMLLA-IHPEWQDTIREETREVI GDS-KIE---YN-----
CYP714A1 SSC-----DGNLEDKTSYKSFVDNCKSIYFAGHETS AVAVSWCLMLLA-LNPSWQTRIRDEVFLHCKNG-IPD---AD-----
CYP714A2 RSC-----DGNLWDKS-AYRRFVDNCKSIYFAGH DSTAVSVSWCLMLLA-LNPSWQVKIRDETLS SCKNG-IPD---AE-----
CYP74A -----ISREEATHNLLFATS FNTWGGMKILFPNMVKRIGPGGHQVHNRLAEETRSV IKSNGGELT-----
CYP74B2 -----LTRDEAINQLL FVLGFNAYGGFSVFLPSLIGRITGDNSGLQERIRTEVRRVCGS-GSDLN-----
CYP73A5 GE-----INEDNVLYIVENINVAIETTLWSIEWGIAELV-NHPEIQSKLRNELDTVLGPG-----VQVTEIP-----
CYP722A1 TP-----QLTDAEIKDNILTMIIAGQDTTASALTW MVKYL G-ENQKVL DILIEEQSQITKKASNKP-----
CYP701A3 T-----LTKEQIAILVWETIIETADTTLV TTEWAIYELA-KHPSVQDRLCKEETQNVCGGEKFKEE-----
CYP711A1 DPFKN-----IFTSDYISAVTYEHL LAGSATTFTLSSVLYLVS-GHLDVEKRL LQETIDGFGNRDLIPT-----
consensus 401.....410.....420.....430.....440.....450.....460.....470.....480.....490.....
    
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CYP51A1 -----VLSEMDFLFRSAKEALRLHPPKILLRLTVHSDFTVTTREG---KQYEIPKGGHIVATSPAFANRLPHVYK--DPENFDPDFRFSKEREEDKAAG
CYP51A2 -----ILSEMDVLYRCIKKEALRLHPPPLIMLMRASHSDFSVTARDG---KTYDIPKGGHIVATSPAFANRLPHIFK--DPDTYDPERFSPGREEDKAAG
CYP710A1 -----QLAEMKYTRSVAREVIRYRPPATMVPHVAIDFPLTET-----YTIPKGTIVFPS--VFDSSFQGF--EPDRFDPDFRSETRQEDQVFK
CYP710A2 -----QLAEMKYTRAVAREVVYRPPATMVPHIATNDFPLTES-----YTIPKGTIVFPS--VFDASFQGF--EPNRFDPDRFSETRQEDQVFK
CYP710A3 -----QLAEMKYTRAVAREVLRYRPPASMPHVAVSDFRLTES-----YTIPKGTIVFPS--LFDASFQGF--EPDRFDPDFRSETRQEDQVFK
CYP710A4 -----QLAEMKYTRAVAREVLRYRPPASMPHVAVSDFRLTES-----YTIPKGTIVFPS--LFDASFQGF--EPDRFDPDFRSETRQEDQVFK
CYP702A1 -----YKS-MTFTQMVINESLRLITSTAPTFLRVLEHDFQVGS-----YKIPAGWIFMGYP--NNHFNPKTYD--DPLVFNPNRWEGKDLGAIVSR
CYP702A2 -----YKS-MHFTQMVINESLRLIISTAPTFLRVLEHDFQVGD-----YTIPAGWTFMGYP--HIHFNSEKYE--DPYAFNPNRWEGKDLGAIVSK
CYP702A8 -----YKS-MTFTNMVINESLRLISTTVPVILRKPDPDHTKVGD-----YTIPAGWNFMGYP--SAHFDPTKYE--DPLEFNPNRWKGNLDLDAIVST
CYP702A5 -----YKS-MTFTQMVINESLRLITSTVPTVLRIIDHEIQFGD-----YTIPAGWIFMGYP--YVHFNPEKYD--DPLAFNPNRWKGDLSAIVSK
CYP702A6 -----YKS-MTFTQMVINESLRLITSTVPTVLRIIDHEIQFGE-----YTIPAGWIFMGYP--YVHFNAEKYD--DPLAFNPNRWKGDLSAIVSR
CYP702A3 -----YKS-MTFTHMVIKESLRLFTSTQPTVHRIPDQDVQIGD-----YTLPAGWLFVFGYP--QVHFDEEKYD--DPLTFNPNRWQGDINSTVSR
CYP708A2 -----YRHQMTFTNMVINEFLRLMANMAPPIMYRKAVNDVEIKG-----YTIPAGWIVAVIPPAVHFNDAIYE--NPLEFNPNRWEGKELRS--GSK
CYP708A3 -----YRHNMTFTNMVSNVFLRLANTTPLLFRKAVQDVEIKG-----YTIPAGWIVAVAPSAVHFDPAIYE--NPFEFNPNRWEGKEMIW--GSK
CYP708A4 -----YRHKMTFTNMVINESLRLITNLAPMLFRKAVKDVEIKG-----YTIPAGWIVMIIPSVVHFDPPEIYE--NPFEFNPNRWEGKELRA--GSK
CYP708A1 -----YRSMNFTHMVINESLRLGSLSPAMFRKAVNDVEIKG-----YTIPAGWIVLVVPSLLHYDPQIYE--QPCEFNPNRWEGKELLS--GSK
CYP87A2 -----YKS-MTYTFQFINETARLANIVPAIFRKALRDIKFKD-----YTIPAGWAVMVCPPAVHLNPEMYK--DPLVFNPNRSRWEKSKVTN--ASK
CYP90A1 -----YKS-MPFTQCVNETLRLVANIIGVFRRAMTDVEIKG-----YKIPKGGWVVFSSFRVHLDPNHFK--DARTFNPNRWQSNVSTTGPS--
CYP90B1 -----YKK-MDFTQCVINETLRLGNVFRFLHRKALKDVRKYG-----YDIPSGWIKVLPVISAHLDNSRYD--QPNLFNPNRWQQRNGASSSG
CYP90C1 -----YMS--LSFTQNVINETLRLMANIINGVWRKALKDVEIKG-----YLIPKGGWCVLASFISVHMDEDIYD--NPYQFDPWRWDRINGSANSS--
CYP90D1 -----YLS--LPFTQKVITETLRLMGNVIIGVMRKAMKDVEIKG-----YVIPKGGWCFLAYLRSVHLDKLYYE--SPYKFNPNRWQERDMNTSS--
CYP724A1 -----YQK-MEFTQCVISEALRCGNIVKTVHRKATHDIKFNE-----YVIPKGGWVFPIFTAVHLDPSLHE--NPFEFNPNRWTDKAKMNNKT--
CYP720A1 -----YKT-MDFTQCVIDEITLRLGGIAIWLREAKEDVSYQD-----YVIPKGGCFVVPFLSAVHLDSEYYK--ESLSFNPNRWLDPETQQRN--
CYP85A1 -----VKS-MKFTRAVIYETSRLATIVNGVLRKTTDRLEING-----YLIPKGGWRIYVYTREINYDANLYE--DPLIFNPNRWMMKKSLESQNS--
CYP85A2 -----IKS-MKFTRAVIFETSRLATIVNGVLRKTTDHDLELNG-----YLIPKGGWRIYVYTREINYDTSLYE--DPMIFNPNRWMEKLSLESYS--
CYP707A1 -----TKK-MPLTSRVIQETLRLVASILSFTFREAVEDVEYEG-----YLIPKGGWVLPFRNIHHSADIFS--DPGKFDPSRFEV--APKPNT--
CYP707A3 -----TKK-MPLTYRVIQETLRAATILSFTFREAVEDVEYEG-----YLIPKGGWVLPFRNIHHSADIFS--DPGKFDPSRFEV--APKPNT--
CYP707A2 -----TRK-MPLTTRVIQETLRAASVLSFTFREAVQDVEYDG-----YLIPKGGWVLPFRRIHHSSEFFP--DPEKFDPSRFEV--APKPYT--
CYP707A4 -----TRN-MPLTHKVIIVESLRMASIISFTFREAVVDVEYKG-----YLIPKGGWVMPFRNIHHSNPKYFS--NPEVFDPSRFEV--NPKPNT--
CYP88A3 -----TRK-MEFLSQVDEITLRLVITFSLTAFREAKTSDVEMNG-----YLIPKGGWVLTWFRDVHIDPEVFP--DPRKFDPARWNGFVPAKAGA--
CYP88A4 -----TRE-MVYLSQVIDETLRLVITFSLTAFREAKSDVQMDG-----YIIPKGGWVLTWFRNVHLDPEIYP--DPKKFDPSRFEV--YTPKAGT--
CYP716A1 -----IEK-MRYSWNVACEVMRIVPPLSGTFREAI DHFSFKG-----FYIPKGGWKLWYSATATHMNPDYFP--EPERFEPNRFEG--SGPKPYT--
CYP716A2 -----IEK-MRYSWNVACEVMRIVPPLAGTFREAI DHFSFKG-----FYIPKGGWKLWYSATATHKNPEYFP--EPEKFEPSRFEV--SGPKPYT--
CYP718 -----VKK-MKYSWQVRETMLRSLPPIFGSFRKAVADIDYGG-----YTIPKGGWKLWTTYGTHYNPEIFQ--DPMSEFDPTRFDK--P--IQAYT--
CYP71A12 -----DVENMKYLKAVIKEVFRVHPPLPLLPRLLSEDEVKVKG-----YNIAAGTEVIIINAWAIQRDPAIWGPDAAEFKPERHLD----STLDY
CYP71A13 -----EVENMKYLKAVIKEVRLHPSLPMILPRLLEDVVKVKG-----YNIAAGTEVIIINAWAIQRDTAIWGPDAAEFFKPERHLD----SGLDY
CYP71A18 -----EVENMRYLKAVIKEVFRVHPPLPLLPRLLTEDVVKVKG-----YDIAAGTEVIIINAWAIHRDPAIWGPDAAEFKPERHLD----STLDY
CYP71A14 -----DVEDMKYLKAWKEVRLHPPPLLLVPRELSEDIKLGK-----YDIAAGTQVIIINAWAIQRDTMTWGDAAEFKPERHLD----SLVDF
CYP71A15 -----EVEDMKYLKAVIKEGLRLHPPFPLLVLRLLTQDVKLGK-----YDIAAGTQVITINAWAIQRDITWGDAAEFKPERHLD----SPLDF
CYP71A28 -----EVENMKYLKAVIKEVFRLLHPPGPLSIPRQLSEDFIN-----YDIAAGTQVIIINAWAIHRDTEKWPYAEFFKPERHLD----LPLNF
CYP71A19 -----EAEKMDYLQAVIKEALRLRPPAPLMVPRVSEDEVTLKG-----YNIPAGTQVIIINAWAIQRDTTTWGDAAEFKPERHLD----SILDF
CYP71A20 -----EAEKMNLYQAVIKEALRLRPPAPLLVPRVLEDVVKLGK-----YNIPAGTQVIINAWAIQRDTTTWGTDAEFAKPERHLD----TNLDF
CYP71A16 -----EVENMNYLKAVIKEVRLHPPPLLLVPRLLSEDEVKLGK-----YDITAGTQVIINAWAIQRDTATWGSQAQEFKPERHFD----STWDF
CYP71A27 -----EVEKMNLYLHCVIKEGLRLHPSGPLLF--RLPSEDEVQLKG-----YDISAGTHVIIINAWALORNPATWGLDANEYRPERHXW----YFEGF
CYP71A21 -----DIQNMSYLKAVIKETTRLHPPPLLLAPHESIQDVILGD-----YHIPAGTQVMINAWAIGREAAWGPDAEKFRPERHLD----SSVDF
CYP71A22 -----DIKDMNLYLKAVIKETMRLHPPPLLMVPHESTQDVRLGD-----YHIPAGTQVMINAWAIGREAAWGPDAEKFRPERHLN----SSVDF
CYP71A24 -----DLQDMKYLKAVIKETLRLHPPPLLMVPHESTHDVVKLRD-----YHIPAGTHVMINAWAIGREAAWGPDAEFAKPERHLN----SYVDF
CYP71A26 -----EIQNMSYLKAVIKEALRLHPPPLLMVPHESTQDVRLGD-----HHIPAGTQVILINAWAIGREAAWGPDVEFAKPERHLD----SSVDY
CYP71A25 -----DIQGMKYLKAVIKEALRLHPPFPMPAPHESTEDVKLRD-----YHIPAGTQVMNNAWAI GREVATWGPDAEFAKPERHLD----TSVDF
CYP71A23 -----DIQGMKYLKAVIKEALRLHPPVPLMVPHQSTQDVRLRD-----NHIPAGTQVIVNLWAVGREAAWGPDAEFAKPERHLE----SPSDF
    
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CYP71B26 -----DTDKLEYLKMVIKETWRLHPPTPLLLPRDVITEFEING-----YTIIPAKTRLHVNVAIGRDPDTWK-DPEMFLPERFND----SNIDA
CYP71B33 -----DIEQLHYLKTVIKETWRLHPPAPLLLPREVMSEFEING-----YTMQPKTQIHVNVVAIGRDPNTWK-DPEEFLPERFID----SNIDT
CYP71B34 -----DTDKLEYLKMVIKETWRLHPTTPLLIPREAMSEFEING-----YTIPVKTRLHVNVAIGRDPDTWK-DPEVFLPERFTD----NNIDA
CYP71B35 -----DMDQLEYLKMVIKETWRLHPTTPLLIPREAMSEFDING-----YTIPVKTRLHVNVAIGRDPDTWK-DPEVFLPERFMD----NNIDA
CYP71B36 -----DIDQLHYLKMVINETWRLHPPSPFLIPRQVMSEFELND-----YVIVPKTRLVNVVAIGRDPDTWK-DPEEFLPERFVN----SSIDA
CYP71B37 -----DIDQLHYLKMVINETWRLHPPAPLLVPREVMSEFEING-----YTIIPAKTRLVNVWGIWRDPDTWK-DPEEFLPERFVN----SNIDA
CYP71B9 -----DIDHLPYLKMVIKETWRLHPPVPLLLPREVMSEFEING-----YKIQPKTRLVNVVAIGRDPDSWK-DADMFYPERFMD----NNIDA
CYP71B10 -----EINHLSYLNVMVIKETCRLHPVAPLLVPREVISEFKING-----YTIQPKTRLHVNVAIGRDPETWK-DPEEFLPERFMD----CDIDV
CYP71B11 -----DIERLEYLKMVKETFRVLPVPLLLIPREASKDVKIGG-----YDIPKKTWIHVNIWAIHRNPVWVK-DPEAFIPIPERFMD----NQIDY
CYP71B12 -----DIERLQYLKMVIKETFRINPLVPLLLIPREASKDVKIGG-----YNIPKKTWIHVNIWAIHRNPVWVK-DPEAFIPIPERFMD----SQIDY
CYP71B14 -----DIERLEYLKMVIKETLRINPLVPLLLIPREASKYIKIGG-----YDIPKKTWIYVNIWAVQRNPVWVK-DPEVFIPIPERFMH----SEIDY
CYP71B13 -----DIEGLEYLKMVKETLRINPLVPLLLIPREASKDVKIGG-----YNIIPKKTWIHVNIWAIHRNPVWVK-DPEAFIPIPERFMD----NQIDY
CYP71B6 -----DLEALVYMKVIKETWRLHAPSILIPREAMTNFKIKG-----YDIYPTRIHVNAWAIGRNPDVWK-DPDEFIPIPERFVD----SNVET
CYP71B28 -----DLNQLHYFKLVKKEIFRLHPAAPLLLPRETLSHVKIQQ-----YDIIPAKTQIMINAYAIARDPKLWT-NPDEFNPDRLFID----SSIDY
CYP71B29 -----DLTNLHYFKLVKKEIFRLHPAVPFLLPRETLSHVKIQQ-----YDIIPAKTQIMINAYAIARDPKLWT-NPDEFNPDRLFID----SSIDY
CYP71B15 -----DLNQLHYFKLVKKEIFRLHPTTPLLIPRQTMSHIKIQQ-----YDVPAKTQILVNVYAMGRDPKLEWE-NADEFNPDRLFID----SSVDF
CYP71B23 -----DLNQLNYFKLVKKEIFRLHPAAPLLLIPREMAKIKIQQ-----YDIPEKTQIMVNVYAIWRDPDLWE-NPEEFKPIPERFVD----SSVDY
CYP71B7 -----DLSQVHYFKLVKKEIFRLHPAAPLLLIPRETMASHVKIQQ-----YDIIPVKTQMMINYSIARDPKLWT-NPDEFNPDRLFID----SSIDY
CYP71B16 -----DLNKVPFLNMVIKETFRLHPVAPLLLIPRETMTHIKVQG-----YDIIPKRRILVNVVAIGRDPDLWI-NPEEFNPIPERFIN----SPVDY
CYP71B17 -----DLDKVPFLNLVIKETFRLHPVAPLLLIPRETMASHVKIQQ-----YDIIPKRRILVNVVAIGRDPKLTWT-DPEEFKPIPERFID----SPVDY
CYP71B18 -----DINKVPYLNVLVIKETFRLHHPVPLLLIPRETMASHVKIQQ-----YDIIPKRRILVNVVAIGRDPKLTWT-NPEEFNPIPERFIN----SPVDY
CYP71B19 -----DIEKVPYLKMVIKETFRLHPAAPLILIPRETMASHVKIQQ-----YDIIPKRRILVNVVAIGRDPKLTWT-NPKEFDPERFMD----SFVDY
CYP71B20 -----DIDKVPYLKMVIKETFRLHPAAPLILIPRETMASHVKIQQ-----YDIIPKRRILVNVVAIGRDPKLTWT-NPEEFNPIPERFMD----SSVDY
CYP71B2 -----DLGKVEYLNHILKKEIFRLHPPAPFVVPRETMASHVKIQQ-----YDIIPKKTQIQVNVWITIGRDPKRW-NPEEFNPIPERFAN----SSVDF
CYP71B27 -----DLCKDFCLKHIVKKEIFRLHPPVFLVPRETMSHIKIQQ-----YDIIPKKTQIQVNVWITIGRDPKRW-NPEEFNPIPERFAN----TCVDF
CYP71B21 -----DLEKVHYLKLVIQETFRLHPPAPLLLIPRETMASHVKIQQ-----YNIIPKNTMIEINTYAIWRDPNCWT-NPNEFIPIPERFVD----SPIDY
CYP71B22 -----DLEKVHYLKLVIQETFRLHPPAPLLLIPRETMASHVKIQQ-----YNIIPKNTMIEINTYSIGRDPNCWE-NPNEFIPIPERFID----SPVEY
CYP71B38 -----DLEKVEYLKLVVETFRLHPPAPLLLIPRETMASHVKIQQ-----YNIIPKNTMIQINTYAIWRDPKYWK-OPGEFIPIPERFLD----SPIDY
CYP71B5 -----DLEKVEYLKLVVETFRLHPPAPLLLIPRETMASHVKIQQ-----YSIPKNTMIQINTYAIWRDPKNTWT-KPDEFIPIPERFVD----NPIEY
CYP71B31 -----DLEKVEYLNLVIKESFRLHPPAPLLLIPRETMASHVKIQQ-----YHIPKNAHVKINTYAIWRDPKRW-NPEEFNPIPERFLN----TSINY
CYP71B8 -----DLEKVEYLKLVIKETFRLHPPGPFLLIPRQVMSEFELND-----YHIPKNAHIKISTYAIWRDPKWT-NPEEFNPIPERFAN----TSINY
CYP71B32 -----DLQKVEYLNVMVIKETFRLHPPSPLLLIPRETMASHVKIQQ-----YHIPKNAHIRINTYAIWRDLKCS-NPE-----RFLN----TSINY
CYP71B24 -----DVKLQYLKLVIKKEIFRLHPPAPLLLIPRETMASHVKIQQ-----YNIIPSKTILLVNVWSIGRDPKHVK-NPEEFNPIPERFID----CPIDY
CYP71B3 -----DVKLQYLKLVIKKEIFRLHPPAPLLLIPRETMASHVKIQQ-----YDIIPRKTILLVNVWSIGRNPPELWE-NPEEFNPIPERFID----CPMDY
CYP71B25 -----DVGKLQYLKLVIKKEIFRLHPPAPLLLIPRETMASHVKIQQ-----YDIIPRKTILLVNVWSIGRDPKYWK-NPEEFNPIPERFID----CPVDY
CYP71B4 -----DLDKLQYLKLVIKKEIFRLHPPAPLLLIPRETMASHVKIQQ-----YDIIPQKRALLVNVWSIGRDPESWK-NPEEFNPIPERFID----CPVDY
CYP83A1 -----DVKNLPLYFRALVKEITRLIHPVPLLLIPRACIQDTKIAG-----YDIIPAGTTVNVNAWVSRDEKEWGNPDEFRPERFL--E--KEVDF
CYP83B1 -----DIPNLPYLKAVIKESLRLIHPVPLLLIPRACIQDTKIAG-----YDIIPAKTIIQVNAWVSRDTAAWGNPNEFIPIPERFMNEH--KGVDF
CYP84A1 -----DIEKLTYLKCTLKETLRMHPPPIPLLLIPRETMASHVKIQQ-----FFIPKKSVMINAFAIWRDPDTSWT-DPDTFRPSRFLP--GVPDF
CYP84A4 -----HLEKLTFLKCILKETLRHPPFPLLLIPRETMASHVKIQQ-----YFIPKKSVMINAFALGRDPNSWS-DPESFNPIGRFLN--IAPDL
CYP705A1 -----DLPNLPYLQAVWKEGLRLHPPPTPLVWRE-FQEGCEIGG-----FFVPKNTTLLVNVSYAMMRDPDSWQ-DPDEFKPIPERFLAS--LSRE
CYP705A24 -----DLPKLPYLQAVWKEGLRLHPPVAVLPRE-FTQDCNIGG-----FYIHEGTSLVNVNAYAVMRDPDIWE-DPNEFKPIPERFLDAS--RLGQE
CYP705A15 -----DLPNLPYLQAVWKEGLRLHPPGFLFARF-SQEGCRIGG-----FYIPEKTTLMINAYAVMRDSDSWE-DPDEFKPIPERFLASS--RSEQE
CYP705A4 -----DLPKLPYLQAVWKEITRLHPPGPFLLRF-TKEGCRIRG-----FYVPENTSVVNVYAVMRDPDAWE-DPLVFKPIPERFLASS--RAEQE
CYP705A16 -----DLPKLPYSQAVWKEGLRLHPPPTPLMVRE-FQEGCKVKG-----FYIPASTTLLVNVYAVMRDPNVWE-EPEEFKPIPERFLASS--RLREE
CYP705A19 -----DLPKLPYLQAVWKEGLRLHPPPTPLMVRE-FQEGCKVKG-----FYIPASTTLLVNVYAVMRDPNVWE-DPEEFKPIPERFLASS--RLMQE
CYP705A20 -----DLPKLPYLQSVWKEGLRLHPPPLPLMVRT-FQRSCMKG-----FYIAEKTTLVNVNAYAVMRDPDPTTWE-DPDEFKPIPERFLR-----QE
CYP705A21 -----DLPKLPYLQAVWKEGLRLHPPPLPLFVRT-FQEGCKIGG-----FYIPEKTTLIGNAYVMMRDPSWE-DPEEFKPIPERFLSSS--RSTQE
CYP705A23 -----DLPSLPYLQATVKEGLRLHPPGFLFART-AREGFSVGG-----FYVPENTPLLVNAYAVMRDPGSWE-DPNEFKPIPERFLGS-----GK
CYP705A28 -----DLSNLPYLQSVWKEGLRLHPPASISVRM-SQERCELG-----FYIPEKTTLLVNVNTYAIWRDPNVWE-DPEEFKPIPERFITSS--RSEQE
    
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CYP705A30 -----DLPNLPYLQAVVKEGLRLHPPGGSISVRM-FQERCELKG-----FYIPEKTLVVNTYAAIMRDPNFW-E-DPEEFKPERFLASS--RSEQE
CYP705A32 -----DLPNLPYLQAVVKEGLRLHPPGAVFLRT-FQERCELKG-----FYIPEKTLVVNVYAAIMRDPKLWE-DPEEFKPERFLASS--RSGQE
CYP705A2  -----DLPNLLYLQAIKEGLRLHPPGFP LLPRT-VQERCEIKG-----FHIPEKTLVVNSYAAIMRDPDFWE-DPDEFKPERFLSIS--RSGQE
CYP705A5  -----DLPNLPYLQAIVKEGLRLHPPG-PVVRT-FKETCEIKG-----FYIPEKTRLFVNVYAAIMRDPDFWE-DPEEFKPERFLASS--RLGEE
CYP705A8  -----DLPNLLYLQATVKEGLRLHPTIPLVLR-FQDGCTIGG-----FSIPKKTKLVVNGYAAIMRDPDNWE-DPLEFKPERFLASS--RSSQK
CYP705A9  -----DLPNLPCLQATVKEGLRLHPPVPLVLR-FKEGCTIGG-----FYIPEKTLVVNGYAMMRDPEYWE-DPQEFKPERFLASS--RSSQN
CYP705A18 -----DIPNLPYLQAVVKEGLRLHPPGPLLIRT-FQERCEMKG-----FYIPEKTLVINYAYVMRDPDSWE-DPDEFKPERFLSYS--RSGQE
CYP705A6  -----DLPNLPYLQAVVKEGLRLHPPGPLLVRT-FQERCKIKG-----FYIPEKTLVINYAYVMRDPDSWE-DPDEFKPERFLRSS--SSGQE
CYP705A33 -----DIPNLPYLQAVVKEGLRLHPPFP LLTRK-FEERCEIKG-----FYIPEKTFLLINAYAWMRDPDSWE-DPNEFKPERFLGSS--RLGQV
CYP705A3  -----DLPNLPYLQAVVKEVRLHPPSPVLRK-FQEKCEVKG-----FYIPEKTLVINVYAAIMRSDSWE-DPEKFKPERFLTSS--RSGEE
CYP705A22 -----DLPNLPYLHAVIKKALRLHPPGPLLPRE-FQQGCKIGG-----FYIPEKTLTLLINAYVVMRDPNVWE-DPEEFKPERFLASS--RSGQE
CYP705A12 -----DLPNLPYLQAVVKEGLRLHPSAPVLLRV-FGSECEVKE-----FVYPEKTLVNVNLYAVNRDPDSWE-DPDMFKPERFLVSS--ISGDE
CYP705A13 -----DLPNLPYLQAVIKKGLRLHPPAPLLGRK-VTDGCTIGG-----CYVPKNTTLVVNAYAVMRDPDSWE-DPDEFKPERFLASS--RGKEE
CYP705A25 -----DLPNLPYLQAVMKEGLRLHPHTPILVRN-ATEGCKIGG-----YYIQNTTMMVNAYAVLRDPDSWE-YPDEFKPERFMTSP--LKGKE
CYP705A27 -----DLSNLPYLQAVMKEGQRLHPSPLMLVRN-ATKGCKIGG-----YYIQNTTMLINTYAMMIDPDSWE-NPDKFQPERFMVSP--SKGKD
CYP712A1  -----DVPNLPYLRAVLRRLHPSAPLIIRE-CAEDCQVNG-----CLVKSSTRVLVNVYAAIMRDELWA-DADRFIPERFLE----SSEE
CYP712A2 -----DLQKLPYLQAAIKETLRLHPVGPLLRRE-SNTDMKING-----YDVKSGTKIFINAYGIMRDPITTYK-DPDKFMPEFLVVE--QDTER
CYP93D1  -----DLCNLSYTAQAVKEMRLHPPGPIFVRE-SDEECVAG-----FRIPAKTRIVNVVAIGRDSNQWE-DPLEFRPERFEGSE--WKVMS
CYP81D6  -----DTKNLPYLQWIVLETLRLHPAAPTNPVHSTSEDCMLAG-----YDVPRGSMLLVNIWVSMHRDPSIWE-DPEMFKPERFKNEK-----
CYP81D7  -----DTKNLPYLQWIVLETLRLHPVAPPTNIPHMTSDDCILAG-----YDVPRGSMLLVNVVSMHRDPSIWE-APEMFKPERFKNEK-----
CYP81D11  -----DIVKLPYLQHIVSETLRLYPVAPMLLPHLASEDCIVDG-----YDVPRGTIILVNAWAIAHRDPKLWE-EPEKFKPERFEKKG-----
CYP81D2  -----DIPNLPYLQNIIVSETLRLYPAAPMLLPHVASKDCKVGG-----YDMPRGTMLLTNAWAIAHRDPQLWD-DPTSFKPERFEKEG-----
CYP81D3  -----DLSHLPYLQNIIVSESLRLYPASPLLVPHVASEDCKVGG-----YHMPRGTMLLTNAWAIAHRDPKIWD-DPTSFKPERFEKEG-----
CYP81D8  -----DISNLPYLQNIIVSETLRLYPAAPMLLPHVASEDCKVAG-----YDMPRGTIILLTNVAWAIAHRDPQLWD-DPMSFKPERFEKEG-----
CYP81D4  -----DIVNLSYLQSIIVLETLRMYPAVPLLLPHLSSSEDCKVGG-----YDIPSGTILLTNVAWAIAHRDPEVWE-EPEIFKPERFEKEG-----
CYP81D5  -----DIVNLHYLQNIIVSETLRLYSAPVLLLPHFSSDECKVAG-----YDMPRRTLLLTNVWAMHRDPGLWE-EPEKFKPERFEKEG-----
CYP81D1  -----DLSELPLYKNIVLETLRLHPATPLLPHMASEDCKIGS-----YDMPRGTIILLVNAWAIAHRDPNTWD-DPDSFKPERFEKEE-----
CYP81F3  -----DIANLPYLQNIIVSETFRLYPAAPLLVPRSPTEIDKIVGG-----YDVPRGTMMVMNAWAIAHRDPELWN-EPEKFKPERFNGGE--GGGRG
CYP81F4  -----DIANLPYLQNIIVSETLRLHPAAPVLVPRSTAEDIKIGG-----YDVPRDTMMVMNAWAIAHRDPDLWT-EPERFNPERFNGGE--GEK
CYP81F2  -----DIANLPYLQNIIVSETFRLCPAAPLLVPRSPTEIDKIGG-----YDIPRGTIVLVNAWAIAHRDPRLWD-EPEKFMPERFEDQE-----
CYP81F1  -----DIAVLPYLQNIIVSETFRLFPVAPFLIPRSPTEIDKIGG-----YDVPRDTIVMNAWAIAHRDPEIWE-EPEKFNPRYNDGCG--G--SD
CYP81H1  -----DLVNMNLYLKNVSETLRLYPVAPLMLVPHVPSDDCVIGG-----FNVPRDTIVLVNLVAWAIAHRDPSVWD-DPTSFKPERFEGSD--Q--FG
CYP81G1  -----DTGKCPYLNIVSETLRLFPAAPLLVPHASSTDCVAG-----FDIPRRTWLFINVAWAIAQRDPNVWD-DPETFKPERFESET-----
CYP81K1  -----DLSSLPYLRCVIYETLRLYPAAPLLPHCSSKRFLNGLN-----YEIPENIMLLVNAWAIAHRDPELWN-EANVFKPERFEGFV--G--D
CYP81K2  -----DLSSLPYLRCVIYETLRLHPAAPILPHCSSKRFLNGLN-----YEIPENTVLLVNAWAIAHRDPELWN-EADVFKPERFEFV--G--D
CYP82C3  -----DIKNLVYLQAIKETLRLYPAAPLLGHREAMEDCTVAG-----YNVPCGTRLIVNVWIKIQRDPKVYM-EPNEFRPERFITGE--AKDFD
CYP82C2  -----DIENLVYLQAIKETLRLYPAGPLLGHREAMEDCTVAG-----YNVRRGTRMLVNVWIKIQRDPKVYM-EPNEFRPERFITGE--AKEFD
CYP82C4  -----DIENLVYLQAIKETLRLYPAGPLLGPREAMEDCTVAG-----YVPCGTRLIVNVWIKIQRDPKVYM-EPNEFRPERFITGE--AKEFD
CYP82F1  -----DIKDLVYLQAIKETFRLYPVPLVAYRAVVEDFDIAFCK-----CHVPAGTQLMVSAAWKIHRDPNVWS-NPEQFEPERFLT-S--NRELD
CYP82G1  -----DIQNLKYLQAIKETHRLYPAPLGTGIREAREDCVGG-----YRVEKGTRLLVNIWKLHRDPKIWP-DPKTFKPERFME----DKSQ
CYP76C2  -----DISALPLYLQAVKETFRLHPAAPLLVPRKAESD-VEVLG-----FMVPKDTQVFNVAWAIGRDPNVWE-NSSRFKPERFLG----KDIDL
CYP76C4  -----DISGLPLYLQAVKETFRLHPAAPLLVPRKAESD-VEVLG-----FMVPKDTQVFNVAWAIGRDPNVWE-NPSQFEPERFMG----KDIDV
CYP76C1  -----DISKLPYLQAVKETFRLHPTVPLLIPRKAESD-AEILG-----FMVLKDTQVFNVAWAIGRDPNVWD-NPSQFEPERFLG----KDMDV
CYP76C5  -----HISKLPYLQAVIKETFRLHPAAPFLIPRKAERD-VEILG-----FHVPKDSHVLVNVVAWAIGRDPNVWE-NPTQFEPERFLG----KEIDV
CYP76C6  -----DISKLPYLKAVKETFRLHPAAPFLIPRKAETN-VEILG-----FTVLKDSQVFNVAWAIGRDPNVWE-NPTHFEPERFLG----KEIDV
CYP76C3  -----DIPSLPLYLQAIKETFRLHPAAP-LIPRKAESD-VQIMG-----FLVPKNTQVFNVAWAIGRDPNVWE-NPMKFEPERFLG----RETDV
CYP76C7  -----DIVKLPYLQAVKESLRLHPPAPFLVPRKESDDVQIFE-----FLIPKNTQVFNVAWAIGRDPNVWK-NPTQFEPERFLG----RGIDV
CYP76G1  -----DLPNLPYLSAVIMETLRLHPPPLFLVPHKAMSTCHIFDQ-----YTIIPKETQVFNVAWAIGRDPKTIWI-DPIMFKPERFISD--PDARDF
CYP75B1  -----DIAQLPYLQAVIKETFRLHPTPLSLPHIASES-CEING-----YHIPKGTSLTLLNIWAIARDPQMS-DPLAFKPERFLPGGEKSGVDV
CYP706A1  -----HLPKLPYLQAVMKEGLRLHPTLPLLPHRNSETSVVAG-----YTVPKDSKIFINVAWAIAHRDPKNWD-EPNEFKPERFLS--LDF
    
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CYP94B3 GFE-----DLKEMAYTKACLCEAMRLYPPVSWDSKHAANDDVL PDG-----TRVKRGGDKVTFYPYGMGRMETLWGT DSEEFNPNRWF DSEPGS----
CYP94B2 DYE-----SLKKLSL LKACLCEVMRLYPPV PWSKHALTDDR L PDG-----TLVRACDRVTFYPYGMGRMEELWGEDWDEFKPNRWAESYDKT----
CYP94C1 RCD-----EMREMDYLHASLYESMRLFPFPVQFDSKFALNDDV L SDG-----TFVNSGTRVTFYHAYAMGRMDRIWGPDYEEFKPERWLDNEGKF----
CYP94D1 GFE-----HLKMMNYLHAAITESLRLYPPVPVDIKSCAEDNVL PDG-----TFVKGKWAITYNIIFAMGRMESIWGKDCDRFDPPERWIDETNGC----
CYP94D2 GFE-----DLKLMNYLHAAITESLRLYPPVPVDTMCAEDNVL PDG-----TFIKGDKWGISYNAYAMGRMESIWGKDCDRFDPPERWIDETNGG----
CYP96A1 NDFDSFNAQELNKL VYVHGALCEALRLYPPVPFQHKSPAKSDV L PSG-----HRVDASSKIVFCLYSLGRMKS VWGEDASEFKPERWISE-----
CYP96A9 YDSDFSFPQEVKKLVYLHGAVCEALRLYPPVPFQHKSPAKPDV L PSG-----HKVKANSRILFCLYSLGRMKS VWGEDAMEFKPERWISE-----
CYP96A10 NDSDFSFPQELKLVYLHGAI C E S L R L Y P P V P F Q H K S P T K P D V L P S G ----- H K V K S N L N I M I F I Y A M G R M K T I W G E D A M E F K P E R W I S E -----
CYP96A5 --GMSLDADKLNK M V Y L H G A L C E S L R L Y A P I P F E R K T P I K Q D V L P S G ----- H M V D K N W K I L F S V Y A L G R M R S V W G D A S E F K P E R W I S E R -----
CYP96A11 -----NGQENLDKLVYLHGALCEAMRLYPPVSFGRKSPIKSDV L PSG-----HKVQANSKIIICLYALGRMR A W G D D A L E F K P E R W V S D -----
CYP96A2 -----NSQENVDKLVYLHGALCEAMRLYPPVSFGRKSPIKSDV L PSG-----HKVDANSKIIICLYALGRMR A W G E D A S Q F K P E R W I S E -----
CYP96A12 -----NGQENLDKLVYLH A A L Y E S M R L Y P P V A F Q R K S P I K P D V L P S G ----- H K V E A N S V I I I F L F A L G R M R A W G E D A T E F K P E R W I S E -----
CYP96A13 -----EPMEYLNVLVYLHGALY E A M R L Y P P V P F E R M S P I K P D V L P S G ----- H K V D S S M K I L I F I Y A L G R M R A W G E D A S E F K P E R W I S E -----
CYP96A7 -----DMSSYLNKLVYLHGALN E S M R L Y P P I P F E R K S P I K D D V L P S G ----- H K V K S N L N I M I F I Y A M G R M K T I W G E D A M E F K P E R W I S E -----
CYP96A8 -----DMSSYLNKLVYLHGAL S E S M R L Y P P I P F Q R K S P I K E D V L P S G ----- H K V K S N I N I M I F I Y A M G R M K T I W G E D A M E F K P E R W I S E -----
CYP96A3 -----ADLEKLVYLHGAVC E T L R L Y P P V P F N H K S P A K P D V L P S G ----- H R V D E K W K I V I S M Y A L G R M K S V W G D D A E D F R P E R W I S D -----
CYP96A4 -----ADLDKLVYLDGAVC E T L R L Y P S V P F N H K S P A K P D V L P S G ----- H K V D K N W R V V I P I Y S L G R M K S V W G D D A E D F R P E R W I S D -----
CYP96A15 -----EDLEKLVYLH A A L S E S M R L Y P P L P F N H K S P A K P D V L P S G ----- H K V D A N S K I V I C I Y A L G R M R S V W G E D A L D F K P E R W I S D -----
CYP97A3 -----QDMKKLYTTRVMNESLRLYPPV L I R R S I D N D I L G ----- E Y P I K R G E D I F I S V W N L H R S P L H W D D - A E K F N P E R W P L D G P N -----
CYP97C1 -----EDIKELKYITRCIN E S M R L Y P H P P V L I R R A Q V P D I L P G ----- N Y K V N T Q D I M I S V Y N I H R S S E V W E K - A E E F L P E R F D I D G A I -----
CYP97B3 -----ESMKKLEYIRLIVVEV L R L F P Q P P L L I R R T L K P E T L P G G H K G E K E G H K V P K G T D I F I S V Y N L H R S P Y F W D N - P H D F E P E R F L R T K E S N G I E G -----
CYP709B2 -----TCSK L K L M N T V F M E S L R L Y G P V L N L L R L A S E D M K L G ----- N L E I P K G T T I I L P I A K M H R D K A V W G S D A D K F N P M R F A N G L -----
CYP709B3 -----TFSK L K L M N M V L M E S L R L Y G P V I K I S R E A T Q D M K V G ----- H L E I P K G T S I I I P L L K M H R D K A I W G E D A E O F N P L R F E N G I -----
CYP709B1 -----TFSK L K L M N M V I M E S L R L Y G P V S A L A R E A S V N I K L G ----- D L E I P K G T T V V I P L L K M H S D K T L W G S D A D K F N P M R F A N G V -----
CYP735A1 -----QLSKLTSLSKVINESLRLYPPATLLPRMAFEDIKLG-----DLTIPKGLSIWI PVLA I H H S E L W G K D A N O F N P E R F G -----
CYP735A2 -----QLSSLTSLNKVINESLRLYPPATLLPRMAFEDIKLG-----DLTIPKGLSIWI PVLA I H H S N E L W G E D A N E F N P E R F T -----
CYP72A11 -----GLNQLKVM TM I L Y E V L R L Y P P I P Q L S R A I H K E M E L G ----- D L T L P G G V L I N L P I L L V Q R D T E L W G N D A G E F K P D R F K D G L -----
CYP72A13 -----GLNQLKVM TM I L Y E V L R L Y P P V Q L T R A I H K E M Q L G ----- D L T L P G G V Q I S L P I L L I Q R D R E L W G N D A G E F K P D R F K D G L -----
CYP72A15 -----GLNQLKVM TM I L Y E V L R L Y P P V T Q L T R A I H K E L K L G ----- D L T L P G G V Q I S L P I L L V Q H D I E L W G N D A A E F N P D R F K D G L -----
CYP72A10 -----CLS QL K V M T M I L Y E V L R L Y P P V T H L T R A I D K E M K L G ----- D L T L P A G V H I S L P I M L V Q R D P M L W G T D A A E F K P E R F K D G L -----
CYP72A14 -----GLNQLKVM TM I L Y E V L R L Y P P V Q L T R A I H K E M K L G ----- D L T L P G G V Q I S L P V L L V H R D T E L W G N D A G E F K P E R F K D G L -----
CYP72A9 -----GINQLKVM TM I I Y E V L R L Y P P V I Q M N R A T H K E I K L G ----- D M T L P G G I Q V H M P V L L I H R D T K L W G D D A A E F K P E R F K D G I -----
CYP72A7 -----SLN NL K V M T M I F N E V L R L Y P P V A Q L K R V V N K E M K L G ----- E L T L P A G I Q I Y L P T I L V Q R D T E L W G D D A A D F K P E R F R D G L -----
CYP72A8 -----ALSRLKTMSMILNEV L R L Y P P G I L L G R T V E K E T K L G E ----- D M T L P G G A Q V V I P V L M V H R D P E L W G E D V H E F N P E R F A D G I -----
CYP72C1 -----GLSHLKVVTMILHEV L R L Y S P A Y F T C R I T K Q E V K L E ----- R F S L P E G V V V T I P M L L V H H D S D L W G D D V K E F K P E R F A N G V -----
CYP734A1 -----HVVKLKTLSMILNESLRLYPPIVATIRRAKSDVKLG-----GYKIPCGTELLIPII AVHHDQAIWGN DVNEFNPARFADGV-----
CYP721A1 -----ILQDLKTL S M I I N E T L R L Y P P A M T L N R D T L K R A K L G ----- D L D I P A G T Q L Y I S V V A M H H D K E T W G D D A E E F N P R R F E D -----
CYP715A1 -----KLAGLKKMSWVMNEV L R L Y P P A P N A Q R Q A R N D I E V N ----- G R V I P N G T N I W I D V V A M H H D V E L W G D D V N E F K P E R F D G N L -----
CYP714A1 -----SISNLKVTMVIQETLRLYPPAAFVSREAL EDTKLG-----NLVVPKGVCIWTLIPTLHRDPEI W G A D A N E F N P E R F S E G V -----
CYP714A2 -----SIPNLKVTMVIQETMRLYPPAPIVGREASKDIRLG-----DLVVPKGVCIWTLIPALHRDPEI W G P D A N D F K P E R F S E G I -----
CYP74A -----MGAIEKME L T K S W Y E C L R F E P P V T A Q Y G R A K K D L V I E S H D ----- A A F K V K A G E M L Y G Y Q P L A T R D P K I F D - R A D E F V P E R F V G E E G E K L L R H -----
CYP74B2 -----FKTVNEMELVKS V Y E T L R F S P P V P L Q F A R A K K D F Q I S S H D ----- A V F E V K K G E L L C G Y Q P L V M R D A N V F D - E P E E F K P D R Y V G E T G S E L L N Y -----
CYP73A5 -----DLHKL P Y L Q A V Y K E T L R M A I P L L V P A R M N L H D A K L A G ----- Y D I P A E S K L I V N A W L A N N P N S W K - K P E E F R P E R F F E E E --- S H V E A -----
CYP722A1 -----FLELEDLSEMPYASKMVKESLRMASVVPWF P R L V L Q D C E M E G ----- Y K I K K G W N I N I D A R S I H L D P T V Y S - E P H K F N P L R F E E E A K -----
CYP701A3 -----QLSQVPYLNQV F H E T L R K Y S P A P L V P I R Y A H E D T Q I G G ----- Y H V P A G S E I A I N I Y G C N M D K K R W E - R P E D W W P E R F L D D G K Y E T S D L -----
CYP711A1 -----AHDLQHKFPYLDQVIKEAMRFYMVSP LVARETAKEVEIGG-----YLLPKGTWWLALGV LAKDPKNFP - EPEKFKPERFDPNGEEEEKHR-----
consensus
501.....510.....520.....530.....540.....550.....560.....570.....580.....590.....

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CYP51A1  SCS-----YISLGAGRHECPGGSFAFLQIKAVWCHLRLNFLELVLVSP--FPEINWNALVVGAKGNMVMRYKRRPFS-----
CYP51A2  AFS-----YIAFGGGRHGCLGEPFAYLQIKAIWSHLRLNFLELVLVSP--FPEIDWNAMVVGKGNMVMRYKRRQLS-----
CYP710A1  RN-----FLAFGWGPHQCVGQRYALNHLVLFIAMFSSLLDFKRLRSDGCDIEVYCPTISPKDGCTVFLSRRVAKYPNFS-----
CYP710A2  RN-----YLAFGWGAHQCVGQRYALNHLVLFIAMFSSLLDFKRLQSDGDDIYICPTISPKDGCTVFLSKRIVTYPNL-----
CYP710A3  RN-----FLTTFGGISHQCVGQRYALNHLVLFIAMFSSMDFKRVRSDDGCDIEVHIPTMSPKDGCTVFLSSRLVTSP-----
CYP710A4  RN-----FLTTFGNQSHQCVGQRYAMNHLVLFIAMFSSMDFKRVRSDDGDDIYHIPTMSPKDGCTVFLSSRLVTSP-----
CYP702A1  TY-----IPFGAGSRQCVAEFAKLQMAIFIHHLR-DRMSMKIGTTILRNFMFMPNGCEVQFLKDTEVDNSSGSGNPDCNG-----
CYP702A2  TF-----IPFGAGRRLCVGAEFAKMQMAVFIHHLFR-YRWSMKSGTTIIRSFMMLMPPGGCDVQISEDTEVDK-----
CYP702A8  NY-----IPFGAGPRLCVGAYFAKLLMAIFIHHLCR-YRWSMKAETVTRSYMLMFPRGCDVQISKDTQEHDSDG-----
CYP702A5  TY-----LPFGSGTRL CVGAEFVKLQMAIFIHHLFR-YRWSMKAETTLRRFVLVLPFGSDVQIS-----
CYP702A6  TY-----IPFGSGSRL CVGAEFVKLQMAIFIHHLR-YRWSMKTETTLRRFVLVLPFGSDVQILEDTKAK-----
CYP702A3  EY-----MPFGAGGTHCVGSEFAKLI IAILHHLR-FRWSLDPKTEVLRRYTLVFPAGCVVHISKESE-----
CYP708A2  TF-----MVFGGVRQCVAEFAQLQISIFIHHLVTTYDFSLAQESEFIRAPLPYFPKGLPIKISQSL-----
CYP708A3  TF-----MAFGYGVRL CVGAEFSRLQMAIFIHHLVAYYDFSMVQDSEIIRSPFHQYTKDLLINISQSPTK-----
CYP708A4  TF-----MVFGTGLRQCAGAEFARLQISVFLHHLVTTYNFSLHQDCEVLRVPAHL PNGISINISKCPKK-----
CYP708A1  TF-----MAFGGGARLCAGAEFARLQMAIFIHHLVTTYDFSLIDKSYIIRAPLLRFSKPIRITISENPLSSSHQANL F-----
CYP87A2  HF-----MAFGGGMRFVGTDFTKLQMAAFLHSLVTKYRWEEIKGGNITRTPGLQFPNGYHVKLHKKRD-----
CYP90A1  -----NVFTPFGGGRLCPGYELARVALSVFLHRLVTFGSWPAEQDKLVFFPTTRTQKRYPIFVKRRDFAT-----
CYP90B1  SGSF-----STWGNMYPFGGGPRLCAGSELAKLEMVFIHHLVTKFNWELAEDDKPFAPFVDFPNGLPIRVSRI-----
CYP90C1  -----ICFTPFGGGQRLCPGLELSKLEISIFLHHLVTRYSWTAAE-DEIVSFPTVKMKRRLPIRVATVDDASPISLEDH-----
CYP90D1  -----FSPFGGGQRLCPGLDLARLETSVFLHHLVTRFRWIAEE-DTIINFPTVHMKNKLPWIWKRI-----
CYP724A1  -----TAFGGGVRVCPGGELGKLQIAFFLHHLVLSYRWKIKSDEMPIAHYPVEFKRGMLEIEPTKFLED-----
CYP720A1  -----WRTSPFYCPFGGGTRFCPGAELARLQIALFLHYFITTYKWTQLKEDRISFFPSARLVNGFKIQLNRRDSDPPNQ-----
CYP85A1  -----CFVFGGTRLCPGKELGIVEISSFLHYFVTRYRWEIEGGDEL MVFPRVFAPKGFHLRISPY-----
CYP85A2  -----FLLFGGVRLCPGKELGISEVSSFLHYFVTRYRWEIENGEDKLMVPRVSAKGYHLKCSPY-----
CYP707A1  -----FMPFGNGTHSCPGNELAKLEMSIMIHHLTTKYRCVCVY-----YLLITFSFTHFVLFQIYV-----
CYP707A3  -----FMPFGSGIHSCPGNELAKLEISVLIHHLTTKYRWSIVGSDG-IQYGPFPALPQNGLPIALERKP-----
CYP707A2  -----YMPFGNGVHSCPGSELAKLEMLLILHHLTTSFRWEVIGDEEG-IQYGPFPVPPKGLPIRVTP-----
CYP707A4  -----FMPFGSGVHACPGNELAKLQILIFLHHLVSNFRWEVKGGEKG-IQYSPFPIPQNGLPATFRRHSL-----
CYP88A3  -----FLPFGAGSHLCPGNDLAKLEISIFLHHLKLYQVRSNPECP-VMYLPHTRPTDNCLARISYQ-----
CYP88A4  -----FLPFGLSHLCPGNDLAKLEISIFLHHLKLYRKRSPNGCP-VMFLPHNRPKDNCLARITRMP-----
CYP716A1  -----YVPFGGPRMCPGKEYARLEILIFMHNLVNRFKWEKVFPENKIVVDPLPIPKGLPIRIFPQS-----
CYP716A2  -----YVPFGGSRICPGREYARLEILIFMHNLVKRFKWEKVFPENKLVADPAPIPAKGLPIRIFPQS-----
CYP718    -----YLPFGGPRLCAGHQLAKISILVFMHFVVTGFDWLSLVYPDET-ISMDPLPFPSLGMPIKISPKVS-----
CYP71A12  HGK-----DLNFI PFSGGRRICPGINLALGLVEVTVANLVGRFDWRAEAGPN-GDQPDLTEAFGLDVCRKFP LIAFPSSVI-----
CYP71A13  HGK-----NLNYI PFSGGRRICPGINLALGLAEVTVANLVGRFDWRVEAGPN-GDQPDLTEAIGIDVCRKFP LIAFPSSV-----
CYP71A18  HGQ-----DLKYI PFSGGRRICPGINLAMGLVEVTLANLVGRFDWSDVDPGN-GDQPDLAEDFGLDVCRKFP LIAFPSSVA-----
CYP71A14  RGT-----NFEFI PFSGGRRICPGIGFAMALVEVTLANLVNRFNWRMEVQHS-GDEYDLAESTGLDVCRKFP LIVFPSPA-----
CYP71A15  RGT-----NFEYI PFSGGRRICPGIGFAMALVEVTLANLVNRFNWRMDARLS-GDEYDLAESTGLDVCRKFP LIVFPSPA-----
CYP71A28  QGQ-----DFNFI PFSGGRRICPDIDFATMLIEVGLANFVYRFRNWRVETRPL-GDD-DGLKQTMGEVCHKFP LIAFPPLASFTI-----
CYP71A19  QGQ-----DFKFI PFSGGRRICPGIGFATSALIGVTLANIVKRFNWRMDVEPQ-RVQHDLTEATGLVFRKFP LIAIPSSA-----
CYP71A20  QGQ-----DFKFI PFSGGRRICPGIGFATSALIGVTLANIVKRFNWRMDVEPQ-RVQHDLTEATGLVFRKFP LIAIPSSA-----
CYP71A16  VGR-----NFKYI PFAGRRICPGIGLGSVMVTLANLVKRFNWRVDEGPGSYDKPDLVEGAGIDVCRKFP LVFPSSA-----
CYP71A27  QRT-----DSKFV PFAGRRICPGIGFSLVLSKLANLVKRFNWRKLVGVPVGDGPDLAEASGIDVCRKFP LIVFPPIAHT-----
CYP71A21  RGH-----NFELV PFAGRRICPAISFAVVLIEVALANFVHRYDWKLP-EDSKENQTNVAESTGMVIHRLFP LIAIASST-----
CYP71A22  RGH-----NFELI PFAGRRICPAISFAVVLIEVTLANLVHRYDWRLP-EEYIEDQTNVAESTGMVIHRLFP LIAIVSST-----
CYP71A24  RGQ-----DTELV PFAGRRICPAISFAVVLDEVLANLVHQFDWTLPEESTEYQTDVAESTGMAVHRMFP LFAMTT-----
CYP71A26  RGQ-----AFELI PFSGRRICPAISFAVVLNEVLANLVHRFDWRLS-VESTEDQTEVAESTGIAIHRMFP LIAIASNT-----
CYP71A25  RGQ-----NFELI PFAGRRICPAVSFAVVLNEVLANLVHGFWDKLP-EESKEDKTDVAESSGFSVHREFF LIAVASPYLT-----
CYP71A23  RGQ-----DFELI PFAGRRICPGISFAVVLNEVLANLVHGFWDWQS-----IDDETDVAESIGSVIRRMHPL YVIPSSTT-----
    
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CYP71B26 KGQ-----NFELL SFGSGRRICPGLYMGTTMVEFGLANMLYHFDWKL PEGMV-VEDIDMEEAPGLTVSKKSELVLPVKYLDH-----
CYP71B33 KGQ-----NFELL PFGGRRMCPAMYMGTTMVEFGLANLLYHFDWKL PEGMK-VEDMDMEEAPGLTVNKKNDL LLLVPVKYLDN-----
CYP71B34 KGQ-----HFELL PFGGRRMCPAVYMGTTMVEFGLANLLYHFDWKL PEGMK-VDDIDMEEAPGLTVNKKNEL ILLVPTKFLDP-----
CYP71B35 KGQ-----HFELL PFGGRRICPAIYMGTTMVEFGLANLLYHFDWKL PEGVE-VKDIDVEEAPGLTVNKKNEL LLLVPEMRRSCG-----
CYP71B36 KGQ-----HFELL PFGSGRRMCPAMYMGTTMVEFGLANMLYHFDWKL PEGMV-AEDIDLEESPGLNASKKNE LLLVPLKYLDH-----
CYP71B37 KGQ-----NFELL PFGSGRRMCPAMYMGTTMVEFGLANLLYHFDWKL PEGMV-VEDIDMEESPGLNASKKNE LLLVPRKYLN-----
CYP71B9 KGQ-----NFELL PFGSGRRICPGMYMGTTMVEFGLANMLYHFDWKL PEGMV-VEDIDMEESPGLAVGKKNEL LLLVPVKYLDH-----
CYP71B10 KGQ-----DYELL PFGSGRRICPAVYMGITTVEFGLANLLYHFDWKL PEGVA-VEDIYMDEASGLTSHKKHDL LLLVPVKSLV-----
CYP71B11 KGL-----NFELL PFGSGRRMCPGIGMGMALVHLTLINLLYRFDWKL PEGME-VEDVDLEESYGLVCPKQVPLQLIPVLTQWS-----
CYP71B12 KGL-----NFELL PFGSGRRICPGIGMGMALVHLTLINLLYRFDWKL PEGMK-VADVLEESYGLVCPKQVPLQLIPVL-----
CYP71B14 KGV-----DFELL PFGSGRRMCPGMGLGMLVHLTLINLLYRFDWKL PEGMN-IEDVDLEESYGLVCPKQVPLQLIPVLTQWT-----
CYP71B13 KGL-----NFELL PFGSGRRICPGIGMGMALVHLTLINLLYRFDWKL PEGME-VEDVDLEESYGLVCPKQVPLQLIPVLTQWT-----
CYP71B6 KGT-----SFELL PFGSGRRICPGMYVGLSTVEYTLANLLYHFDWKL PEGVA-TEEVSVEEAPGLTSHRKHPL LLLVNVNINRKL-----
CYP71B28 RGL-----NFELL PFGSGRRICPGMTMGIAIVELGLNLLYFFDWGLPEK-----EEAKEIITGNEVAL LLLVQVFLH-----
CYP71B29 KGL-----NFELL PFGSGRRICPGMTMGITLVEFALNLLYFFDWGLPEK-----EADKIITGNVAVGLVQVLLH-----
CYP71B15 KGK-----NYELL PFGSGRRICPGMTMGITLVEFALNLLYFFDWGLPEK-----EADKIITGNVAVGLVQVLLH-----
CYP71B23 RGL-----NFELL PFGSGRRICPGMTMGIAIVELGLNLLYFFDWGLPEK-----EADKIITGNVAVGLVQVLLH-----
CYP71B7 RGL-----NFELL PFGSGRRICPGMTMGITLVEFALNLLYFFDWGLPEK-----EADKIITGNVAVGLVQVLLH-----
CYP71B16 RGQ-----HFELL PFGSGRRICPGMTMGITLVEFALNLLYFFDWGLPEK-----EADKIITGNVAVGLVQVLLH-----
CYP71B17 RGQ-----HFELL PFGSGRRICPGMAMGMATLEGLNLLYFFDWGLPEK-----EADKIITGNVAVGLVQVLLH-----
CYP71B18 RGQ-----HFELL PFGSGRRICPGMAMGMATLEGLNLLYFFDWGLPEK-----EADKIITGNVAVGLVQVLLH-----
CYP71B19 RGQ-----HYELL PFGSGRRICPGMAMGMATLEGLNLLYFFDWGLPEK-----EADKIITGNVAVGLVQVLLH-----
CYP71B20 RGQ-----HYELL PFGSGRRICPGMAMGMATLEGLNLLYFFDWGLPEK-----EADKIITGNVAVGLVQVLLH-----
CYP71B21 RGQ-----HFDDL PFGSGRRICPGMAMGMATLEGLNLLYFFDWGLPEK-----EADKIITGNVAVGLVQVLLH-----
CYP71B22 KGQ-----HYELL PFGAGRRICPGMATGITIVELGLNLLYFFDWGLPEK-----EADKIITGNVAVGLVQVLLH-----
CYP71B38 KGQ-----HFELL PFGAGRRICPGMATGITIVELGLNLLYFFDWGLPEK-----EADKIITGNVAVGLVQVLLH-----
CYP71B5 KGQ-----HFELL PFGAGRRICPGMATGITIVELGLNLLYFFDWGLPEK-----EADKIITGNVAVGLVQVLLH-----
CYP71B31 KGQ-----HYELL PFGAGRRICPGMATGITIVELGLNLLYFFDWGLPEK-----EADKIITGNVAVGLVQVLLH-----
CYP71B8 KGQ-----HYELL PFGAGRRICPGMATGITIVELGLNLLYFFDWGLPEK-----EADKIITGNVAVGLVQVLLH-----
CYP71B32 KGQ-----DYKLL PFGAGRRICPGMATGITIVELGLNLLYFFDWGLPEK-----EADKIITGNVAVGLVQVLLH-----
CYP71B24 KGN-----SFEMLPFGSGRRICPGIAFAIATVELGLNLLYHFDWRLPEED---KDLDMEEAGDVTIICKVPL LLLVPLVHH-----
CYP71B3 KGN-----SFEMLPFGSGRRICPGIAFAIATVELGLNLLYHFDWRLPEED---KDLDMEEAGDVTIICKVPL LLLVPLVHH-----
CYP71B25 KGH-----SCELL PFGSGRRICPGMASAIATIELGLNLLYFFDWKLPEEM---KDMNMEESGDVTIVKKVPL LLLVPIIHH-----
CYP71B4 KGH-----SCELL PFGSGRRICPGMASAIATIELGLNLLYFFDWKLPEEM---KDMNMEESGDVTIVKKVPL LLLVPIIHH-----
CYP83A1 KGT-----DYELL PFGSGRRMCPGMRLLGAMLEVPYANLLSFFNFKLPNGMK-PDDINMDVMTGLAMHKSQHL LLLVPELVNHY-----
CYP83B1 KGQ-----DFELL PFGSGRRMCPAMHLGIAMVEIPFANLLYKFDWLSLPGKIK-PEDIKMDVMTGLAMHKSQHL LLLVPELVNHY-----
CYP84A1 KGS-----NFELL PFGSGRRMCPGMRLLGAMLEVPYANLLSFFNFKLPNGMK-PEDIKMDVMTGLAMHKSQHL LLLVPELVNHY-----
CYP84A4 KGN-----NFELL PFGSGRRMCPGMRLLGAMLEVPYANLLSFFNFKLPNGMK-PEDIKMDVMTGLAMHKSQHL LLLVPELVNHY-----
CYP705A1 EDK-----KEKILNLLPFGSGRRMCPGNSLGYIFVGTAGMMVQCFDWEINGDKINMEEATGG-FLITMAH---PLTCTPIPLPRTQNSLI
CYP705A24 EEK-----KEKTKLFLPFGAGRRMCPGNSLGYIFVGTAGMMVQCFDWEINGDKINMEEATGG-FLITMAH---PLTCTPIPLPRTQNSLI
CYP705A15 KER-----REKAIKYIAFGSGRRMCPGNSLGYIFVGTAGMMVQCFDWEINGDKINMEEATGG-FLITMAH---PLTCTPIPLPRTQNSLI
CYP705A4 EER-----REKAIKYIAFGSGRRMCPGNSLGYIFVGTAGMMVQCFDWEINGDKINMEEATGG-FLITMAH---PLTCTPIPLPRTQNSLI
CYP705A16 EEI-----REKAIKYIAFGSGRRMCPGNSLGYIFVGTAGMMVQCFDWEINGDKINMEEATGG-FLITMAH---PLTCTPIPLPRTQNSLI
CYP705A19 DEI-----REKAIKYIAFGSGRRMCPGNSLGYIFVGTAGMMVQCFDWEINGDKINMEEATGG-FLITMAH---PLTCTPIPLPRTQNSLI
CYP705A20 EER-----R--ALKHIAFGSGRRMCPGNSLGYIFVGTAGMMVQCFDWEINGDKINMEEATGG-FLITMAH---PLTCTPIPLPRTQNSLI
CYP705A21 EER-----REKAIKYIAFGSGRRMCPGNSLGYIFVGTAGMMVQCFDWEINGDKINMEEATGG-FLITMAH---PLTCTPIPLPRTQNSLI
CYP705A23 EDE-----REHGLKYIPFGSGRRMCPGNSLGYIFVGTAGMMVQCFDWEINGDKINMEEATGG-FLITMAH---PLTCTPIPLPRTQNSLI
CYP705A28 DEM-----REEVLKYIPFGSAGRRMCPGNSLGYIFVGTAGMMVQCFDWEINGDKINMEEATGG-FLITMAH---PLTCTPIPLPRTQNSLI
    
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CYP705A30 DEV-----REEVLKYIPFSAGRRGCPGSNLAAYISLGIIVIGVMVQCFDWRIEGEKVMNMEAET-TALSMAQ---PIKCTPVSRTKNPLPSS
CYP705A32 DEI-----REEVLKYMFFSTGRRGCPGSNLAAYVSVGTAIGVMAQCFDWRIKGEKVMNMEAAGT-LVLTMAQ---PLMCTPGPRTLNLPLPSS
CYP705A2  DEI-----RDKFLKYIPFASGRRGCPGTNLAAYASVGTAVGVMVQCFDWKIEGENVMNMEAAGT-MVLTMAH---PLKCTPVPRTLNLLPP-
CYP705A5  DEK-----REDMLKYIPFGSGRRACPGSHLAYTVVGSVIGMMVQHFDWIIKGEKINMKE-GGT-MTLTMAH---PLKCTPVPRNLNT----
CYP705A8  DAI-----KEEVLKYLSPFGSGRRGCPGVNLAAYVSVETAIGVMVQCFDWKIDGHKINMNEVAGK-GTLSMAH---PLKCTLVPRSVTPLTSTK
CYP705A9  DEI-----RDELLKYLSPFGSGRRACPGANLAAYISVGTAVGVMVQCFDWEIKGDKINMDEAPGK-ITLTMAH---PLNCTLVPRTLIPVTST
CYP705A18 DEK-----EQLTKYLSFGGSGRRGCPGVNLYYIFVGTAGIMMVQCFDWEIKGDKVNMEETYGG-MNLTMVN---PLKCTPVRLTQPFSTFS
CYP705A6  -----EKPFKYLSPFGSGRRGCPGVNLAAYIFVGTAVGVMVQCFDWKIKGDKVNMEETFEG-MNLSMVH---PLKCTPVLRSQPFF---
CYP705A33 DER-----EEAQKYIPFGSGRRGCPGANLASYIFVGTAVGVMVQCFDWGIKGDKINMEETFEG-LTLTMVH---PIKCTPIPRTLFPVFTSN
CYP705A3  D-----EKELKFLSPFGSGRRGCPGANLGSIFVGTAVGVMVQCFDWKIKEDKVNMEETFEG-MTLKMHV---PICTPFFEPNLYLLLL
CYP705A22 DER-----REQALKFLSPFGSGRRGCPGSNLAAYMIVGSAIGMMVQCFDWRIEGEKVMNKEAVKG-TILTMAH---PLKLTVPVTRQPPLTWI-
CYP705A12 EKI-----REQAVKYVTFGGGRRTCPAVKLAHIFMETAIGAMVQCFDWRIKGEKVMMEAVSG-LSLKMAH---PLKCTPVVRFDPFSTF--
CYP705A13 E-----REQELKYIPFGSGRRGCPGVNLYYIFVGTAGIMMVHCFDWRINGDKVNMEETVAG-ITLNMAH---PLRCTPVSRMQLQKSQF
CYP705A25 DEK-----AQLALNFIPFGSGRRGCLGKNLGYIFMGVAIGTMVQCFDWRINGDKVNMEETGEM--TLTMAH---PLKCTPVARINP-ASFD
CYP705A27 DER-----EQLALNFIPFGSGRRACPGKLGYLFTGVAIGTMVQCFDWIIDGDKVNVEEAGEM--TLTMAH---PLKCTPVTRVNPPLASFE
CYP712A1  KIG-----EHQMFKGQNFYRFLSPFGSGRRGCPGASLANNVMHIGVGSVLRQFDWKS-VDGQKVDLSQGSQFSAEMAR---PLVCNPVDHFNTF----
CYP712A2  KMGYYQ-----QYMLELKGQDVNYLAFSGSGRRGCLGASHASLVLSTIGSLVQCFNMTVKGDEDKIKIKLPTGFSASGTAGGSSLMCSPELCFDPFGYQT
CYP93D1  EKM-----MSFGAGRRSCPGKEMVFRFVPIILAAIIQCFELKVKGS-VDMDEGTGS--SLPRAT---PLVCVPVAKEATQSFSL
CYP81D6  -----LNQKLLSFGMGRRACPGYGLAHRVSLTLGSMVQCFEWRIGQEYVDNSEDKTVVLMRPTT---PLLAMCKARPIVHFIELD
CYP81D7  -----LNQKLLSFGFGRRACPGVGLAHRRLMSLALGSMVQCFEWRIGEEYVDNREE-PMAMMRPAT---PLAMCKARPIVHKFLD
CYP81D11  -----EDKMLPFGIGRRSCPGSGLAQRVLTALGSLVQCFEWERVEEKYLDMRESEKGTTRKAT---SLQAMCKARPIVHKVLD
CYP81D2  -----EAKKMLPFGLGRRACPGSGLAQRVLTLSLGSLLQCFEWERIGEEVDMTEGPG-LTMPKAR---PLEAMCRARDFVVGKILP
CYP81D3  -----EAQKLLGFGLGRRACPGSGLAQRVLTLSLGSLLQCFEWERIGEEVDMTEGGGGVIMPKAI---PLVAMCKARPIVVGKILN
CYP81D8  -----EAQKMLPFGLGRRACPGSGLAHRLLNLTLSLGSLLQCFEWEKIG-EEVDMSEKGG-VTMPKAK---PLEAMCRARSPVVKIFN
CYP81D4  -----EAEKLSIFGMRACPGAGLAHRLLNQLGSLVQCFEWERVGEDFVDMTEKGG-ATLPKAI---PLRAMCKARSIVDKLI-
CYP81D5  -----EARKMLPFGMGRRACPGAELGKRLVSLALGCLIQSFEWERVGAELVDMTEGEG-ITMPKAT---PLRAMCKARAIVHKTI-
CYP81D1  -----EAQKLLAFGLGRRACPGSGLAQRIVGLALGSLVQCFEWERVGNVEVDMKEGEG-NTVPKAI---PLKAICKARPFVHKIIS
CYP81F3  E-----DVHKLMPFGNGRRSCPGAGLGGKIVTLALGSLVQCFDWQKVNGEAIDMTETPG-MAMRKKI---PLSALCQSRPIMSKLQA
CYP81F4  D-----DVRMLIAFGSGRRICPGVGLAHRKIVTLALGSLVQCFDWKVNKEEIDMSEGG-MAMRMMV---PLRALCKTRPIMNKLPA
CYP81F2  -----ASKKLMVFGNGRRTCPGATLQGRMVLALGSLVQCFDWEKVNGEDVDMTENPG-MAMRKLK---QLRAVCHKRPIMTNLLA
CYP81F1  Y-----YVYKMLPFGNGRRTCPGAGLQQRIVTLALGTLVQCFEWEVNVKGEEMDSESTG-LGMRKMD---PLRAMCKARTRPIMSKLLL
CYP81H1  H-----YNGKMLPFGLGRRACPGSLANRVLTLGSMVQCFEWEVSGGGQVDMTEGPG-LSLPKAE---PLVWTCRPTREMASELLF
CYP81G1  -----HRGKFLPFGIGRRACPGMGLAQLVLSLALGSLVQCFDWERDNDVAVDMSEKGG-LTMPKSV---PLVAKCKSLPILDKLVL
CYP81K1  R-----DGFRFLPFGVGRACPAAGLGMRVVSLAVGALVQCFEWEKVEAGDIDMRPVFG-VAMAKAE---PLVALPKPWSEMPILS
CYP81K2  R-----DGFRFLPFGVGRACPAAGLAMRVVSLAVGALVQCFEWEKVEKEDIDMRPAFS-VAMDRAE---PLIALLKPCPEMPILS
CYP82C3  VRG-----QNFELMPFGSGRRSCPGSLAMQMLHLGLARFLHSFVKTVLDLDRPVDMSSESPG-LTITKAT---PLEVLINPRLKRELFV-
CYP82C2  VRG-----QNFELMPFGSGRRSCPGSLAMQVLHLGLARFLHSFVKTVMMPVDMSSESPG-LTIPKAT---PLEILISPRKLEGLVY-
CYP82C4  VRG-----QNFELMPFGSGRRSCPGSLAMQVLHLGLARFLHSFVKTVMMPVDMSSESPG-LTIPKAT---PLEVLISPRIKEELFV-
CYP82F1  VGG-----QSYKFFPFGLGRRSCPAIPLGMRMVHLLVRFVLSFDLARPSSQDQVDMTESNG-LVNHKAT---PLEVNIIPRLHKSLEYE
CYP82G1  CEK-----SNFEYIPFGSGRRSCPGVNLGLRVVHFLARLLQGFELHKVSDEPLDMAEGPG-LALPKIN---PVEVVMPRLDPKLYSL
CYP76C2  RGR-----DYELTPFGAGRRICPGLPLAVKTVPLMLASLLYSFDWKL PNGVG-SEDLDMDETFGLTLHKTNPPLHAVPVKKRGRN----
CYP76C4  KGR-----DYELTPFGGRRICPGLPLAVKTVSLMLASLLYSFDWKL PNGVV-SEDLDMDETFGLTLHRTNPLAIPVKKQTIN----
CYP76C1  RGR-----DYELTPFGAGRRICPGMPLAMKTVSLMLASLLYSFDWKL PKGV-SEDLDMDETFGLTLHKTNPPLHAVPVKKRANIN----
CYP76C5  KGT-----NYELTPFGAGRRICPGLPLALKTVHMLASLLYTFEWKLPNGVG-SEDLDMDETFGLTVHKTNPPLACL-----
CYP76C6  KGT-----DYELTPFGAGRRICPGLPLAMKTVHMLASLLYTFEWKLPNGVG-SEDLDMEETFGLTVHKTNPPLAVPLKKRAIN----
CYP76C3  KGR-----DFELIPFGSGRRMCPGISMALKTMHMLASLLYSFDWKLQNGVV-PGNIDMSETFGLTLHKAKSICAVPVKKPTISSY-
CYP76C7  KGN-----HFELIPFGAGRRICPGMPLAFRIMHVLASLLYGFDEYQNGVV-PENVDMNEAFGATLHKAEPICIVPIKKRV-----
CYP76G1  KGQ-----DYEFLPFGSGRRMCPALPLASRVLPLAIGSMVRSFDWALENGLN-AEEMDMGERIGITLKKAVPLAIPVYRGT----
CYP75B1  KGS-----DFELIPFGAGRRICAGLSGLRTIQFLTATLVQGFDELAGGVT-PEKLNMEESYGLTLQRAVPLVHPKPRLAPNVYGL
CYP706A1  NGG-----DFKYLSPFGSGRRICAAINMAERLVLFNIAASLLHSFDWKAPOGQK-----FEVEEKFLVLKLSPLVAIPVPRLSDPKLYT
    
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CYP706A2 NGG-----DFKYL PFGSGRRICAAINMAERLVLFNIASL LHSFDWKPQGGK----FEVEEKFGVLVLLKLSPLVAIVPVRRLSDPKLYT
 CYP706A3 KGN-----DFNYL PFGSGRRICVGMAMGERVVLYNLATFLHSFDWKIPQGER----VEVEEKFGIVLELKNPLVATPVLRLSDPNLYL
 CYP706A7 SGN-----DYSYFPFGSGRRICAGMAMAEKVVLVLYNLATL LHSFDWRI GEGEK----VELEEKFGILLKLNPLVATPVLRLSDPNLFL
 CYP706A5 TGT-----DYSYL PFGSGRRICAGIALAERMILYTLATL LHSFDWTIPDGHV----LDLEEKFGIVLKLKTPVVALPIPRLSNSNFYF
 CYP706A6 TGT-----DYSYL PFGSGRRICAGIALAERMILYTLATL LHSFDWKIPEGHI----LDLKEKFGIVLKLKSPVVALPVPRLSNSNLYL
 CYP706A4 TGA-----NYSYFPFGSGRRICAGVALAERMVLYTLATL LHSFDWKIPEGHV----LDLKEKFGIVLKLKIPVVALPIPRFSDSNLYL
 CYP79B2 TLT-----ENDLRFISFSTGKRGCAAPALGTALTMM LARLLQGFTWKL PENETR-VELMESSHDMFLAKPLVMGDLRLPEHLYPTVK-
 CYP79B3 TLT-----ENDLRFISFSTGKRGCAAPALGTAITTMM LARLLQGFQWKL LAGSETR-VELMESSHDMFLSKPLVLV GELRLSEDLYPMVK-
 CYP79A2 DLN-----ESDLNIISFAGRRGCMGVDIGSAMTYML LARLLQGF TWL PVP GKNK-IDISESKNDLFMAKPLYAVATPRLAPHVYPT---
 CYP79C1 VLT-----EPDLRLVSFGTGRRGCVGAKLGTSMIVTLL GRLLQGF DWTIPP GTTDRVELVESKENLFMANPLMACVKPRLDPNMYPKLTWT
 CYP79C2 TLM-----EPDMRFVTFGTGRRSCPGTKIGTSMTIML LARLLQGF EWTLPIGKSS-VELISAESNLFMAKPLLACAKPRLAPSLYPKIQI
 CYP79F1 TLV-----ETEMRFVSFSTGRRGCVGKVTIMMVML LARLLQGF NKLHQDFGP-LSLEEDDASLLMAKPLHLSVEPR LAPNLYPKFRP
 CYP79F2 TLV-----ETEMRFVSFSTGRRGCVGKVTIMMAM LARFLQGF NKLHRDFGP-LSLEEDDASLLMAKPLLSVEPR LASNLYPKFRP
 CYP703A2 ISH-----GPDFKILPFSAGKRKCPGAPLGVTMVLM LARLLFHC FEWSSPGNIDT---VEVYGMTMPKAKPLRAIAKPR LAAHLYT----
 CYP98A8 -----DFRVL PFGSGRRMCPAAQLSMNLM TLVMGNL LHCFSWSSP---VPERIDMSEN PGLLCNMRTPLQALALPRAAARA IPL
 CYP98A9 -----DFRVL PFGSGRRVCPAAQLSLNMMTLALGSL LHCFSWSSP---TPREHIDMTEK PGLVCYMKAPLQALASSR LPOELYL-
 CYP98A3 -----DFRLL PFGAGRRVCPGAQLGINLVTSMMSHL LHHFVWTP PQG-TKPEEIDMSEN PGLVTYMRTPVQAVATPRLPSDLYKR
 CYP78A10 MGSD-----LRLAPFGARRVCPGKSMGLATVHLWLAQL LGSYKWS---CGEVDLSETLKL SLEMKN--TLVCKAIPRG-----
 CYP78A5 MGSD-----LRLAPFGSRRVCPGKAMGLATVHLWIGQLIQNF EWVKG---SCDELAEVLKLSMEMKNPLKCKCAKAVPRNVGFA----
 CYP78A6 LGSD-----LRLAPFGSGRRICPGKNLGF TTVMFWTAMMLHEFEWQ-PSDGNVDLSEKLR LSCEMANPLPAKLRRRRS-----
 CYP78A9 LGSD-----LRLAPFGSRRVCPGKNLGLTTVTFWATL LHEFEWLP SVEANPPDLSEVLR LSCEMANPLAAKLRPRRSFSV-----
 CYP78A8 FGSD-----LRLAPFGSGRRVCPGKNLGLTTV SFWATL LHEFEWLP SVEANPPDLSEVLR LSCEMANPLIVNVSSRRKIM-----
 CYP78A7 RGGD-----LRLAPFGAGRRVCPGKNMGLATVTRWVAELVRR FEWQD-QTEPVDLGEVLKLSCEMEHPLRAVTEIF-----
 CYP77A4 TGIS-----GVKMPFGVGRRI CPGLAMATIHVHML LARMVQEF EWCAHPGSEIDFAGKLEFT-VVMKNPLRAMVKPRI-----
 CYP77A6 TGVT-----GVKMPFGIGRRI CPGLAMATVHVHML LAKMVQEF EW SAPPSEIDFAGKLEFT-VVMKKPLRAMVKPRV-----
 CYP77A7 TGVA-----GVKMPFGVGRRI CPGMGMATVHVHML IARMVQEF EW LAYPPQSEIDFAGKLVFA-VVMKKPLRAMVKPRVQ-----
 CYP77A9 TGVA-----GVKMPFGIGRRI CPGLGMVHVHML LSRMVQEF EWSSYPPE SQVDFTGKLVFA-VVMKNPLRARVKARV-----
 CYP77B1 TGTR-----GVTMLPFGAGRRICPAWSL GILHINML LARMIHSFKWIPVP-DSPPDPTETYAFT-VVMKNSLKAQIRSRT-----
 CYP89A4 TGSR-----GIKMPFGAGRRICPGIGLAMLHLEYV ANMVREFEWKEVQ-GHEVDL TEKFEFT-VVMKHSLKALAVLRRSH-----
 CYP89A5 TGSR-----GIKMPFGAGRRICPGIGLAMLHLEYV ANMVREFEWKEVQ-GHEVDL TEKLEFT-VVMKHPLKALAVPRRS-----
 CYP89A6 TGSR-----GIKMPFGAGRRICPGIGLAMLHLEYV ANMVREFEWKEVE-GHEVDL TEKLEFT-VVMKHPLKALAVPRRS-----
 CYP89A7 TGSR-----GIKMPFGAGRRICPGIGLAMLHLEYV ANMVREFEWKEVE-GHEVDL TEKLEFT-VVMKHPLKALAVPRRS-----
 CYP89A2 TGSR-----GIKMPFGAGRRICPGIGLAMLHLEYV ANMVREFEWKEVQ-GHEVDL TEKLEFT-VVMKHPLKALAVPRRS-----
 CYP89A3 TGSR-----GIKMPFGAGRRICPGIGSAMLHLEYV VNLVKEFEWKEVE-GYEV DLSEKWEFT-VVMKYPLKALAVTRRKEKTHIVMA
 CYP89A9 TGTR-----EIKMPFGAGRRMCPGYAL SLLHLEYV ANLVWKF EWKVE-GEEVDLSEKQQFITMVMKNPFKANIYPRRK-----
 CYP704A1 -----VFQPESQFKFISFHAGPRICIGKDFAYRQMKIVSMAL LHFRRFKMADE---NSKVS YKKMLTLHVDGGLHLCAI PRST
 CYP704A2 -----LFQPESPFK FIFSHAGPRICLGKDFAYRQMKIVSMAL LHFRRFKMADE---NSKVVYKRMLTLHVDGGLHLCAI PRST
 CYP704B1 -----VFQNASPFKFTA FQAGPRICLGKDSAYLQMKMAMAILCRFYKFHLVP---NHPVKYRMMTILSMAHGLKVTVSRRS-----
 CYP86A2 -----KFNHNDQYRFVAFNAGPRICLGKDLAYLQMK TIAAAVLLRHRLTVAP---GHKVEQKMSLTLFMKNGLLVNVHVRDLEVMMSLVP
 CYP86A4 -----KFNHNDQYRFVAFNAGPRICLGKDLAYLQMK TIAAAVLLRHRLTVVP---GHKVEQKMSLTLFMKNGLLVNLYKRDLQGIKSLVV
 CYP86A8 -----RFINHDQYRFVAFNAGPRICLGKDLAYLQMK SIAASVLLRHRLTVVT---GHKVEQKMSLTLFMKYGLLVNVHERDLTAIADLRE
 CYP86A7 -----EKCNQYKFVAFNAGPRICLGKDLAYLQMK SITASILLRHRLTVAP---GHRVEQKMSLTLFMKFGLKMDVHVRDLTPVEKVVN
 CYP86A1 -----FETPKDGYKFVAFNAGPRICLGKDLAYNQMK SVASAVLLRYRVFPVP---GHRVEQKMSLTLFMKNGLRVYLQPRGEVLA
 CYP86B1 -----RFMSESAYKFTA FNGGPRICLGKDFAYYQMKSTAAAIYRYKVRVDDKG---GHKVEPKMAL TMYMKHGLMVNLINRSVSEIDQYYAK
 CYP86B2 -----RYMSESAYKFTA FNGGPRICLGKDFAYYQMRVYAAAIYRYKVRVDDKG---GHKVEPKMAL TMYMKHGLKVMVKSRSVSEIDHYIC
 CYP86C3 -----NFVNDQFKYVVFNAGPRICLGKTFAYLQMK TIAASVLSRYSIKVAK---DHVVVPRVTTTLYMRHGLKVTISSKSLEEKIHVQD-
 CYP86C4 -----KFVSDQFKYVVFNAGPRICLGKTFAYLQMK MIAASVLLRYSIKVQ---DHVIAPRVTTTLYMKYGLKVTITPRSLEEKKLESCS
 CYP86C2 -----QYVSDQFKYVVFNAGPRICLGKTFAYLQMK MVAASILLNYSIKVDQ---DHVVVPRVTTTLYMKHGLKVRITPRSLEEKKQDS--
 CYP86C1 -----RIVSEDQFKYVVFNGGPRICVGKGFAYTQMKMVAASAILMRYSVKVVQ---GQEI VPKLTTTLYMKNGMNVMLQPRDW---
 CYP94B1 -----TKPVLKSVSSFKFPVIFQAGPRVICIGKEMAF TQMKYVVGSVLSRIFKIIIPVC---NNRPV FVPLLTAHMAGGLKVKIKRREQCDSMYI---

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CYP94B3 -----TRPVLKPISPYKFPVFQAGPRVGVGKEMAFMQMKYVVGSLSRFEIVPVN---KDRPVFVPLLTAHMAGLKVKIKRRSHILNNV-----
CYP94B2 -----CCRVLKKNVFPKFPVFQAGPRVCLGEEMAYVQMKYIVASILDRFEIEPIP---TDKPDFVPMLTAHMAGGMQVRVHRRDPSLSP-----
CYP94C1 -----RPNPVPKYVPVQAGARVCI GKEMAIMEMKSI AVAIIRRFETRVPASPETTETLRFAPGLTATVNGGLPVMIQERS-----
CYP94D1 -----FRGEDPSKFPAPFHAGPRMCGVKDMAYIQMKSIVA AVLERFVVEVPGK---ERPEILLSMTRLRIKGGFLFARVQERS-----
CYP94D2 -----FRGENPYKFPAPFHAGPRMCLGKEMAYIQMKSIVA AVLERFVVEVPGKK--ERPEILMSVTLRIRGGLNVRVQERS-----
CYP96A1 -----SGRLIHVPSFKFLSFNAGPRTCLGKEVAMTQMKTVAVKIIQNYEIKVVE--GHK-IEPVPSIILHMKHGLKVTVTKRSNLL-----
CYP96A9 -----SGRSVHEPSYKFLSFNAGPRTCLGKEVAMTQMKTVAVKIIQNYDINVVE--GHK-IKPAPSVILHMKHGLKVTVSKRCLS-----
CYP96A10 -----SGNSVHEPSYKFLSFNAGPRTCLGKEVAMMOMKSVAVKIIQNYEMKIVE--GQQ-IEPAPSVILHMKHGLKVTVTKRCLV-----
CYP96A5 -----NGGLKHEPSFKFFVFNSGPRNCLGKNLSFLQMKTVAVEIIRNYDIKVVVE--GHK-IEPASSIILHMKHGLKVTVSKRGLVS-----
CYP96A11 -----KGSLRHEPSFKFLSFNSGPRTCLGKHLAMTQMKMVAVEILHNYEIKVIK--GQK-IKPVLGFILSMKHGLRITITKRCPY-----
CYP96A2 -----NGGIKHEPSFKFLSFNAGPRTCLGKHLAMTQMKIVAVEILRNYDIKVLQ--GQK-IVPALGFILSMKHGLQITVTKRCSA-----
CYP96A12 -----SGGLRHAPSFKFLSFNAGPRTCPGKQLAMTLMKTVVVEILQNYDIDVIK--GQK-IEPEPGLMLHMKHGLRVITTKRCSA-----
CYP96A13 -----TTSLRHEPSFKFLAFNAGPRSCIGKQLAMTLMKTVVVEILQNYDIKVVK--GQKIEPAPGPILRMKHGLRVTLTKK-----
CYP96A7 -----TGGLRHEPSYKFFSFNAGPRTCLGKNLAMNLMKTVIVEILQNYEIKIVS--GQK-IEAKPGLVLHMKHGLKVMTMTKCSSLE-----
CYP96A8 -----TGGVRHEPSYKFLSFNAGPRTCLGKNLAMNLMKTVIVEILQNYEIKIVS--GQK-IEPKPGLILHMKHGLKVMTMTKCCSS-----
CYP96A3 -----SGRLKHEPSYKFLAFNAGPRACLGKKLTFLQMKTVAAEIIIRNYDIKVVVE--GHK-TEPVPSVLFMRQHGKLVNITRI-----
CYP96A4 -----SGMLRQESSYKFLAFNAGPRTCLGKRLTFLQMKTVAVEIIRNYDIKVVVE--GHK-PPVPSVLLRMQHGKLVSVTKI-----
CYP96A15 -----NGGLRHEPSYKFMFNSGPRTCLGKNLALLQMKMVALEIIRNYDFKVIIE--GHK-VEPIPSILLRMKHGLKVTVTKKI-----
CYP97A3 -----PNETNQYNSYLPFGGPRKCI GDMFALFENVAIAMLIRRFNFQIAPG--APPVKMTTGATIHTEGLKLVTKRRTKPLDIPSVPI-----
CYP97C1 -----PNETNTDFKFI PFSGGPRKCVGDQFALMEAIVALAVFLQRNLNVLVP---DQTISMTTGATIHNTNGLYMKVSR-----
CYP97B3 WAGFDPSRSPGALYPNEIADFAFLPFGGPRKCI GDFALMESTVALAMLFQKFDVELRGT--PESVELVSGATIHAKNMGWCKLKRRSK-----
CYP709B2 -----SRAANHPNALLAFSMGPRACTIGQNFAMVEAKTVLAMILQRFRNLNLSA--DYKHAPADHLLTQPQYDLPVILEPIDG-----
CYP709B3 -----SQATIHPNALLPFSIGPRACIAKNFAMVEAKTVLTMILQQFQLS-LSP--EYKHTPVDHFDLFPQYGLPVMMLHPLG-----
CYP709B1 -----SRAANHPNALLAFSVGPRACTIGQNFVMEAKTVLTMILQRFRIISLCD--EYKHTPVDNVTIQPQYGLPVMMLQPLED-----
CYP735A1 -----GRPFASGRHFIPFAAGPRNCIGQFALMEAKIILATLISKFNFT-ISK--NYRHAPIVVLTIKPKYGVQVILKPLVS-----
CYP735A2 -----TRSFASSRHFMPPFAAGPRNCIGQTFAMMEAKIILAMLVSKFSFA-ISE--NYRHAPIVVLTIKPKYGVQVILKPLDL-----
CYP72A11 -----SKATKNQASFFPFAWGSRI CIGQNFALLEAKMAMALILQRFSFE-LSP--SYVHAPYTVFTIHPQFGAPLIMHKL-----
CYP72A13 -----SKATKNQVSFFPFAWGPRICIGQNFALLEAKMAMTILIRKFSFE-LSP--SYVHAPYTVLTHPQFGAPLILHKL-----
CYP72A15 -----SKATKSQVSFFPFAWGPRICIGQNFALLEAKMAMALILRRFSFE-ISP--SYVHAPYTVITIHPOFGAQLIMHKL-----
CYP72A10 -----SKATKSQVSFFPFAWGPRICIGQNFAMLEAKMAMALILQTFTFE-LSP--SYVHAPQTVVTIHPQFGAHLILRKL-----
CYP72A14 -----SKATKNQVSFFPFAWGPRICIGQNFALLEAKMAMSLILQRFSFE-LSP--SYVHAPYTIITLYPQFGAHLMLHKL-----
CYP72A9 -----AKATKNQVCFLPFGWGPRI CIGQNFALLEAKMAMALILQRFSFE-LSP--SYVHSPYRVFTIHPQCGAHLILHKL-----
CYP72A7 -----SKATKNQVSFFPFGWGPRI CIGQNFAMLEAKMAMALILQKFSFE-LSP--SYVHAPQVMTRPQFGAHLILHKL-----
CYP72A8 -----SKATKNQVSFLPFGWGPRI CPGQNFALMEAKMAMLVLILQRFSFE-LSP--SYTHAPHTVLTLPQFGAPLIFHML-----
CYP72C1 -----AGATKGRLSFLPFSGGPRTCI GQNF SMLQAKFLAMVLRQFSVE-LSP--SYTHAPFPAATTFPQHGAPLIRKRL-----
CYP734A1 -----PRAAKHPVGFIPFGLGVRTCI GNLAILQAKLTLAVMIQRFTFH-LAP--TYQHAPTVMMLYPQHGAPITFRRLTNHED-----
CYP721A1 -----PKKQSALLVPFGLGPRTCVGQNLAVNEAKTVLATILKYYSFR-LSP--SYAHAPVLFVTLQPQNGAHLIFRTRISS-----
CYP715A1 -----HGGCKNKMGYMPFGFGGRMCIGRNLTTMEYKIVLSLVLSRFEIS-VSP--GYRHSPTYMLSLRPGYGLPLIRPL-----
CYP714A1 -----SKACKHPQSFPFGLGTRLCLGKNFGMMELKVLVSLIVSRFSFT-LSP--TYQHSPVFRMLVEPQHGQVIRVLRQ-----
CYP714A2 -----SKACKYPQSYIPFGLGPRTCVGKNFGMMEVKVLVSLIVSKFSFT-LSP--TYQHSPSHKLLVEPQHGQVIRVV-----
CYP74A VLWS-----NGPETETPTVGNKQCAKDFVVLVARLVFIEIFRRYDSFDIEVGTSPLGSSVNFSSLRKASF-----
CYP74B2 LYWS-----NGPQTGTPTASNKQCAAKDIVTLTASLLVADLFLRYDTITGDSGS-----IKAVVKAK-----
CYP73A5 NGN-----DFRYVPFGVGRRSKCPGII LALPILGITIGRMVQNFELLPPPQSKVDTSEKGGQFSLHILNHSIIVMKPRNC-----
CYP722A1 -----ANSFLAFGMGGRTCLGLALAKAMMLVFLHRFITTYRWEVDEQPSIEKWTLFARLKSGYPIRVSRRL-----
CYP701A3 HKT-----MAFGAGKRVGAGALQASLMAGIAGRLVQEFWKL RDG-----EEENVDTYGLTSQKLYPLMAIINPRRS-----
CYP711A1 -----HPYAFIPFGIGPRACVGRFALQEIKLTLHLHYRNYIFRHSLEMEIPLQLDYGIILSFKNVGLRRTIKRF-----
consensus 601.....610.....620.....630.....640.....650.....660.....670.....680.....690.....

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CYP51A1 -----
CYP51A2 -----
CYP710A1 -----
CYP710A2 -----
CYP710A3 -----
CYP710A4 -----
CYP702A1 -----
CYP702A2 -----
CYP702A8 -----
CYP702A5 -----
CYP702A6 -----
CYP702A3 -----
CYP708A2 -----
CYP708A3 -----
CYP708A4 -----
CYP708A1 -----
CYP87A2 -----
CYP90A1 -----
CYP90B1 -----
CYP90C1 -----
CYP90D1 -----
CYP724A1 -----
CYP720A1 -----
CYP85A1 -----
CYP85A2 -----
CYP707A1 -----
CYP707A3 -----
CYP707A2 -----
CYP707A4 -----
CYP88A3 -----
CYP88A4 -----
CYP716A1 -----
CYP716A2 -----
CYP718 -----
CYP71A12 -----
CYP71A13 -----
CYP71A18 -----
CYP71A14 -----
CYP71A15 -----
CYP71A28 -----
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CYP84A4 -----
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CYP705A30 LHIPSS-----
CYP705A32 LHVPIS-----
CYP705A2 -----
CYP705A5 -----
CYP705A8 -----
CYP705A9 VQIPSS-----
CYP705A18 NLEILSS-----
CYP705A6 -----
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CYP94B1   -----
    
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CYP714A1 -----
CYP714A2 -----
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CYP73A5 -----
CYP722A1 -----
CYP701A3 -----
CYP711A1 -----
consensus 701.....710.....720.....730
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