

Acidic enzymes

>sp|P18031|PTN1_HUMAN Tyrosine-protein phosphatase non-receptor type 1 OS=Homo sapiens
GN=PTPN1 PE=1 SV=1

MEMEKEFEQIDKSGSWAAIYQDIRHEASDFPCRVAKLPKNKNRNRNRYRDVSPFDHSRIKLH
QEDNDYINASLIKMEEAQRSYILTQGPLPNTCGHFWEMVWEQKSRGVVMLNRMMEKGS
KCAQYWPQKEEKEMIFEDTNLKLTLISEDIKSYITVRQLELENLTTQETREILHFHYTTWP
DFGVPEPASFLNFLFKVRESGSLSPHGPVVVHCSAGIGRSGTFCLADTCLLLMDKRKDP
SSVDIKKVLEMRKFRMGLIQTADQLRFSYLAVIEGAKFIMGDSSVQDQWKELSHEDLEP
PPEHIPPPRPPKRILEPHNGKCREFFPNHQWVKEETQEDKDCPIKEEKGSPLNAAPYGIES
MSQDTEVRSRVVGGSLRGAQAASPAKGEPSLEKDEDHALSYWKPFLVNMCVATVLTAG
AYLCYRFLFNSNT

>sp|P30304|MPIP1_HUMAN M-phase inducer phosphatase 1 OS=Homo sapiens GN=CDC25A
PE=1 SV=2

MELGPEPPHRRLLFACSPPPASQPVVKALFGASAAGGLSPVTNLTVTMDQLQGLGSDYE
QPLEVKNNNSNLQRMGSSESTDSGFCLDSPGPLDSKENLENPMRRIHSLPQKLLGCSPALKR
SHSDSLDHDIFQLIDPENKENEAFEFKPKVRPVSARGCLHSHGLQEGKDLFTQRQNSAPAR
MLSSNERDSSEPGNFIFLFTPQSPVTATLSDEDDGFVDLLDGENLKNEEETPSCMASLWTAP
LVMRTTNLDNRCKLFDSPSLCSSSTRSVLKRPERSQEESPPGSTKRRKSMMSGASPKESTNPE
KAHETLHQSLSLASSPKGTIENILDNDPRDLIGDFSKGYLFHTVAGKHQDLKYISPEIMASV
LNGKFANLIKEFVIIDCRYPYEYEGGHIKGAVNLMHEEEVEDFLLKKPIVPTDGKRVIVVFH
CEFSSERGPRMCRYVRERDRLGNEYPKLHYPELYVLKGGYKEFFMKCQSYCEPPSYRPM
HHEDFKEDLKKFRTKSRTWAGEKSKREMYSRLLKL

>sp|P60484|PTEN_HUMAN Phosphatidylinositol 3,4,5-trisphosphate 3-phosphatase and
dual-specificity protein phosphatase PTEN OS=Homo sapiens GN=PTEN PE=1 SV=1

MTAIIKEIVSRNKRRYQEDGFDLDTYIYPNIIAMGFPAERLEGVYRNNIDDVVRFLDSKHK
NHYKIYNLCAERHYDTAKFNCRVAQYPFEDHNPPQLELIKPFCELDLQWLSEDDNHVAAI
HCKAGKGRGTVMICAYLLHRGKFLKAQEALDFYGEVTRDCKKGVTTIPSQRRYVYYYSYL
LKNHLDYRPVALLFHKMMFETIPMFSGGTCNPQFVVCQLKVKIYSSNSGPTREDKFMYP
EFPQPLPVCGLDIKVEFFHKQNKMLKKDKMFHFVWNTFFIPGPEETSEKVENGSLCDQEIDS
ICSIERADNDKEYLVLTLTKNLDKANKDKANRYFSPNFKVKLYFTKTVEEPSNPEASSST
SVTPDVSDNEPDHYRYSDDTTSDPENEPFDEDQHTQITKV

>sp|Q16667|CDKN3_HUMAN Cyclin-dependent kinase inhibitor 3 OS=Homo sapiens
GN=CDKN3 PE=1 SV=1

MKPPSSIQTSEFDSSDEEPIEDEQTPIHISWLSLRVNCQFLGLCALPGCKFKDVRNVQK
DTEELKSCGIQDIFVFCRTRGELSKYRVPNLLDLYQCCGIITHHPIADGGTPDIASCCEIMEE
LTTCLKNYRKTLIHICYGGLGRSCLVAACLLLYLSDTISPEQAIDSLRDLRGSAGIQTIKQYN
YLHEFRDKLAAHLSSRDSQRSRSVSR

>sp|P10586|PTPRF_HUMAN Receptor-type tyrosine-protein phosphatase F OS=Homo sapiens
GN=PTPRF PE=1 SV=2

MAPEPAPGRTMVPLVPALVMLGLVAGAHGDSKPVFIKVPEDQTGLSGGVASFVCQATGEP
KPRITWMKKGKKVSSQRFEVIEFDDGAGSVLRIQPLRVQRDEAIYECTATNSLGEINTSAK
LSVLEEEQLPPGFPSIDMGPQLKVVEKARTATMLCAAGGNPDPEISWFKDFLPVDPATSN
RIKQLRSGALQIESSESDQGKYECVATNSAGTRYAPANLYVRVRRVAPRFSIPPSSQEV
PGGSVNLTCAVAVGAPMPYVKWMMGAEELTKEDEMPVGRNVLELSNVVRSANYTCVAISS
LGMIEATAQVTVKALPKPIDLVVTETTATSVTLTWDSGNSEPVYYYGIQYRAAGTEGPFQ
EVDGVATTRYSIGGLSPFSEYAFRVLAVNSIGRGPPEAVRARTGEQAPSSPPRRVQARMLS
ASTMLVQWEPPEEPNGLVRGYRVYYTPDSRRPPNAWHKHNTDAGLLTTVGSLLPGITYSL
RVLAFTAVGDGPPSPTIQVKTQQGVPAQPADFQAEVESDTRIQLSWLLPPQERIIMYELVYW
AAEDEDQQHKVTFDPTSSYTLEDLKPDTLYRFQLAARSDMGVGVFTPTIEARTAQSTPSAP
PQKVMCVMGSTTVRVSWVPPADSRNGVITQYSVAYEAVDGEDRGRHVVDGISREHSS
WDLVGLEKWTEYRVVWRAHTDVGPGPESSPVLVRTDEDVPSGPPRKVEVEPLNSTAVHV
YWKLPVPSKQHGQIRGYQVTVYVRENGEPRGLPIIQDVMLAEAQRPEESEDYETTISGL
TPETYSVTVAAYTTKGDGARSKPKIVTTTGAVPGRPTMMISTTAMNTALLQWHPPKELP
GELLYRLQYCRADARPNTIDFGKDDQHFTVTGLHKGTTYIFRLAAKNRAGLGEEFEKE
IRTPEDLPSGFPQNLHVVTGLTTSTTELAWDPPVLAERNGRIISYTVVFRDINSQQELQNITD
TRFTLTGLKPDTTYDIKVRAWTSKSGSPLSPSIQSRTMPVEQVFAKNFRVAAAMKTSVLLS
WEVPDSYKSAVPFKILYNGQSVEVDGHSMRKLIALDLQPNTEYSFVLMNRGSSAGGLQHL
VSIRTAPDLLPHKPLPASAYIEDGRFDLSMPHVQDPSLVRWFYIVVVPIDRVGGSMILT
PRWS TPEELELDELLEAIEQGEEQRRRRRQAERLKPYVAAQLDVLPETFTLGDKKNYR
GFYNR PLSPDLSYQCFVLASLKEPMDQKRYASSPYSDEIVVQVTPAQQEEPEMLWVT
GVLAVIL IILVIAILLFKRKRTHSPSSKDEQSIGLKDSLLAHSSDPVEMRRLNYQTP
GMRDHPPITDL ADNIERLKANDGLKFSQEYESIDPGQQFTWENSNLEVNKPKNRYAN
VIAIDHSRVILTSID GVPGSDYINANYIDGYRKQNAIATQGPLPETMGDFWRMVWEQ
RTATVMMTRLEEKSR VKCDQYWPARGTETCGLIQVTLTDTVELATYTVRTFALHKSGS
SEKRELRFQFMAWPD HGVPEYPTPILAFRRVKACNPLDAGPMVVHCSAGVGRGTCFIV
IDAMLERMKHEKTVDI YGHVTCMRSQRNYMVQTEDQYVFIHEALLEAATCGHTEVP
ARNLYAHIQKLGQVPPGES VTAMELEFKLLASSKAHTSRFISANLPCNKFKNRLVN
IMPYELTRVCLQPIRGVEGSDYINA SFLDGYRQQKAYIATQGPLAESTEDFWRML
WEHNSTIIVMLTKLREMGREKCHQYWPAE RSARYQYFVVDPMAEYNMPQYILREF
KVTDARDGQSRTIRQFQFTDWPEQGVPKTGEGFI DFIGQVHKTKEQFGDGPITV
HCSAGVGRGTVFITLSIVLERMRYEGVDMFQTVKTLRT QRPAMVQTEDQYQLCYRA
ALEYLGSFDHYAT

>sp|O75365|TP4A3_HUMAN Protein tyrosine phosphatase type IVA 3 OS=Homo sapiens
GN=PTP4A3 PE=1 SV=2

MARMNRPAPVEVSYKHMRLITHNPTNATLSTFIEDLKKYGATTVVRVCEVTYDKTPEK
DGITVVDWPFDDGAPPPGKVVEDWLSLVKAKFCEAPGSCVAVHCVAGLGRAPVLVALALI
ESGMKYEDAIQFIRQKRRGAINSKQLYLEKYRPKQRLRFKDPHTHKTRCCVM

>sp|P08575|PTPRC_HUMAN Receptor-type tyrosine-protein phosphatase C OS=Homo sapiens
GN=PTPRC PE=1 SV=2

MYLWLKLLAFGF AFLDTEVFVTGQSPTPSPTGLTTAKMPSVPLSSDPLPHTTAFSPASTFE
RENDFSETTSLSPDNTSTQVSPDSLNASAFNTTGVS SVQTPHLPHTHADSQTPSAGTDTQ
TFSGSAANAKLNPTPGSNAISDVPGERSTASTFPTDPVSPLTTLSLAHHSSAALPARTSNTT

ITANTSDAYLNASETTTLSPSGSAVISTTTIATTPSKPTCDEKYANITVDYLYNKETKLFTAK
LNVNENVECGNNTCTNNEVHNLTECKNASVSISHNSCTAPDKTLILDVPPGVEKFQLHDC
TQVEKADTTICLKWKNIETFTCDTQONITYRFQCGNMIFDNKEIKLENLEPEHEYKCDSEILY
NNHKFTNASKIIKTDFGSPGEPQIIFCRSEAAHQGVITWNPQRSFHNFTLCYIKETEKDCL
NLDKNLIKYDLQNLKPYTKYVLSLHAYIIAKVQRNGSAAMCHFTTKSAPPSQVWNMTVS
MTSDNSMHVKCRPPDRNGPHERYHLEVEAGNTLVRNESHKNCDFRVKDLQYSTDYTF
KAYFHNGDYPGEPFILHHSTSYNSKALIAFLAFLIIVTSIALLVVLYKIYDLHKKRSCNLDEQ
QELVERDDEKQLMNVPEIHADILLETYKRKIADEGRLFLAEFQSIPRVFSKFPKEARKPFN
QNKRYVDILPYDYNRVELSEINGDAGSNYINASYIDGFKEPRKYIAAQGPRDETVDDFW
RMIWEQKATVIVMVTRCEEGRNKNCAEYWPSMEEGTRAFGDVVVKINQHKRCPDYIIQK
LNVNKKKATGREVTHIQFTSWPDHGVPEPHLLLKLRRRVNAFSNFFSGPIVVHCSAGV
GRTGTYIGIDAMLEGLEAENKVDVYGYVVKLRRQRCLMVQVEAQYILIHQALVEYNQFG
ETEVLNSELHPYLHNMKKRDPPSEPSPLEAEFQRLPSYRSWRTQHIGNQEENKSKNRNSN
VIPYDYNRVPLKHELEMSKESEHDSDESSDDSDSEEPSKYINASFIMSYWKPEVMIAAQG
PLKETIGDFWQMIFQRKVKVIVMLTELKHGDQEICAQYWGEKQTYGDIEVDLKDTDKS
STYTLRVFELRHSKRKDSRTVYQYQYTNWSVEQLPAEPKELISMIQVVKQKLPQKNSSEG
NKHHKSTPLLIHCRDGSQQTGFICALLNLESAAETEEVVDIFQVVKALRKARPGMVSTFEQ
YQFLYDVIASSTYPAQNGQVKKNNHQEDKIEFDNEVDKVKQDANCVNPLGAPEKLPEAKE
QAEGSEPTSGTEGPEHSVNGPASPALNQGS

>sp|P23467|PTPRB_HUMAN Receptor-type tyrosine-protein phosphatase beta OS=Homo
sapiens GN=PTPRB PE=1 SV=3

MLSHGAGLALWITLSLLQTGLAEPERCNFTLAESKASSHSVSIQWRILGSPCNFSLIYSSDT
LGAALCPTFRIDNTTYGCNLQDLQAGTIYNFRIISLDEERTVVLQTDPLPPARFGVSKEKTT
STSLHVWWTPSSGKVTSYEVQLFDENNQKIQGVQIQESTSWNEYTFFNLTAGSKYNIATA
VSGGKRSFSVYTNGSTVPSVKDIGISTKANLLISWSHGSGNVERYRLMLMDKGILVHG
GVVDKHATSIAFHGLTPGYLYNLTVMTEAAGLQNYRWKLVRTAPMEVSNLKVNTDGSLT
SLKVWQRPPGNVDSYNITLSHKGTIKESRVLAPWITETHFKELVPGRLYQVTVSCVSGEL
SAQKMAVGRTFPDKVANLEANNGRMRSLVVSWSPAGDWEQYRILLFNDSVLLNITV
GKEETQYVMDDTGLVPGRQYEVEVIVESGNLKNSERCQGRTVPLAVLQLRVKHANETSL
SIMWQTPVAEWEKYIISLADRDLIIHKSLSKDAKEFTFTDLVPGRKYMATVTSISGDLKN
SSSVKGRTPAQVTDLHVANQGMTSSLFTNWTQAQGDVEFYQVLLIHENVVIKNESISSE
TSRYSFHSLKSGSLYSVVVTTVSGGISSRQVVVEGRTVPSSVSGVTVNNNSGRNDYLSVSWL
LAPGDVDNYEVTLSHDGKVVQSLVIAKSVRECSFSSLTPGRLYTVTITTRSGKYENHSFSQ
ERTVPDKVQGVSVNSARSYLRVSWVHATGDFDHYEVTIKNKNFIQTKSIPKSENECV
FVQLVPGRLYSVTVTTKSGQYEANEQNGRTIPEPVKDLTLRNRSTEDLHVTWSEGANGDV
DQYEIQLLFNDMKVFPFHLVNTATEYRFTSLTPGRQYKILVLTISGDVQSSAFIEGFTVPSA
VKNIHISPNGATDSLTVNWTPGGGDVDSYTVSAFRHSQKVDSQTIPKHVFEHTFHRLEAG
EQYQIMIASVSGSLKNQINNVGRTVPASVQGVADNAYSSYSLIVSWQKAAGVAERYDILL
LTENGILLRNTSEPAATTKQHKFEDLTPGKKYKIQLTVSGGLFSKEAQTEGRTVPAAVTDLRI
TENSTRHLSFRWTASEGELSWYNIFLYNPDGNLQERAQVDPLVQSFSFQNLQGRMYKM
VIVTHSGELSNESFIFGRTVPASVSHLRGSRNNTTDSLWFNWSPASGDFDFYELILYNPNGT
KKENWKDKDLTEWRFQGLVPGRKYVLWVTHSGDLSNKVTAESRTAPSPPSLMSFADIA
NTSLAITWKGPDPDWDYDNDFELQWLPRDALTVFNPNRNRKSEGRIVYGLRPGRSYQFNV

KTVSGDSWKTYSKPIFGSVRTKPKIQNLHCRPQNSTAIACSWIPDSDFDGYSIECRKMD
TQEVFEFSRKLEKEKSLNIMMLVPHKRYLVSIKVSAGMTSEVVEDSTITMIDRPPPPPHI
RVNEKVDLISKSSINFTVNCNCSWFSDTNGAVKYFTVVVREADGSDELKPEQQHPLPSYLEY
RHNASIRVYQTNFYASKCAENPNSNSKSFNIKLGAEEMESLGGKCDPTQQKFCDGPLKPHT
AYRISIRAFQTFDEDLKEFTKPLYSDTFFSLPITTESEPLFGAIEGVSAGLFLIGMLVAVVAL
LICRQKVSHGRERPSARLSIRDRPLSVHLNLGQKGNRKTSCPIKINQFEGHFMKLQADSN
YLLSKEYEELKDVGRNQSCDIALLPENRGKNRYNNILPYDATRVKLSNVDDDDPCSDYINA
SYIPGNNFRREYIVTQGPLPGTKDDFWKMWVQNVHNIVMVTQCVEKGRVKCDHYWPA
DQDSLYYGDLILQMLSEVLPWETIREFKICGEEQLDAHRLIRHFHYTVWPDHGVPETTQS
LIQFVRTVRDYINRSPGAGPTVVHCSAGVGRGTGFIALDRILQQLDKSDSVDIYGAVHDLR
LHRVHMVQTECQYVYLHQVVRDVLARKLRSEQENPLFPIYENVNPEYHRDPVYSRH

>sp|P54829|PTN5_HUMAN Tyrosine-protein phosphatase non-receptor type 5 OS=Homo sapiens
GN=PTN5 PE=1 SV=4

MNYEGARSERENHAADDSEGGALDMCCSERLPGLPQPIVMEALDEAEGLQDSQREMPPP
PPSPSPDPAQKPPPRGAGSHSLTVRSSLCLFAASQFLLACGVLWFSGYGHIWSQNATNLVS
SLLTLLKQLEPTAWLDSGTWGVPSLLLFLSVGLVLVTTLVWHLRTPPEPPTPLPPEDRRQ
SVSRQPSFTYSEWMEEKIEDDFLDLDPVPETPVFDCVMDIKPEADPTSLTVKSMGLQERRG
SNVSLTDMCTPGCNEEGFGYLMSPREESAREYLLSASRVLQAEELHEKALDPFLLQAEFF
EIPMNFVDPKEYDIPGLVRKNRYKTILPNPHSRVCLTSPDPDDPLSSYINANYIRGYGEEK
VYIATQGPIVSTVADFWRMVWQEHTPIIVMITNIEEMNEKCTEYWPEEQVAYDGEVITVQK
VIHTEDYRLRLISLKSQTEERGLKHYWFTSWPDQKTPDRAPLLHLVREVEEAAQQEGPH
CAPIIVHCSAGIGRTGCFIATSICCQQLRQEGVVDILKTTCLRQDRGGMIQTCEYQFVHH
VMSLYEKQLSHQSPE

>sp|Q15262|PTPRK_HUMAN Receptor-type tyrosine-protein phosphatase kappa OS=Homo
sapiens GN=PTPRK PE=1 SV=2

MDTTAAAALPAFVALLLLSPWPLLGSAQGQFSAGGCTFDDGPGACDYHQDLYDDFEWVH
VSAQEPHYLPPEMPQGSYMIVDSSDHPGEKARLQLPTMKENDTHCIDFSYLLYSQKGLN
PGTLNILVRVNGPLANPIWNVTGFTGRDWLRAELAVSTFWPNEYQVIFAEVSGGRSGYI
AIDDIQVLSYPCDKSPHFLRLGDVEVNAGQNATFQCIATGRDAVHNKLWLQRRNGEDIPV
AQTKNINHRRFAASFRLQEVTKTDQDLYRCVTQSERGSGVSNFAQLIVREPPRIAPPQLL
GVGPTYLLIQLNANSIIGDGPIILKEVEYRMTSGSWTETHAVNAPTYKLWHLDPDTEYEIR
VLLTRPGEGETGLPGPLITRTKCAEPMRTPKTLKIAEIQARRIAVDWESLGYNITRCHTFN
VTICYHYFRGHNESKADCLDMDPKAPQHVVNHLPPYTNVSLKMILTNPGRKESEETIIQT
DEDVPGVPVKSLQGTSFENKIFLNWKEPLDPNGIITQYEISYSSIRSFDPVAVPAGPPQTVS
NLWNSTHVMHMLHPGTTYQFFIRASTVKGFGPATAINVTNISAPTLPDYEGVDASLNET
ATTITVLLRPAQAKGAPISAYQIVVEELHPHRTKREAGAMECYQVPVQYQNAMSGGAPYY
FAAELPPGNLPEPAPFTVGDNRQTYQGFWNPLAPRKGYNIFQAMSSVEKETKTQCVRAT
KAATEEPEVIPDPAKQTDREVVKIAGISAGILVLLLLLVILIVKSKLAKKRKAMDGNTRQ
EMTHMVNAMDRSYADQSTLHAEDPLSITFMDQHNFSRYENHSATAESSRLLDVPRYLCE
GTESPYQTGQLHPAIRVADLLQHINLMKTSDSYGFKEEYESFFEGQSASWDVAKKQDNRA
KNRYGNIIAYDHSRVILQPVEDDPSSDYINANYIDGYQRPSHYIATQGPVHETVYDFWRMI
WQEQSACIVMVTNLVEVGRVKCYKYWPDDTEVYGDFKVTCEMEPLAEYVVRTFTLER

RGYNEIREVKQFHFTGWPDHGVPYHATGLLSFIRRVKLSNPPSAGPIVVHCSAGAGRTGC
YIVIDIMLDMAEREGVVDIYNCVKALRSRRINMVQTEEQYIFIHDAILEACLCGETAIPVCE
FKAAYFDMIRIDSQTNSSHLKDEFQTLNSVTPRLQAEDCSIACLPRNHDKNRFMDMLPPD
RCLPFLITIDGESSNYINAALMDSYRQPAAFIVTQYPLPNTVKDFWRLVYDYGCTSIVMLN
EVDLSQGCPQYWPEEGMLRYGPIQVECMSCSMDCDVINRIFRICNLTRPQEGYLMVQQFQ
YLGWASHREVPGSKRSFLKLILQVEKWQEECEEEGEGRTIIHCLNGGGRSGMFCAIGIVVE
MVKRQNVVDVFHAVKTLRNSKPNMVEAPEQYRFCYDVALEYLESS

>sp|Q12913|PTPRJ_HUMAN Receptor-type tyrosine-protein phosphatase eta OS=Homo sapiens
GN=PTPRJ PE=1 SV=3

MKPAAREARLPPRSPGLRWALPLLLLLLRLGQILCAGGTPSPIDPSVATVATGENGITQISS
TAESFHKQNGTGTPQVETNTSEDESSGANDSLRTPEQSNGTDGASQKTPSSTGSPVFD
IKAVSISPTNVILTWKSNDTAASEYKYVVKHKMENEKTITVVHQPWCNITGLRPATSYVFSI
TPGIGNETWGDPRVIKVITEPIPVSDLRVALTGVRKAALSWSNNGTASCRVLLESIGSHEE
LTQDSRLQVNISGLKPGVQYNINPYLLQSNKTKGDPLGTEGGLDASNTERSRAGSPTAPVH
DESLVGPVDPSSGQSRDTEVLLVGLPGTRYNATVYSQAANGTEGQPQAIEFRTNAIQVF
DVTAVNISATSLTLIWKVSDNESSSNYTYKIHVAGETDSSNLNVSEPRVIPGLRSSTFYNT
VCPVLGDIEGTPGFLQVHTPPVPVSDFRVTVVSTTEIGLAWSSHDAESFQMHITQEGAGNS
RVEITTNQSIIGGLFPGTKYCFEIVPKGPNTEGASRTVCNRTVPSAVFDIHVVYVTTTEM
WLDWKSPDGASEYVYHLVIESKHGNSHTSTYDKAITLQGLIPGTLNITISPEVDHVWGD
NSTAQYTRPSNVSNIDVSTNTTAATLSWQNFDDASPTYSYCLLIEKAGNSSNATQVVTDIGI
TDATVTELIPGSSYTVEIFAQVGDGKLSLEPGRKSFCTDPASMASFDCEVVPKEPALVLKWT
CPPGANAGFELEVSSGAWNNATHLESCSENGTEYRTEVTYLNFTSYNISITTVSCGKMA
APTRNTCTTGITDPPPDGSPNITSVSHNSVKVKFSGFEASHGPIKAYAVILTTGEAGHPSAD
VLKYTYEDFKKGASDITYTYLIRTEEKGRSQSLSEVLKYEIDVGNESTTLGYNKGLEPL
GSYRACVAGFTNITFHPQNKGLIDGAESYVSFSRYSDAVSLPQDPGVICGAVFGCIFGALVI
VTVGGFIFWRKKRDKAKNNEVSFSQIKPKKSKLIRVENFEAYFKKQQADSNCGFAEEYED
LKLVGISQPKYAAELAENRGKNRYNNVLPYDISRVKLSVQTHSTDDYINANYMPGYHSHK
DFIATQGPLPNTLKDFWRMVWEKNVYAIIMLTKCVEQGRTKCEEYWPSKQAQDYGDITV
AMTSEIVLPEWTIRDFTVKNIQTSESHPLRQFHFTSWPDHGVDPDITDLLINFRYLVRDYMK
QSPPEPILVHCSAGVGRGTGFIAIDRLIYQIENENTVDVYGIVYDLRMHRPLMVQTEDQY
VFLNQCVLDIRSQKDSKVDLIYQNTTAMTIYENLAPVTTFGKTNGYIA

>sp|P29074|PTN4_HUMAN Tyrosine-protein phosphatase non-receptor type 4 OS=Homo sapiens
GN=PTPN4 PE=1 SV=1

MTSRFRLPAGRTYNVRASELARDRQHTEVVCNILLDDNTVQAFKVNKHDQGGVLLDVVF
KHLDLTEQDYFGLQLADDSTDNPRWLDPNKPIRKQLKRGSPYSLNFRVKFFVSDPNKLQE
EYTRYQYFLQIKQDILTGRGPCSNTAALLASFAVQSELGDYDQSENLSGYLSDYSFIPNQP
QDFEKEIAKLHQHIGLSPAEAEFNLYNTARTLELYGVEFHAYARDQSNNEIMIGVMSGGILI
YKNRVRMNTFPWLKIVKISFKCKQFFIQLRKELHESRETLGFMVNYRACKNLWKACV
EHHTFFRLDRPLPPQKNFFAHYFTLGSKFRYCGRTEVQSVQYGKEKANKDRVFARSPSKP
LARKLMDWEVVSRSNISDDRLETQSLPSRSPGTPNHRNSTFTQEGTRLRPSSVGHLDH
MVHTSPSEVFVNQRSPTSQANSIVLESSPSQETPGDGKPPALPPKQSKKNSWNQIHYSHS
QQDLESHINETFDIPSSPEKPTPNGGIPHDLNLVLRMKPDENGRFGFNKGGYDQKMPVIV

SRVAPGTPADLCVPRLENGDQVVLINGRDIAEHTHDQVVLFIKASCERHSGELMMLLVRPNA
VYDVVEEKLENEPDFQYIPEKAPLDSVHQDDHSLRESMIQLAEGGLITGTVLTQFDQLYRKK
PGMTMSCAKLPQNISKNRYSRDISPYDATRVILKGNEDYINANYINMEIPSSSIINQYIACQGP
LPHTCTDFWQMTWEQSSMVMLTTQVERGRVKCHQYWPEPTGSSSYGCVYQVTCHEE
GNTAYIFRKMFLNFQEKNESRPLTQIQYIAWPDHGVPPDSSDFLDFVCHVRNKRAGKEEP
VVVHCSAGIGRTGVLITMETAMCLIECNQPVYPLDIVRTMRDQRAMMIQTPSQYRFVCEA
ILKVYEEGFVKPLTTSTNK

>sp|Q13332|PTPRS_HUMAN Receptor-type tyrosine-protein phosphatase S OS=Homo sapiens
GN=PTPRS PE=1 SV=3

MAPTWGPGMVSVVVGPMGLLVLLVGGCAAEEPPRFIPEKPKDQIGVSGGVASFVCQATGD
PKPRVTWNKKGKKVNSQRFETIEFDESAGAVLRIQPLRTPRDENVYECVAQNSVGEITVHA
KLTVLREDQLPSGFPNIDMGPQLKVVERTRTATMLCAASGNPDPEITWFKDFLPVDPSASN
GRIKQRSETFESTPIRGALQIESSEETDQGYECVATNSAGVRYSSPANLYVRELREVRV
APRFSILPMSHEIMPGGNVNITCVAVGSPMPYVKWMQGAEDLTPEDDMPVGRNVLELTD
VKDSANYTCVAMSSLGVIEAVAQITVKSPLKAPGTPMVTENTATSITITWDSGNPDPVSY
VIEYKSKSQDGPYQIKEDITTRYSIGGLSPNSEYEIWVSAVNSIGQGPSESVVTRTGEQAP
ASAPRNVQARMLSATTMIVQWEEPVEPNGLIRGYRVYYTMEPEHPVGNWQKHNVDDSL
LTTVGSLLLEDETYTVRVLAFTSVGDGPLSDPIQVKTQQGVPGQPMNLRAEARSETSITLSW
SPPRQESIHKYELLFREGDHGREVGRFTDPTTSYVVEDLKPNTTEYAFRLAARSPQGLGAFT
VVRQRTLQSKPSAPPQDVKCVSVRSTAILVSWRPPPPETHNGALVGYSVRYPRLGSEDPEP
KEVNGIPPTTTQILLEALEKWTQYRITVAHTEVGPPESSPVVVRTDEDVPSAPPRKVEAE
ALNATAIRVLWRSPAPGRQHGGIRGYQVHYVRMEGAEARGPPRIKDVMLADAQWETDDT
AEYEMVITNLQPETAYSITVAAYTMKGDGARSKPKVVVTKGAVLGRPTLSVQQTPEGSLL
ARWEPPAGTAEDQVLGYRLQFGREDSTPLATLEFPSEDRTYASGVHKGATYVFRLAARS
RGGLEGEEAAEVLSIPEDTPRGHPQILEAAGNASAGTVLLRWLPPVPAERNGAIVKYTVAVR
EAGALGPARETELAAAEPGAENALTLOGLKPDATYDLQVRAHTRRGPGPFSPVRYRFTL
RDQVSPKNFKVKMIMKTSVLLSWEFPDNYNSPTPYKIQYNGLTLDVDGRTTKLLITHLKP
HTFYNFVLTNRGSSLGGLQQTVAWTAFNLLNGKPSVAPKPDADGFIMVYLPDGQSPVPV
QSYFIVMVPLRKSRRGQFLTPLGSPEDMDLEELIQDISRLQRRSLRHSRQLEVP RPYYAARF
SVLPPTFHGPGDQKQYGGFDNRGLEPGHRYVLFVLAVLQKSEPTFAASPFSDPFQLDNPDPQ
PIVDGEEGLIWWIGPVLA VVFIICIVIAILLYKNKPDSKRKDSEPRTKCLLNNADLAPHPKD
PVEMRRINFQTPDSGLRSPLEPGFHFESMLSHPIPIADMAEHTERL KANDSLKLSQEYES
IDPGQQFTWEHSNLEVNKPKNRYANVIAYDHSRVILQPIEGIMGSDYINANYVDGYRCQN
AYIATQGPLPETFGDFWRMVWEQRSATIVMMTRLEEKSRKCDQYWPNGRTETYGFIQVT
LLDTIELATFCVRTFSLHKNSSSEKREVRQFQFTAWPDHGVPEYPTPFLAFLRRVKTCNPPD
AGPIVVHCSAGVGRGTCFIVIDAMLERIKPEKTVDVYGHVTLMRSQRNYMVQTEDQYSFI
HEALLEAVGCGNTEVPARSYAIQKLAQVEPGEHVVTGMELEFKRLANSKAHTSRFISANL
PCNKFKNRLVNIMPYESTRVCLQPIRGVEGSDYINASFIDGYRQQKAYIATQGPLAETTEDF
WRMLWENNSTIVVMLTKLREMGREKCHQYWPAAERSARYQYFVVDPMAEYNMPQYILR
EFKVTDARDGQSRTVRQFQFTDWPEQGVPKSGEGFIDFIGQVHKTKEQFGQDGPISVHCS
AGVGRGTVFITLSIVLERMRYEGVVDIFQTVKMLRTQRPAMVQTEDEYQFCYQA ALEYL
GSFDHYAT

>sp|P23470|PTPRG_HUMAN Receptor-type tyrosine-protein phosphatase gamma OS=Homo sapiens GN=PTPRG PE=1 SV=4

MRRLLEPCWWILFLKITSSVLHYVVCFPALTEGYVVGALHENRHGSAVQIRRRKASGDPYW
AYSGAYGPEHWVTSSVSCGGRHQSPIDILDQYARVGEEYQELQLDGFDNESNKTWMKN
TGKTVAILLKDDYFVSGAGLPGRFKAEKVEFWHGHSNGSAGSEHSINGRRFPVEMQIFFY
NPDDFDSFQTAISENRIIGAMAIAFFQVSPRDNALDPIIHGLKGVVHHEKETFLDPFVLRDLL
PASLGSYYRYTGSLTTPCSEIVEWIVFRFPVPISYHQLEAFYSIFTTEQQDHVKSVEYLRN
NFRPQQRLHDRVVSKSAVRDSWNHDMTDFLENPLGTEASKVCSSPPIHMKVQPLNQTAL
QVSWSQPETIYHPPIMNYMISYSWTKNEDEKEKTFTKSDKDLKATISHVSPDSLYLFRVQ
AVCRNDRSDFSQTMLFQANTTRIFQGTRIVKTGVPTASPASSADMAPISSGSSTWTSSGIP
FSFVSMATGMGPSSSSGSQATVASVVTSTLLAGLGFGGGGISSFPSTVWPTRLPTAASASKQ
AARPVLATTEALASPGPDGSSPTKDGEGETEEGEKDEKSESEDGEREHEEDGEKDSEKKE
KSGVTHAAEERNQTEPSPTPSSPNRTAEGGHQTIPGHEQDHTAVPTDQTGGRRDAGPGLDP
DMVTSTQVPPTATEEQYAGSDPKRPEMPSKKPMSRGRDRFSEDSRFITVNPAEKNTSGMISR
PAPGRMEWIIPLIVVSALTFVCLILLIAVLVYWRGCNKIKSKGFPRRFREVPSSGERGEKGSR
KCFQTAHFYVEDSSSPRVVPNESIPIIPDDMEAIPVKQFVKHIGELYSNNQHGFSEDFEEV
QRCTADMNITAEHSNHPENKHKKNRYINILAYDHSRVKLRPLPGKDSKHSYINANYVDGY
NKAKAYIATQGPKSTFEDFWRMIWEQNTGIIVMITNLVEKGRRKCDQYWPTENSEEYGN
IIVTLKSTKIHACYTVRRFSIRNTKVKKGQKGNPKGRQNERVVIQYHYTQWPDGMVPEYA
LPVLTFRSSAARMPETGPVLVHCSAGVGRGTGYIVIDSMLQQIKDKSTVNVLGLFKHIR
TQRNYLVQTEEQYIFIHDALLEAILGKETEVSNNQLHSYVNSILIPGVGGKTRLEKQFKLVT
QCNKYVECFSAQKECNKEKNRNSSVVPSEARVGLAPLPGMKGTDYINASYIMGYYS
NEFIITQHPLPHTTKDFWRMIWDHNAQIIVMLPDNQSLAEDEFVYWPSREESMNCEAFTV
TLISKDRCLCSNEEQIIHDFILEATQDDYVLEVRHFQCPKWPNDAPISSTFELINVIKEEAL
TRDGPTIVHDEYGAVSAGMLCALTTLSQLENENAVDVFQVAKMINLMRPGVFTDIEQYQ
FIYKAMLSLVSTKENGNGPMTVDKNGAVLIADES DPAESMESLV

>sp|Q99952|PTN18_HUMAN Tyrosine-protein phosphatase non-receptor type 18 OS=Homo sapiens GN=PTPN18 PE=1 SV=2

MSRSLDSARSFLERLEARGGREGAVLAGEFSDIQACSAAWKADGVCSTVAGSRPENVRK
NRYKDVLPYDQTRVILSLLQEEGHSDYINGNFIRGVDGSLAYIATQGPLPHTLLDFWRLVW
EFGVKVILMACREIENGRKRCERYWAQEQEPLQTGLFCITLIKEKWL NEDIMLR TLKVTFQ
KESRSVYQLQYMSWPD RGVSSPDHMLAMVEEARLQGS GPEPLCVHCSAGCGRTGVL
CTVDYVRQLLLTQMIPPDFSLFDVVLKMRKQRPAAVQTEEQYRFLYHTVAQMFCSTLQNA
SPHYQNIKENCAPLYDDALFLRTPQALLAIPRPPGGVLRISVPGSPGHAMADTYAVVQKR
GAPAGAGSGTQTGTGTGTGARS AEEAPLYSKVTPRAQRPGAHAEDARGTLPGRVPADQSP
AGSGAYEDVAGGAQTGGLGFNL RIGRPKGPRDPPAEWTRV

>sp|Q9Y2R2|PTN22_HUMAN Tyrosine-protein phosphatase non-receptor type 22 OS=Homo sapiens GN=PTPN22 PE=1 SV=2

MDQREILQKFLDEAQS KKITKEEFANEFLKLRQSTKYKADKTYPTTVAEKPKNIKKNRY
KDILPYDYSRVELSLITSD EDDSSYINANFIKGVYGP KAYIATQGPLSTLLDFWRMIWEYSV
LIIVMACMEYEMGKKK CERYWAEPGEMQLEFGPFSVSCEAEKRKSDYIIRTLKV KFNSET
RTIYQFHYKNWPDH DVPSSIDPILELIWDVRCYQEDDSVPICIHCSAGCGRTGVICAIDYTW

MLLKDGIIPENFSVFLIREMRTQRPSLVQTQEYELVYNAVLELFRQMDVIRDKHSGTE
SQAHCICEKNHTLQADSYSPNLPKSTTKAAKMMNQRTKMEIKESSSDFRTSEISAKEE
LVLHPAKSSTSDFLELNYSFDKNADTTMKWQTKAFPIVGEPLQKHQSLDLGSLLFEGCSN
SKPVNAAGRYFNASKVPITRRTKSTPFELIQRETKEVDSKENFSYLESQPHDSCFVEMQAQK
VMHVSSAELNYSLPYDSKHQIRNASNVKHHDSALGVYSYIPLVENPYFSSWPPSGTSSK
MSLDLPEKQDGTVPFSSLLPTSSTLSFSYNSHDSLSLNSPTNISSLLNQESAVLATAPRIDD
EIPPLPVRTPESFIVVEEAGEFSPNVPKSLSSAVKVKIGTSLEWGGTSEPCKFDDSVILRPSK
SVKLRSPKSELHQDRSSPPPLPERTLESFFLADEDCMQAQSIETYSTSYPDTMENSTSSKQ
TLKTPGKSFTRSKSLKILRNMKKSICNSCPPNKPAESVQSNSSSFLNFGFANRFSKPKGPR
NPPPTWNI

>sp|Q06124|PTN11_HUMAN Tyrosine-protein phosphatase non-receptor type 11 OS=Homo sapiens GN=PTPN11 PE=1 SV=2

MTSRRWFHPNITGVEAENLLLTRGVDGSFLARPSKSNPGDFTLSVRRNGAVTHIKIQTGD
YYDLYGGEKFATLAELVQYYMEHHGQLKEKNGDVIELKYPLNCADPTSERWFHGLSGK
EAEKLLTEKKGHSFLVRESQSHPGDFVLSVRTGDDKGESNDGKSKVTHVMIRCQELKY
DVGGGERFDSLTDLVEHYKKNPMVETLGTVLQLKQPLNTRINAAEIESRVRELSKLAETT
DKVKQGFWEFETLQQECKLLYSRKEGQRQENKNKNRYKNILPFDHTRVVLHDGDPNE
PVSDYINANIIMPEFETKCNNSKPKKSYIATQGCLQNTVNDFWRMVQENSRVIVMTTKE
VERGKSKCVKYWPDEYALKEYGVMRVRNVKESAAHDYTLRELKLSKVGQALLQGNTER
TVWQYHFRTWPDHGVPSDPGGVLDFLVEVHHKQESIMDAGPVVHCSAGIGRTGTFIVID
ILIDIIREKGVDCDIDVPKTIQMVRSSQRSGMVQTEAQYRFIYMAVQHYIETLQRRIEEQKS
KRKGHEYTNIKYSLADQTSGDQSPLPCTPTPPCAEMREDSARVYENVGLMQQKQKSR

>sp|O00167|EYA2_HUMAN Eyes absent homolog 2 OS=Homo sapiens GN=EYA2 PE=1 SV=2

MVELVISPLTVNSDCLDKLKNRADA AVWTLSDRQGITKSAPLRVSQLFSRSCPRVLP
PSTAMAAYGQTQYSAGIQATPYTAYPPPAQAYGIPSYSIKTEDSLNHSPGQSGFLSYGSSF
STSPTGQSPYTYQMHGTTGFYQGGNGLGNAAGFGSVHQDYPSYPGFPQSQYPQYYGSSY
NPPYVPASSICPSPLSTSTYVLQEASHNVPNQSSSESLAGEYNTHNGPSTPAKEGDTDRPHRA
SDGKLRGRSKRSSDPSAGDNEIERVFWDLDETIIIFHSLLTGTFASRYGKDTTTSVRIGLM
MEEMIFNLADTHLFFNDLEDQIHVDDVSSDDNGQDLSTYNFSADGFHSSAPGANLCL
GSGVHGGVDWMRKLAFRYRRVKEMYNTYKNNVGGLIGTPKRETWLQLRAELEALTDL
WLTHSLKALNLINSRPNVCNVLVTTTQLIPALAKVLLYGLGSVFPIENIYSATKTGKESCFE
RIMQRFGRKAVYVVIGDGVVEEQGAKKHNMFPWRISCHADLEALRHAELEYL

>sp|P23471|PTPRZ_HUMAN Receptor-type tyrosine-protein phosphatase zeta OS=Homo sapiens GN=PTPRZ1 PE=1 SV=4

MRILKRFLACIQLLCVCRLDWANGYYRQQRKLVEEIGWSYTGALNQNKGKYPCTNSP
KQSPINIDEDLTQVNVNLKCLKFQGWKTSLENTFIHNTGKTVEINLTNDYRVSGGVSEM
VFKASKITFHGWKCNMSSDGEHSLEGQKFPLEMQIYCFDADRFSSEAVKGGKLRAL
SILFEVGTENLDFKAIIDGVESVSRFGKQAALDPFILLNLLPNSTDKYIYNGSLTSPCTD
TVDWIVFKDTSISESQLAVFCEVLTMQQSGYVMLMDYLQNNFREQQYKFSRQVFSSYT
GKEEIHAEVCSSEPENVQADPENYTSLLVTWERPRVYDTMIEKFAVLYQQLDGEDQTKH
EFLTDGYQDLGAILNLLPNMSYVLQIVAICTNGLYGKYSQDLIVDMPTDNPEDLDFPELI

GTEEIIKEEEEKGDIEEGAIVNPGRDSATNQIRKKEPQISTTTTHYNRIGTKYNEAKTNRSPTR
GSEFSGKGDVPNTSLNSTSQPVTKLATEKDISLTSQTVTELPHTVEGTSASLNDGSKTVLR
SPHMNLSGTAESLNTVSIYEESLLTSFKLDTGAEDSSGSSPATS AIPFISENISQGYIFSSE
NPETITYDVLIPESARNASEDSTSSGSEESLKDPSMEGNVWFPSSTDITAQPVDVSGRESFL
QTNYTEIRVDESEKTTKSFSAGPVMSQGPSVTDLEMPHYSTFAYFPTEVTPHAFTPSSRQQ
DLVSTVNVVYSQTTQPVYNGETPLQPSYSSEVFPLVTPLLLDNQILNTTPAASSSDSALHAT
PVFPSVDVSFESILSSYDGAPLLPFSSASFSELFRHLHTVSQILPQVTSATESDKVPLHASLP
VAGGDLLEPSLAQYSDVLSTTHAASETLEFGSESGVLYKTLMFSSQVEPPSSDAMMHARS
SGPEPSYALSDNEGSQHIFTVSYSSAIPVHDSVGVTYQGSLSFGPSHIPKSSLITPTASLLQ
PTHALSGDGEWGSASSDSEFLLPD TDGLTALNISSPVSVAEFTYTTSVFGDDNKALSKSEII
YGNETELQIPSFNEMVYPSESTVMPNMYDNVNKLNASLQETSVSISSTKGMFPGSLAHTT
TKVFDHEISQVPENNFVQPTHTVSQASGDTSLKPVLSANSEPASSDPASSEMLSPSTQLLF
YETSASFSTEVLLQPSFQASDVTLLKTVLPAVPSDPILVETPKVDKISSTMLHLIVSNSASS
ENMLHSTSVPVFDVSPTSHMHSASLQGLTISYASEKYEPVLLKSESSHQVVP SLYSNDEL F
QTANLEINQAHPKGRHV FATPVLSIDEPLNTLINKLIHSDEILTSTKSSVTGKVFAGIPTVAS
DTFVSTDHSPVPIGNHVAITAVSPHRDGSVTSTKLLFPSKATSEL SHSAKSDAGLVGGGED
GDTDDDGGDDDDDRGSDGLSIHKCMSCSSYRESQEKVMNDS DTHENSLMDQNNPISYSL
SENSEEDNRVTSVSSDSQTGM DRSPGKSPS ANGLSQKHNDGKEENDIQTGSALLPLSPE SK
AWAVLTSDEESGSGQGTSDSLNENETSTDFSFADTNEKDADGIL AAGDSEITPGFPQSPTSS
VTSENSEVFHVSEAEASNSSHESRIGLAEGLESEKKAVIPLVIVSALTFICLVVLV GILYWR
KCFQTAHFYLEDSTSPRVISTPPTPIFPISDDVGAIPKHFPHVADLHASSGFTEEFETLKEF
YQEVQSCTVDL GITADSSNHPDNKHKNRYINIVAYDHSRVKLAQLAEKDGKLT DYINANY
VDGYNRPKAYIAAQGPLKSTAEDFWRMIWEHNVEVIVMITNLVEKGRRKCDQYWPADGS
EEYGNFLVTQKSVQVLAYYTVRNFTLRNTKIKKGSQKGRPSGRVVTQYHYTQWPDMGV
PEYSLPVLTFVRKAAYAKRHAVGPVVVHCSAGVGRTGT YIVLDSMLQQIQHEGTVNIFGF
LKHRSQRNYLVQTEEQYVFIHDTLVEAILS KETEVLDSHIHAYVNALLIPGPAGKTKLEKQ
FQLLSQSNIQSDYS AALKQCNREKNRTSSII PVERS SRVGISSLSGEGTDYINASYIMGY YQ
SNEFIITQHPLLHTIKDFWRMIWDHNAQLVVMIPDGQNMAEDEFVYWP NKDEPINCESFK
VTLMAEEHKCLSNEEKLIQDFILEATQDDYVLEVRHFQCPKWPNPDSPI SKTFELISVIKEE
AANRDGPMIVHDEHGGV TAGTFCALTTLMHQLEKENSVDVYQVAKMINLMRPGVFADIE
QYQFLYK VILSLVSTRQEENPSTSLDSNGAALPDGNIAESLES LV

>sp|P69327|AMYG_ASPAW Glucoamylase OS=Aspergillus awamori GN=GLAA PE=1 SV=1
MSFRSLLALSGLVCTGLANVISKRATLDSWLSNEATVARTAILNNIGADGAWVSGADSGIV
VASPSTDNPDYFYTWTRDSGLVLKTLVDLFRNGDTSLLSTIENYISAQAI VQGISNPSGDLS
SGAGLGEPKFNVD ETAYTGSWGRPQRDGPALRATAMIGFGQWLLDNGYTSTATDIVWPLV
RNDLSYVAQYWNQTGYDLWEEVNGSSFFTIAVQHRALVEGSAFATAVGSSCSWCDSQAPE
ILCYLQSFWTGSFILANFDSSRSKGDANTLLGSIHTFDPEAACDDSTFQPCSPRALANHKE
VVDSFRSIYTLNDGLSDSEAVAVGRYPEDTY YNGNPWFLCTLAAAEQLYDALYQWDKQG
SLEVTDVSLDFFKALYS DAATGTYS SSSSSTYSSIVDAVKTFADGFVSIVETHAASNGSMSEQ
YDKSDGEQLSARDLTWSYA ALLTANNRRNSVVPASWGETSASSVPGTCAATS AIGTYSSV
TVTSWPSIVATGGTTTTATPTGSGSVTSTSKTTATASKTSTSTSSCTTPTAVAVTFDLTATT
TYGENIYLVGSI SQLGDWETSDGIALSADKYTSSDPLWYVTVTL PAGESFEYKFIRIESDDS
VEWESDPNREYTPQACGTSTATVTDTWR

Alkaline enzymes

>sp|P09211|GSTP1_HUMAN Glutathione S-transferase P OS=Homo sapiens GN=GSTP1 PE=1 SV=2

MPPYTVVYFPVRGRCAALRMLLADQGQSWKEEVVTVETWQEGSLKASCLYGQLPKFQD
GDLTLYQSNTILRHLGRTLGLYGKDDQQAALVDMVNDGVEDLRCKYISLIYTNYEAGKDD
YVKALPGQLKPFETLLSQNQGKTFIVGDQISFADYNLLDLLLIHEVLAPGCLDAFPLLSA
YVGRLSARPKLKAFLASPEYVNLPIGNGKQ

>sp|P14061|DHB1_HUMAN Estradiol 17-beta-dehydrogenase 1 OS=Homo sapiens
GN=HSD17B1 PE=1 SV=3

MARTVVLITGCSSGIGLHLAVRLASDPSQSFKVYATLRDLKTQGRWLWEAARALACPPGSLE
TLQLDVRDSKSVAAARERVTEGRVDVLCNAGLGLLGPLEALGEDAVASVLDVNVVGTV
RMLQAFLPDMKRRGSGRVLVTGSVGGLMGLPFNDVYCASKFALEGLCESLAVLLLPFGV
HLSLIECGPVHTAFMEKVLGSPEEVLDRTDIHTFHRFYQYLAHASKQVFREAAQNPEEVAEV
FLTALRAPKPTLRYFTTERFLPLLRMLDDPSGSNYVTAMHREVFVDVPAKAEAGAEAGG
GAGPGAEDEAGRGA VGDPPELGDPPAAPQ

>sp|P21266|GSTM3_HUMAN Glutathione S-transferase Mu 3 OS=Homo sapiens GN=GSTM3
PE=1 SV=3

MCESSMVLGYWDIRGLAHAIRLLLEFTDTSYEEKRYTCGEAPDYDRSQWLDVKFKLDL
DFPNLPYLLDGKKNITQSNAILRYARKHNMCGETEEEEKIRVDIIENQVMDFRTQLIRLCYS
SDHEKLPQYLEELPGQLKQFSMFLGKFSWFAGEKLTFFVDFTYDILDQNRIFDPKCLDEF
PNLKAFMCRFEALEKIAAYLQSDQFCKMPINNKMAQWGNKPVC

>sp|P22748|CAH4_HUMAN Carbonic anhydrase 4 OS=Homo sapiens GN=CA4 PE=1 SV=2

MRMLLALLALSARPSASAESHWCYEVQAESSNYPCLVPVKWGGNCQKDRQSPINIVTT
KAKVDKKLGRFFFSGYDKKQTTWTVQNNGHSVMMLLENKASISGGGLPAPYQAKQLHLH
WSDLPHYKGEHSLDGEHFAMEMHIVHEKEKGTSRNVKEAQDPEDEIAVLAFLVEAGTQV
NEGFQPLVEALSNIPKPEMSTTMAESSLLDLLPKEEKLRHYFRYLGSLTTPCDEKVVWTV
FREPIQLHREQILAFSQKLYYDKEQTVSMKDNVRPLQQLGQRTVIKSGAPGRPLPWALPAL
LGPMLACLLAGFLR

>sp|P0CG29|GST2_HUMAN Glutathione S-transferase theta-2 OS=Homo sapiens GN=GSTT2
PE=1 SV=1

MGLELFLDLVSQPSRAVYIFAKKNGIPELRTVDLVKGQHKSKKEFLQINSLGKLPCLKDGD
FILTESSAILIYLSCKYQTPDHWYPSDLQARARVHEYLGWHADRCIRGTFGIPLWVQVLGPLI
GVQVPKEKVERNRTAMDQALQWLEDKFLGDRPFLAGQQVTLADLMALEELMQPVALG
YELFEGRPRLAAWRGRVEAFLGAELCQEAHSIILSILEQAACKTLPTPSPEAYQAMLLRIAR
IP

>sp|P35219|CAH8_HUMAN Carbonic anhydrase-related protein OS=Homo sapiens GN=CA8
PE=1 SV=3

MADLSFIEDTVAFPEKEEDEEEEEEGVEWGYEEGVWGLVFPDANGEYQSPINLNSREAR
YDPSLLDVRLSPNYVVCRDCEVTNDGHTIQVILKSKSVLSGGPLPQGHEFELYEVRFHWG
RENQRGSEHTVNFKAFFMELHLIHWNSTLFGSIDEAVGKPHGIAIALFVQIGKEHVGLKA
VTEILQDIQYKGSKTIPCFNPNTLLPDLLRDYWVYEGSLTIPPCSEGVTWILFRYPLTISQ
LQIEEFRRLRTHVKGAELVEGCDGILGDNFRPTQPLSDRVIRAAFQ

>sp|P51452|DUS3_HUMAN Dual specificity protein phosphatase 3 OS=Homo sapiens
GN=DUSP3 PE=1 SV=1

MSGSFELSVQDLNDLLSDGSGCYSLPSQPCNEVTPRIYVGNASVAQDIPKLQKLGITHVLN
AAEGRSFMHVNTNANFYKDSGITYLGKANDTQEFNLSAYFERAADFIDQALAQKNGRVL
VHCREGYSRSPTLVIAYLMMRQKMDVKSALSIVRQNREIGPNDGFLAQLCQLNDRLAKE
GKLLK

>sp|P53041|PPP5_HUMAN Serine/threonine-protein phosphatase 5 OS=Homo sapiens
GN=PPP5C PE=1 SV=1

MAMAEGERTECAEPPRDEPPADGALKRAEELKTQANDYFKAKDYENAIKFYSQAIELNPS
NAIYYGNRSLAYLRTECYGYALGDATRAIELDKKYIKGYRRAASNMALGKFRAALRDY
ETVVKVPHDKDAKMKYQECNKIVKQKAFERAIAGDEHKRSVVDSDLIESMTIEDEYSG
PKLEDGKVTISFMKELMQWYKDQKKLHRKCAQILVQVKEVLSKLSLTVETTLKETEKIT
VCGDTHGQFYDLLNIFELNGLPSETNPYIFNGDFVDRGSFSVEVILTLFGFKLLYPDHFHLL
RGNHETDNMNQIYGFEGEVKAKYTAQMYELFSEVFEWLPLAQCINGKVLIMHGGLFSED
GVTLDDIRKIERNRQPPDSGPMCDLLWSDPQPQNGRSISKRGVSCQFGPDVTKAFLEENL
DYIIRSHEVKAEGYEVAHGGRCVTVFSAPNYCDQMGNKASYIHLQGSDLRPQFHQFTAVP
HPNVKPMAYANTLLQLGMM

>sp|P63098|CANB1_HUMAN Calcineurin subunit B type 1 OS=Homo sapiens GN=PPP3R1
PE=1 SV=2

MGNEASYPLEMCSHFDADEIKRLGKRFKKLDLNSGSLSVVEFMSLPELQQNPLVQRVIDI
FDTDGNGEVDFKEFIEGVSQFSVKGDKEQKLRFAFRIYDMDKDGYSNGELFQVLKMMV
GNNLKDQLQIVDKTIINADKGDGRISFEFCVAVGGGLDIHKKMVVDV

>sp|Q08209|PP2BA_HUMAN Serine/threonine-protein phosphatase 2B catalytic subunit alpha
isoform OS=Homo sapiens GN=PPP3CA PE=1 SV=1

MSEPKAIDPKLSTTDRVVKAVPFPPSHRLTAKEVFDNDGKPRVDILKAHLMKEGRLEESVA
LRIITEGASILRQEKNLLDIDAPVTVCGDIHGQFFDLMKLFVGGSPANTRYLFLGDYVDR
GYFSIECVLYLWALKILYPKTLFLLRGNHECRHLTEYFTFKQECKIKYSERVYDACMDAFD
CLPLAALMNQQFLCVHGGLSPEINTLDDIRKLDRFKEPPAYGPMCDILWSDPLEDFGNEKT
QEHFTHNTVRGCSYFYSYPVCEFLQHNNLLSILRAHEAQDAGYRMYRKSQTTGFPSLITI
FSAPNYLDVYNNKAAVLKYENNVNIRQFNCSHPYWLPNFMVFTWVSLPFVGEKVTE
MLVNVNLNICSDDDELGSEEDGFDGATAAARKEVIRNKIRAIGKMARVFSVLREESESVLTLK
GLTPTGMLPSGVLSSGKQTLQSATVEAIEADEAIGKGFSPQHKITSFEEAKGLDRINERMPPR
RDAMPDANLNSINKALTSETNGTDSNGSNSSNIQ

>sp|Q13115|DUS4_HUMAN Dual specificity protein phosphatase 4 OS=Homo sapiens

GN=DUSP4 PE=1 SV=1

MVTMEELREMDCSVLKRLMNRDENGSGGAGGSGSHGTLGLPSGGKCLLLDCRPFLAHSAGYLGSVNVRCNTIVRRRAKGSVSLEQILPAEEVVRARLRSGLYSAVIVYDERSPRAESLRE DSTVSLVVQALRRNAERTDICLLKGGYERFSSEYPEFCSKTKALAAIPPPVPPSATEPLDLG CSSCGTPLHDQGGPVEILPFLYLGSAYHAARRDMLDALGITALLNVSSDCPNHFEGHYQY KCIPVEDNHKADISSWFMEAIEYIDAVKDCRGRVLVHCQAGISRSATICLAYLMMKKRVRL EEAFFVVKQRRSII SPNFSFMGQLLQFESQVLATSCAAEAASPSGPLRERGGKTPATPTSQFVF SFPVSVGVHSAPSSLPYLHSPITTSpsc

>sp|Q13362|2A5G_HUMAN Serine/threonine-protein phosphatase 2A 56 kDa regulatory subunit gamma isoform OS=Homo sapiens GN=PPP2R5C PE=1 SV=3

MLTCNKAGSRMVVDAANSNGPFQPVVLLHIRDVPPADQEKLFIQKLRQCCVLFDFVSDPLSDLKWKVEVKRAALSEMVEYITHNRNVITEPIYPEVVMFAVNMFRLLPSSNPTGAEFDPDEDEPTLEAAWPHLQLVYEFLRFLSPDFQPNIAKKYIDQKFLVQLLELFDSEDPREDFLKTTLHRIYGKFLGLRAYIRKQINNIFYRFIYETEHHNGIAELLEILGSIINGFALPLKEEHKIFLLKVLPLHKVKSLSVYHPQLAYCVVQFLEKDSLTEPVMALLKYWPKTHSPKEVMFLNELEEILDVIEPSEFVKIMEPLFRQLAKCVSSPHFQVAERALYYWNEEYIMSLISDNAAKILPIMFPSLYRNSKTHWNKTIHGLIYNALKLFMEMNQKLFDDCTQQFKAELKEKLMKEREAAWVKIENLAKANPQYTVYSQASTMSIPVAMETDGPLFEDVQMLRKTVKDEAHQAQKDPK KDRPLARRKSELPQDPHTKKALEAHCRADELASQDGR

>sp|Q8N3J5|PPM1K_HUMAN Protein phosphatase 1K, mitochondrial OS=Homo sapiens GN=PPM1K PE=1 SV=1

MSTAALITLVRSGGNQVRRRVLLSSRLLQDDRRVTPTCHSSTSEPRCSRFPDGSFGSPATW DNFGIWDNRIDEPIILLPSIKYGKPIPKISLENVGCASQIGKRKENEDRFDAQLTDEVLYFA VYDGHGGPAAADFCHTHMEK CIMDLLPKEKNLETLLTLAFLEIDKAFSSHARLSADATLL TSGTTATVALLRDGIELVVASVGDSRAILCRKGKPMKLTIDHTPERKDEKERIKKCGGFVA WNSLGQPHVNGRLAMTRSIGDLDLKTSGVIAEPETKRIKLHHADDSFLVLTDDGINFMVN SQEICDFVNQCHDPNEAAHAVTEQAIQYGTEDNSTAVVVPFGAWGKYKNSEINFSFSRSFA SSGRWA

>sp|Q8NBQ5|DHB11_HUMAN Estradiol 17-beta-dehydrogenase 11 OS=Homo sapiens GN=HSD17B11 PE=1 SV=3

MKFLLDILLLLPLLVCSLESFVKLFIPKRRKSVTGEIVLITGAGHGIGRLTAYEFAKLKSKLV LWDINKHGLEETAACKKGLGAKVHTFVVDCSNREDIYSSAKKVKAIEIGDVSILVNNAGV VYTSDLFATQDPQIEKTFEVNVL AHFWTTKAFLPAMTKNNHGHIVTVASAAGHVSVPFLL AYCSSKFAAVGFHKTLTDELAALQITGVKTTCLCPNFVNTGFIKPNSTSLGPTLEPEEVNRLMHGILTEQKMIFIPSSIAFLTTLERILPERFLAVLKQKISVKFDAVIGYKMQAQ

>sp|Q8WTR2|DUS19_HUMAN Dual specificity protein phosphatase 19 OS=Homo sapiens GN=DUSP19 PE=1 SV=1

MYSLNQEIKAFSRNNLRKQCTRVTTLTGKKIETWKDARIHVVEEVEPSSGGGCGYVQDL SSDLQVGVIPWLLLGSQDAAHDLDTLKKNKVTHILNVAYGVENAFSLDFTYKISILDLPETNLSYFPECFEFIEEAKRKDGVVLVHCNAGVSRAAAIVIGFLMNSEQTSFTSAFSLVKNA

RPSICPNSGFMEQLRITYQEGKESNKCDRIQENSS

>sp|Q96HS1|PGAM5_HUMAN Serine/threonine-protein phosphatase PGAM5, mitochondrial
OS=Homo sapiens GN=PGAM5 PE=1 SV=2

MAFRQALQLAACGLAGGSAAVLFSAVAVGKPRAGGDAEPRPAEPPAWAGGARPGPGVW
DPNWDREPLSLINVRKRNVESGEEELASKLDHYKAKATRHIFLRHSQYHVDGSLEKDR
TLTPLGREQAELTGLRLASLGLKFNKIVHSSMTRAIETTDIISRHLPGVCKVSTDLLREGAPI
EPDPPVSHWKPEAVQYYEDGARIEAAFRNYIHRADARQEEDSYEIFICHANVIRYIVCRAL
QFPPEGWLRLSLNNGSITHLVIRPNGRVALRTLGDGTGMPPDKITRS

>sp|Q9BVJ7|DUS23_HUMAN Dual specificity protein phosphatase 23 OS=Homo sapiens
GN=DUSP23 PE=1 SV=1

MGVQPPNFSWVLPGRLAGLALPRLPAHYQFLDLGVRHLVSLTERGPPHSDSCPGTLHR
LRIPDFCPPAPDQIDRFVQIVDEANARGEAVGVHCALGFGRTGTMLACYLVKERGLAAGD
AIAEIRRLRPGSIETYEQEKAVFQFYQRTK

>sp|Q9BY84|DUS16_HUMAN Dual specificity protein phosphatase 16 OS=Homo sapiens
GN=DUSP16 PE=1 SV=1

MAHEMIGTQIVTERLVALLESgtekvLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDK
VLITELIQHSakHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTvLLGKLEKSFNSVHLLAG
GFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELMQNGI
GYVLNASNTCPKPDFIPESHFLRVPVNSDFCEKILPWLDKSVDFIEKAKASNGCVLVHCLA
GISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKNQTGASGPK
SKLKLHLLEKPNPVPVAVSEGgQKSETPLSPCADSATSEAAGQRPVHPASVPSVPSVQPSL
LEDSPLVQALSGLHLSADRLEDsnklKRSFSLDIKSVSYASMAASLHGFSSSEDALEYK
PSTTLDGtnklCQFSPVQELSEQTPETSdpdKEEASIPKKLQTARPSDSQSKRLHSVRTSSSGT
AQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWHSdILAPQTSTPSLTSS
WYFATESSHFYsAsAIYGGsAsYSAYSCS QLPTCGDQVYSVRRRQKPSDRADSRRSWHEE
SPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSMEIIEVS

>sp|Q9NP77|SSU72_HUMAN RNA polymerase II subunit A C-terminal domain phosphatase
SSU72 OS=Homo sapiens GN=SSU72 PE=1 SV=1

MPSSPLRVAVVCSSNQNRSMEAHNILSKRGFSVRSFGTGTHVKLPGPAPDKPNVYDFKTT
YDQMYNDLLRkdKELYtQNGILHMLDRNKRIKPRPERFQnckDLFDLILTCEERVYDQV
VEDLNSREqETCQPVHVvNVDIQDNHEEATLGAFLICELCQCIQHTEDMENEIDELLQEFE
EKSGRTFLHTVCFY

>sp|Q9Y6W6|DUS10_HUMAN Dual specificity protein phosphatase 10 OS=Homo sapiens
GN=DUSP10 PE=1 SV=1

MPPSPLDDRvVVALSRPVRPQDLNlCLDSSYLGSANPGSNSHPPVIATTvVSLKAANLTYM
PSSSGSARSLNCGCSSASCCTVATYDKDNQAQTQAIAAGTTTTAIGTSTTCPANQMVNNNE
NTGSLSPSSGVGSPVSGTPKQLASIKIIPNDLAKKMTKCSKSHLPSQGPVIIDCRPFMEYN
KSHIQGAVHINCADKISRRLQqGKITVLDLISCREGKDSFKRIFsKEIIVYDENTNEPSRVM
PSQPLHIVLESKREGKEPLVLKGGSSFKQNHENLCDNSLQLQECREVGgGASAAASSLLP

QPIPTTPDIENAELTPILPFLFLGNEQDAQDLDTMQRLNIGYVINVTTHLPLYHYEKGLFNY
KRLPATDSNKQNLQRQYFEEAFEFIEEAHQCGKGLLIHCQAGVSR SATIVIAYLMKHTRMTM
TDAYKFVKGKRPIISP NLNFMGQLLEFEEDLNNGVTPRILTPKLMGVETVV