

Epc-N SUBFAMILY I

>OsativaNP_914427

MRSPCFLNHGGSRDTGTEVCFVLLRFLFHCAPFALRIVEIPSLGYGLSPLRLYGVFSTDLHTSRSTDRPW
EGAFDADRFYPRRRIDSAAQFGADPRVGRIIRRTIQSSCVFSCEICGVVRDWRSEVVCVIRIFSAAGGGSG
LDSVVGSTLLLSGSDRPSATDATESVQGLDGEETLSERASVAGQGPSSQNGGGKEEPSSSSSAGSKRKR
TSLSSDRVELNGLDAAGTSSGDSTWSEDSFNHRHGRSLPRNKDGHLEHSVNSGEVAVIROPRGVLRLRKL
AQNVSIKSGTGGRKVLRSNGITKATQVQRKRKRKSOQLKENRVGSNDPINCCLKVENGTCDQDNSTNFCSE
NDVSVEKQPNLSGEPKSHVHPTKESSVHVQEEEDNVNLEENAARMLCSLSDNMCASSLRKSAKSLNRSSKA
YFVQHSEHFKDCSNCKDKGMAGPARLLRNRDGGKASSKRRRPRRHFEVSPHDVDPFCIVKERIRVFWPLDE
IWYFGLVKEYDPMTRLHHVRYDDKDEEWINLQNERIKLLLLPSEARHKSNNRRNPRSIFKPKYEVDREDI
DRNSTGSSSESGPIISLLSRSNHARSATSSNTNKQNHTHSDISPVMFDQKQSMLCSDDRPGGSPANAGEEI
PEDRTTLKDSRFRFVYSRKRRCRRKNGFLNTSEQSDSLKYRKVTGALFASVAGWGSVTENVTSRRHGILV
LSQPLKSIYKIMSEACHVWLLNALVLLHRGAMVSLWPAVHLEILLVDDTLGLKHLLETSLSRAVSLFCL
LVGCFNSYSKASTRNEKMLCTSVRVRISGLHGRSQVFLMFSFVGVKYPKWKHLQGLQHHHIKRGLSK
VNCACADIKQLTNGTDQRVCTSTEHFSGKLSLDAQDSLFFTESKYSNVDPIIFCLDERSKSVQNHLDVAA
APSLFFHHLKLRSESNLTSKSLPEFMPITILEEDQQSLPQHTSDLVHLAASASEVCSVYVSPSNTGSLDM
GTAGCINHSGSASSKLNATKRTVSLDCNSRGIGGANITSRSPDQIMDGSLSAVCPPQYQKRCSSISIP
GDNISDPPDDKLLNKEEKAMQPTSDLVQELNEYPIGRVTPPTAPRTPYHRNRFTLSRSTFGDGSKLWQEDI
MVTGFAGGSKKPRTOVLVSVSPRSDEPGSKKHGHRFKIQSHSSAKRLPDNSRSEQSSPELACVANVLVT
VGDRGWREYDQITIDSDGQSERICVLAEGTKYAHKVLQVLOPGATNRYTHAMIWKGGEWACLEFPDR
SOWLIFKQMHDECYSHNIRAASVKNIPIGVCFAEAHDDHDAVSVFVRSQDYIGHIGTSDVEMALDESRIY
DMDSDDVEVSRWRKLGKDSVTDLDFERIMDKFEKLDLAYSHNCNELTIDQMKELSDNINPLDTIKVIHD
YWQDKRKKKGMPLIRHFQSAMWKIHEQQLQEWESTALRIQSSNGYQVKLPPKALFAFCLRPRGLQPQI
PYKGPQRSHKMLSSGFSFSREQDGFYRPGYSPRFSVKTESPRAFGLERCSTPRFLRTNSVKRTASFAF
SEDHQPSPSFRHQRVKRGAPDHWNAVIHEWQSSKHLPLGASQSPRVDIEELKQORDASSAAQHAVAMAKLK
REKAHLLMHKADLALHKATVALMMADAIKASSRDSRDGRRDRDD

Agenet variant
Epc-N
Coiled coil

>AthalianaCAB79979

MQVAFMENRLGNSNGVGISSKRSRLDLKTLTKYKSSISKDSVNKSFKRKHRSIDGDQLKQDKKSRKVVSL
SFKKVGSQNESILDKACNGTTILHNLEDSKEVGLDEKLCDSNGLQVISVGLASSTIYVPRRRRDFVGRSR
FENGLAQKSAGESDSQEELVNIIPKVTAEESSVQDQPSKVEEKDSKDIDKESNSAAPLQLENGHSNQSPV
KDDQLVVVKQRNSNSRKRKSSASNRRVGKEAKSSGDASGRISKVSREDDEENLEANAAIMLSSRFDPNCT
QFSPNSVTPGSPASRLHPLPSGKNSVDPRSELLSSKCVSDDTDDRMLRPRRHNDGKGVKRRRHFYEI
LFSDDVSHWLLNKKIKVFWPLDERWYHGFVDGFDGDKNLHHVKYDDRDEEWINLQGERFKILLFPSEVPG
KNQRKRRCSESKSTQKVKGNDTSSKDEEKQKEKLEDDSCMESEPIITWLARSRHRDKSSTLKAVQKRKKT
DVMTSNESVKMNGDVTDRSASSLASCGLPGPSKNELESSGFRNGSIFPIVYCRRLHTAKKDIYKESGYN
SVEFLKQFLVSKSPDPGVEFLPIEDSGDLELCCPWNESEQFELSLSLQGVSLMSYFLMADVDWLSRAALL
LRHGTLVTLWPRVLEMIIFLNNQDGLRYLIFEGCLMEVVQLIFRILMVVDHSNKQGAQGADADLQLPVFS
IGLQVSCIPGFQRQLGFQIYSFHEVKHKSWSYLEQNVRRHSLLVKQVSI AECTHNNMKVLQKVMQKRSRH
GISSGLVSRGSSSAEAWPTSVCYKKQNTSPFALLFTARPPTLLLSLHLNMIRELGHDSADFLGIERDLVT
HRGCDMAFTNEHSELKSKSQTDEPIITSSRAQESKDLHTPSQSQQLGSDSENWMSYSSSVVRHKHET
RSNVSVNGISIQVPI SDDCEDGTPOSSNLALNIQSSNSSPKATAPRSMWNRKSSSLNGLSHGWSDSKG
DFLNTNLANGPKRRRTQVSYSLPSGGSDSRNKGSLKGMPPNKRI RRSTADVTKGIQKDLESSLCDANVLV
TLGDRGWREYGAQIFLEPFNDNEWRLAVKISGTTKYSHRAHQFLQPGSVNRFTHAMMWWGGKDWTLFEPD
RGQWFLFKEMHEECYNRNTAALVRNIPIPGIRMIERDNFDGTETEFIRSSSKYFRQTTEDVEMALDPSR
VYMDMSDDEQCLLRIREC SSAENSGSCEITEDMFEKAMDMFEKASFVKQRDNFTLIEIQELTAGVGSLE
AMETIYELWRTKRQRKGMPLIRHLQPLWEKYQRELKDWELVMSKANTPNSCGSQKKQSPTEKPFAMFAFC
FKPRGLEVKHRGTHRSQKLSVYAQHSSALGDYDGCNSSGRRPVGFVSGDERFLYSNQSYEHSNEFSVH
PGTYSRDLGMGYFSSGGNGYHRNHQNKSQRINGKRNTSERWDAGYSECPSSNLVCYSNGSQRPDVEGIR
NSTDIDEYKLRDAAGAARRACALAKLRERAESLRYKADLAIQKAAAALMCAEAVKASSEDLGNNNGVES
SSEG

Agenet variant
Epc-N
Coiled coil

>AthalianaCAB86009

MPSVGMRRRTTRVFGVVKAAADGARVLRSGRRIWPNVGEPEKVRRAHDVVDRDCDSVLKNQNKSKGNKVSSGK
SNSQPCSPKQVSSEKEDKVDDFPVTKRRKVRNEGVEGDEKTVDKMFGIVYSRKRKRLCEPSSSDRSEEPLR
SLKFYRRRRKLSQRVSSVLTTLTVDWSCEDCWFLTVFGLAMRYIRREELRLSSLASFFLSQPINQVFADHG
VRFLVRSPLSSRGVCKFFGAMSCLPLFSADFAVIPRWFMDFHFTLVFVRVLP RSFFFVEKSLYLLNNPIEE
SDSESELALPEPCTPRNGVVVGLHPSVRASKLTGGNAQYRGNLGSFSFQKRSSLRRRRRARNLSHNAHKL
NNGTPVFDISGRKNRTAAVSSKKLRSSVLSNSSPVSNGISIIPMTKTKEELDSICCSANILMIHSDRCT
REEGFSVMLEASSKEWFLVIKKGAI RYSHMAQRTMRPFSSNRITHTATVWMGGDNWKLEFCDRQDWLGF
KDIYKECYERNLLEQSVKVIPIPGVREVCGYAEYIDNFPSFSRPPVSYISVNEDEVSRAMARSIALYDMD
SEDEEWLERQNKMLNEEDDQYLQLOREAFELMIDGFKEYHFHSPADLLDEKAATIGSISYLGRQEVVE
AVHDYWLKKRKRQKAPLLRIFQGHQVKKTQLLSKPVFRKRSFKRQGSOLHGKAKQTSPPMVAVKAAEPE
EEDDILRMEEAKVLADKTMETAIAKRRRAQILAENADLAVYKAMRALRIAEAIAKEAESREVDTTVV

Epc-N
Coiled coil

>OsativaXP_463767

MRKRTASDRIRVPSSNPAPSPSPPPPPPPPEEPAVPMPHVGARRSTRVFPKTPRPPQPSDPAVLRSGK
RLAFSESPADAHWFQCKPNNCFHVHDHQQLHDDPKPPPPPLPRTRSFQIVYSRKRRRRLPEPKEDTRFA
IVFTRKRPKVAPFQHAPNDLATIPCSSSREFASRTGFFDSHFLTLVDCIPTNKADAAMLIVLDSSCSG
SSQHFLRLLLSVLRWMRSCRRGKVRNLASFLSSDAVATALALRGLHFVQLQCRDCALSQRALVQCGWCE
LRGAKDSEPLLSVNFLAVPSYFQILHLLIALESMYLPAVIRTRMHLVGGAEIYPRTLLEEDSESLSTGD
TDPAVDLCSNKLC SVAQDYVPLEE IAGVVVHGLRLKKHQRKRSSMRHPLSRQRLAARFPDKVVATNQT DV
ARQTEADAPPSVSPLEPLEPVKPKAALEISLDLLENMDDSDVSTPIGSNGKQKRSSLKSPIERMNERLAL
AEVRQNI DSVHCRANLLIIQPDRCWREEGAEMLEPSESNEWCI AVKIHGVNRI SLKPSEORFYVVRNFT
HAYILAVDDGLKIEFSDKWDWLLFKELQIEGRERNSQGMIPIPGVNEVSDDMGVIGTYPFSRPPV **PDYIR**
MADDEVGRALS RDSVYDL DSEDEQWLTQLNHSDSDRKS AHLNHISYEDFEKMITTFEKDAFNNPEGTSDL
DQILSRYPTLEKDHNVLAVHEYWINKRYKKGVPLLRILQGATLRRGQLSQRSIKKRFSFKRQRSQAGRK
PDICLQDANGAEFEALRRVVEAERAATQAGETA VRLRSRAQRLMAKAELVAYKSIMALRIAEAARISDSS
RDLVLTTLTLD

Epc-N
Coiled coil

Epc-N SUBFAMILY II

>RnorvegicusXP_342433
MVI PVPEAESNVNYYNRLYKGEFKQP **KQFIHIQPFNL DNEQPDYDMDSEDETLLNRLNRKMEIKPLQFEI**
MIDRLEKASSNQLVTLQEAKLLLNEDDYLIKAVYDYWVRKRKNCRGPSLIPQIKQEKRDGSTNNDPYVAF
RRRTEKMQRTRKNRKNDEASYEKMLKLRREFSRAITILEMIKRREKTKRELLHLTLEVVEKRYHLGDYGG
ILNEVKVNRSEKELYASPATLHNGNHHKVQECKTKHPHLSLKEEASDVVRQKKKHPKPKAEAVLAPPQ
PTPETVPVINKSDIKQYDFQSSDEDEFQVPS PASEPEEENDPDGPCAFRRRAGCQYYAPRLDQANNHPC
ESSELADLDKLRKHLTTLTVPRRCIGFARRRIGRGGRVIMDRISTEHDPVLKQIDPEMLNGLSSSSQT
IDFSSNFRTNASSKPCENRSLSEILSNIRSCRLQCFQPRLLNVQDIDSEECTSRKPGQTVSSKRVSA
SVALLNTSKNGISVTGGITEEQFQTHQQLAQ **MQRQQLAQ LQKQSQHSSQO THPKAQSSTSDCMSKT**
LDSASAHFAASAVVSAPVPSRSEGSKEQNTGHNNMNGVVQPSGSKTLYSTNMALSSSPGISAVQLVRTV
GHTTTNHLIPALCTSSPQTLPMNNSCLTNAVHLNNSVSVVSPVNVHINTRTSAPSPTALKLATVAASMDRV
PKVTPSSAIISSIARENHEPERLGLNGIAETTVAAMEVT

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EpcC 7.5e-160

>MmusculusAAH48785
NVNYYNRLYKGEFKQP **KQFIHIQPFNL DNEQPDYDMDSEDETLLNRLNRKMEIKPLQFEIMIDRLEKASS**
NQLVTLQEAKLLLNEDDYLIKAVYDYWVRKRKNCRGPSLIPQIKQEKRDGSTNNDPYVAFRRRTEKMQR
KNRKNDEASYEKMLKLRREFSRAITILEMIKRREKTKRELLHLTLEVVEKRYHLGDYGG
EKELYASPATLHNGNHHKVQECKTKHPHLSLKEEASDVVRQKKKYPKPKAEAGIAPQOQTPETLPVIN
KSDIKQYDFQSSDEDEFQVPS PASEAE EENDPDGSCAFRRRAGCQYYAPRLDQANNHMCENSELADLDK
LRYKHCLTTLTVPRRCIGFARRRIGRGGRVIMDRISTEHDPVLKQIDPEMLNGFSSSSQTIDFSSNFRT
NASSKPCENRSLSEILSNIRSCRLQCFQPRLLNVQDIDSEECTSRKPGQTVSSKRVSAASVALLNTSKN
GISVTGGITEEQFQTHQQLVQ **MQRQQLAQ LHQKQSQHSSQO THPKAQSSTSDCMSKTLDSASAHFAA**
SAVVSAPVPSRSEGSKEQNTGHNNMNGVVQPSGSKTLYSTNMALSSSPGISAVQLVRTVGHHTTTNHLIP
ALCTSSPQTLPMNNSCLTNAVHLNNSVSVVSPVNVHINTRTSAPSPTALKLATVAASMDRVPKVTPSSAIS
SIARENHEPERLGLNGLAETTVAAMEVT

Epc-N
EpcC 3.8e-157

>CfamiliarisXP_533350
MVI PVPEAESNVNYYNRLYKGEFKQP **KQFIHIQPFNL DNEQPDYDMDSEDETLLNRLNRKMEIKPLQFEI**
MIDRLEKASSNQLVTLQEAKLLLNEDDYLIKAVYDYWVRKRKNCRGPSLIPQIKQEKRDGSTNNDPYVAF
RRRTEKMQRTRKNRKNDEASYEKMLKLRREFSRAITILEMIKRREKTKRELLHLTLEVVEKRYHLGDYGG
ILNEVKINRSDKELYATPATLHNGNHHKVQECKTKVNILWGEAHMHPHLSLKEEASDVVRQKKKYPKPK
KAEALITSQOQTPETLPVINKSDIKQYDFHSSDEDEFQVPS PVSEPEEENDPDGPCAFRRRAGCQYYAP
RLDQANHSFENSELADLDKLRHRCLTTLTVPRRCIGFARRRIGRGGRVIMDRISTEHDPVLKQIDPEML
NGFSSSSQTIDFSSNFTRTNASNKHCENRSLSEILSNIRSCRLQCFQPRLLNLQDSSEECTSRKSGQT
VNNKRVSAASVALLNTSKNGISVTGGITEEQFQTHQQLVQ **MQRQQLAQ LQKQSQHSSQO THPKAQS**
STSDCMSKTLDSASAHFAASAVVSAPVPSRGEVAKEQNTGHNNINGVVQPSGTSKTLYSTNMALSSSPGI
SAVQLVRTVGHHTTTNHLIPALCTSSPQTLPMNNSCLTNAVHLNNSVSVVSPVNVHINTRTSAPSPTALKLA
TVAASMDRVPKVTPSSAIISSIARENHEPERLGLNGIAETTVAAMEVT

Epc-N
EpcC 3.1e-163

>AmelliferaXP_397232
MSKLSFRARALDASKPMPIYMAEELPDL PDYSAINRSLPQMPSGMEKEEECEHHLQRAICTGLI IPTPEV
TDLTDVEAYDKIYPADY **KLPRQLIHMOPFAMEQDIPDYDMDSEDEKQWVAIQSRKMDLTPLOFEEMDRLE**
KSSGQTVVTLNEAKALLKEDDDLI IAVFDYWLNRKRLKTQHPLLLTVKTEHRFGSAANNPYLAFRRKTEKM
QTRKNRKNDETSY EKMLKLRDLRAVTLFEMVKRREKTKREHLHLTIEVYEKRYQAQDFNGQILA EVSA
LKT PRPAFAPLFTNQFGVHQNWANKVCSKDEVVPRKEKRQYKRRKHKTD SRGGSLEDNGVRS GTSGGGGR
GSRPSVLGGGLDPLISSDEDEGPLPSHSHSQSPVPSDRDDEDIAD EGQFAFRNRNSTYLPPVSGGFGNWP
WCDKNEGGMADKKYRFALTSISKVPRCIGFARRRIGRGGRVILDR CSTDMDDMWSLDFTIHQPKREP
DSDTTAMSTTSVKKEWLHFRPKTPPVSVHSPSEESSD TSDIEPILTQSKPLPYFPPEATSICVEVEPD
RAGDEPPFTSEFN IADYFSPDTLSDFDLAVASITSSACISGSDNNSNDTRTDELGSSHVVTPLPSSLFA

QPATQQSRPQCSGSGFSVVTSTSSIVPSSFSCTINQPTTSTNAVSTQCANAAIETQSNQSKOQOHRQLPN
NSSPVSILSKSLTSPNTNRNGSSGSGSAGVRVFSASTTTSGTITNFGNGHQNGPLSHINNSNLSNSTH
VVNNQSTIVLPQKHPPSNLLPGLIAQSKLASLARQQOQTQSASTQQIPTSGEITLNSNSENMDMKVDGV
ESATCDGKPPQQQLVRANKTNSLAMEVT

Epc-N

>PtroglyodytesXP_526096

MTEVITAFKEFLPLTAFNLDNEQPDYDMDSEDETLNRLNRKMEIKPLQFEIMIDRLEKASSNQLVTLQE
AKLLLNEDDYLIKAVYDYWVRKRKRCRGP SLIPQIKQEKR DGSTNNDPYVAFRRRTEKMQTRKRNKND
EASYEKMLKLRREFSRAITILEMIKRREKTKRELLHLLTLEVVEKRYHLGDYGG EILNEVKINRSEKELYATP
ATLHNGNHHKVVQECKTKVNIWEEACMDEEASDVVRQKKKYPKPKAEALITSQQPTPETLPVINKSDIK
QYDFHSSDEDEFPOVLSPVSEPEEENDPDGPCAFRRRAGCQYYAPRLDQANHSCENSELADLDKLRHRHC
LTTLTVPRRCIGFARRRIGRGRVIMDRISTEHDVPLKQIDPEMLNSFSSSSQTIDFSSNFSRTNASSKH
CENRLSLSEILSNIRSCRLQCFQPRLLNLQSDSSEECTSRKPGQTVNNKRVSAASVALLNTSKNGISVTG
GITEEQFQTHQQQLVQMQRQQLAQLQKQSQSHSSQQTHPKAQGSSTSDCMSKTLDSASAHFAASAVVSA
PVPSRSEVTKEQNTGHNNINGVVQPSGTSKTLYSTNMALSSSPGISAVQLVRTVGHTTTNHLIPALCTSS
PQTLPMNNSCLTNAVHLNNSVSVVSPVNVHINTRTSAPSPTALKLATVAASMDRVPKVTSSAIISSIAREN
HEPERLGLNGIAETTVAEMEVT

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EpcC 2.7e-163

>HsapiensAAK60500

MEKEE ESEHHLQRAISAQOVFREKKESMVIPVPEAESNVNRYNRLYKGEFKQPKQFIHIQPFNLDNEQPD
YDMDSEDETLNRLNRKMEIKPLQFEIMIDRLEKASSNQLVTLQEAKLLLNEDDYLIKAVYDYWVRKRKN
CRGP SLIPQIKQEKR DGSTNNDPYVAFRRRTEKMQTRKRNKND EASYEKMLKLRREFSRAITILEMIKR
EKTRELLHLLTLEVVEKRYHLGDYGG EILNEVKISRSEKELYATPATLHNGNHHKVVQECKTKPHHLSLK
EEASDVVRQKKKYPKPKAEALITSQQPTPETLPVINKSDIKQYDFHSSDEDEFPOVLSPVSEPEEENDP
DGPCAFRRRAGCQYYAPRLDQANHSCENSELADLDKLRHRCLTTLTVPRRCIGFARRRIGRGRVIMDR
ISTEHDVPLKQIDPEMLNSFSSSSQTIDFSSNFSRTNASSKH CENRLSLSEILSNIRSCRLQCFQPRLLN
LQSDSSEECTSRKPGQTVNNKRVSAASVALLNTSKNGISVTGGITEEQFQTHQQQLVQMQRQQLAQLQK
QSQSHSSQQTHPKAQGSSTSDCMSKTLDSASAHFAASAVVSAPVPSRSEVAKEQNTGHNNINGVVQPSGT
SKTLYSTNMALSSSPGISAVQLVRTVGHTTTNHLIPALCTSSPQTLPMNNSCLTNAVHLNNSVSVVSPVNV
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EpcC 5.6e-164

>DmelanogasterCAH70455

MEHHLQRAISAQOVYGEKRDNMVIPVPEAESNIAYYESIYPGEFKMPKQLIHIQPFSLDAEQPDYDL DSE
DEVFVNKLKKKMDICPLQFEEMIDRLEKSGSQPVSLQEAKLLLKEDDELIREVYEWIKRKRKRCRGP SL
IPSVKQEKR DGSS TNDPYVAFRRRTEKMQTRKRNKND EASYEKMLKLRRLDSRAVTILEMIKRREKSKRE
LLHLLTLEIMEKRYNLGDYNGEIMSEVMAQRQPMKPTYAIP IIPITNSSQFKHQEAMDVKEFKV NKQDKAD
LIRPKRKYEKKPKVLPSSAAATPQOTSPAALPVFNADLNQYDFPSSDEEPLSQVLSGSSEAEEDNDPDG
PFAFRRKAGCQYYAPHL DQGTGNWPWTSPKDGGLGDVRYRYCLTTLTVPQRCIGFARRRVGRGGRVLLDRA
HSDYDSVFHHL DLEMLSSPQHSPVNFANTSETNTSDKFSKDL SQILVNIKSCRWRHFRPRTPSLHSD
NDELSCKLYRSINRTGTAQPGTQTCSTSTQSKSSSGSAHFAFTAEOYQQHQQLALMQKQQLAQIQQQQ
ANSNSSTNTSQGFVSKTLDSASAQFAASALVTSEQLMGFKMKDDVVLGIGVNGVLPASGVYKGLHLSSTT
PTALVHTSPSTAGSALLQPSNITQTSSSHSALSHQVTAANSATTQVLIGNNIRLTVPSSVATVNSIAPIN
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Epc-N

EpcC 1.1e-159

>DmelanogasterAAC64271

MSKLSFRARHLDP SKQMPIYLA EELPDLPEYSAINRAVPQMPSGMEKEE ESEHHLQRAICTGLI IPTPEV
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SGQTVVTLNEAKSLLNQDDETSISVYDYWLNKRLKMQHPLILTVKTESRPGASSNNPYLAFRRRTEKMOT
RKNRKNDEASYEKMLKLRDLQRATTILEMVRREETKRDHLKMTVNI FEKRVEMRDFNGAVYSELNSQY
KNTRPAYNPLYTNQYSQGA AVGTAGAILAALPTGLLPGGAGAAGNANVFGSASQYLNSSNLTMDAISGS
GNGSSRKEKRPYKRRKHKLPRDKQQHQQQQTQQHQQQQYLPASGGAGVSPAHHLP HHLHLSRQQSASP
AANDSIADSEEDYFYGAGA QNGNKLGESEEEETPFAFRRRSSCVYLPTRQRDGRYPWDSADEDMAPSGAC
SDAKYRYTTLTSLNYPRPRCIGFARRRLGRGGRILLDRATTNFDDFWSQLDYTVMESVTVNKC RDKIKPGD
PDQLCKPSSPPTVVDLVPAGKPV DGEHPVPELIKEEPS SDTEKPVAAATESGRESKERELEEK FENDVDDE
FVASDDENVSR LGIYSSAVTLPQSCADLRQKRRRLRRKKQQLRELNAAKRLKRSSEAVATAEDVQLEDED
TKPDLRPLPRAYLQRLALILGQKLV EEDDNTVESENVAPELLEMNDPEQLQPPRANHQQHRSNNHNNN
NTVLNNNNSSSSNV MNKDVSISEKINVIKQEA EELVGGKCEDQP VASTSAAAAAARAAEAAAAEAASST
TTLAAPNPGPSLEEVAKTIKREMIDADD SNEPLSSIRTAAVMLSTQTSVSELMDDEAEDDVNLAQLSSII
RHTAVKKELEAQHQHQVQHEQMQAARKMEEDEAAPCLNQLPDVIRLRNIRNSQVHARPKDLFVQAPVDE
EFNADYMGGLSPTSSQRLDICNELLSEIRRDWLHFRPKTPTDELSDSODCEVGKTCDSHAVDWTQGTPI S
VELNRLGKREAEESDSSSYFLSSGFKYRDLESDAQLLQTVQAQDYARGSSKSPNC SSGSGS SALEFNLSG
GDSLNDINNLLGCDEDDNHEHMLDNILQECAMDDPKALNQATNFWNGILDGEEAVDEVEMADQLLDCID
EKKSKVGAADTSKRAGRNRKARLIQAPVGS SAFTVCPTAETLKERELFFSQAPPVEVPPKEKTPAEVELP
EVVVKETANLPVKVEAVEK PQSEVL PVAPQPQQLQPAITLPTTQLINIPAQISTQKQHQPQVTQLLNQ
FANAGPQIIARTEYGGGA AVGDIVTITPHTGSSPLPTLTAQQQLQHQLAQAQLRNVTVQORQATPQNPQ
NQNPQQQLLFQMQRDP SRSLTPLQAAGAGATGNHLIYTTSCGEIVTAGAAASASQKVTYA IQKAGVSSGG
ATTASIGPNTVITLSNVKVQND DISSGGSGNSSSVNI INTASGQQLAVHSIAGMQQQGQQVQVTTST
PLL VATPTRN NVQQQQVQQQPIVWRQVSGTNTAVATTAVLSTTVDS SPKAVTNQILWTSRATQKRQL
NGPENTDINKLLLNKRLPRKQQIQQQHQQIQLT KQQLQQLVQHEELDDL VATSTGNSGDQMETGDGLQQQ
QQQQQQQQQLQKLSKVIKMSQFPLLVS DVS LQQQSVSGQAQQQQLKPN SAAAIAANHNYSLHPASTAI I
TAQATPQOANKIFLTSSNSGGGSAGNF TIATASELQAAAAGQKLHYKELPNSNLKLN FVSSAGTGEQTQ
QVGATTVLLNKSQQQQQQQHQKLT LATTGNSQTGQDKRVLYTSLLNVKPLQKNNSGOMQMLGPGGL
QQVLRGLNNSAIITRTLPLGTTVNSTGGAVGPTTTTTIRQLVTTNANNVSSQDGNLLSAKEV GKALTVEQ
VIASANNGGVVLP TSNNNNNNNGSGAGGNGGPLNSGVNATGAGGGG STGAGVGGAGVTSTINR

Epc-N

>XtropicalisAAH75105

MSKLSFRARALDAAKPLPIYRGKMPDLNDCV SINRAVPQMPTGMEKEE ESEHHLQRAISAQOVFREKKE
SMVIPVPEAESNVHYYSRLYKGEFKQPKQFIHIQPFNL DYEQPDYDMDSEDETLLNRLNRKMEIKPLQFE
IMIDRLEKASSNQLVTLQEA KLLLNEDDYLIKSVYDYVWRKRKNCRGPSLIPQVKQEKRDGSTNNDPYVA
FRRRTEKMQTRKNRKNDEVS YEKMLKLRREFSRAITILEMIKRREKTKRELLHLTLEVVEKRYNLGDFGG
EILNEIKIPKVEKEIHVIPP SLHNGNHKVKPECKVKNTHHPSVKDEVLEIVRLK KYPKPKPAETLVTPQ
PQATSEPLAVINKSDIKQYDFQSSDDDEFQVPSPLSELEEENDPDGSYAFRRRTGCQY YAPRLDQMNNDT
PETTDL SGLARHRYRHCLTTLTVPRRCIGFARKRLGRGGRVIMDRLSTEHDSILKQIDPEMLSGFSSSSH
VAQPPSSPRTNASDRHCENRSLPEILSNIKSCR LQCFQPRLLHTQDS DREETSRLGQAVNVKRVSA
LLNTSKNGITVTGGITEEQFQTHQQQLVQMQRQQLAQLQKQSSQSLQQSHPKAQGS AKSDCMSKTLDS
ASALFAASAVVNSPTPGRSEVNKDQ NAGHSNLNGVVQPSGTAKTLYSTNMALSSSPGI STVQLVRTVGHF
TTNHLIPTLCTSNPQTLTMGNSCLANTVHLN NVSVVSPVNVHINTRTSAPSPTALKLATVAASMDRVPKV
TPSSAIISSIARENHEPERLGLNGIADTTVAMEVT

Epc-N

EpcC 4.3e-142

>GgallusXP_418573

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Epc-N

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Epc-N

>P. vivax CAB96695

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Epc-N

Epc-N SUBFAMILY III

>PtroglyodytesXP_525628
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Canonical Epc-N
 PHD 6.3e-10
 Bromodomain 1.5e-17
 PWWP 0.0002

>CfamiliarisXP_538319
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Canonical Epc-N

PHD 6.3e-10

Bromodomain 0.00015

PWWP 5e-15

>CfamiliarisXP_541782 (misannotation?)

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C2 1.1e-11

C2 8e-18

Copine 8.5e-93

Canonical Epc-N

PHD 5.4e-12

Bromodomain 9.3e-31

AT hooks

PWWP 4.6e-40

>HsapiensAAH47508

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Canonical Epc-N

PHD 6.3e-10

Bromodomain 5.4e-32

PWWP 1.1e-19

>MmusculusXP_128275

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Canonical Epc-N

PHD 6.3e-10

Bromodomain 2.2e-32

PWWP 1e-19

>PtroglyodytesXP_516261

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Canonical Epc-N

PHD 5.4e-12

AT hooks

PWWP 4.6e-40

>GgallusXP_415977

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Canonical Epc-N

PHD 6.3e-10

Bromodomain 2.1e-34

PWWP 5.8e-20

>XlaevisAAH73421

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Canonical Epc-N

PHD 6.3e-10

Bromodomain 3.8e-35
PWWP 1.4e-21

>MmusculusNP_084454
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VCALWIPEVCFANTVFLEPIDSEIHIPPARWKLTCYICKQRGSGACIQCHKANCYTAFHVTCAQQAGLYM
KMEPVRETGANGTSFSVRKTAYCDIHTPPGSARRLPALSHSEGEDEEEDDEGKSWSSSEKVKKAKAKSR
IKMKKARKILAEKRAAAPVVSVPICIP**PHRLSKITNRLTIQRKSQFMQRLHSYWTLLKRQSRNGVPLLRRLQ**
THLQSORNCEQVGRDSDDKNWALKEQLKSWQLRHLERARLLVELIRKREKLKRETIKIQQIAMEMQLT
PFLILLRKTLEQLQEKDTGNIFSEPVPLSEVPDYLDHIKHPMDFFTMKQNLAEAYRYLNFDDFEEDFNLIIV
SNCLKYNADKTIIFYRAAVRLREQGAVLRQARRQAEMGIDFETGMHIPHNLGDEVSHHTEDVEEERLV
LLENQKHLPEVEQLKLLLERLDEVNASKQSVGRSRRAKMIKKEMTALRRKLAHQRETGRDGERHGPSGR
GNLTPHPAACDKDQTDSSAAEESSESQETSGLGPNMSSTPAHEVGRRTSVLFSKKNPKTAGPP**KRPGRP**
KNRESQMTPSHGGSPVGGPQLPIMGSLRQRKRGRSPRPSSSSDSDSKSTEDPPMDLPANGFSSGNQPVK
KSFLVYRNDCNLPRSSSDSESSSSSSSSAASDRSTSTPSKQGRGKPSFSRGTTFPEDSSEDTSGTENEAYS
VGTGRGVGHSSKYPHPKSGVLGTQFQGLASPPAADPPPLSRSCVVRKSLGRGAGWLEDEDS**PLDALDL**
VWAKCRGYPSYPALIIDPKMPREGMFHHGVPIVPPPLEVLKLGEOQTQEAAREHLYLVLFDFDNKRTWQWLP
RTKLVPLGVNQDLKKEKMLEGRKSNIRKSVQIAYHRALQHRKSVQGEQSSSETS

Canonical Epc-N
PHD 5.4e-12
Bromodomain 3.9e-35
AT hook
PWWP 4.6e-40

>RnorvegicusXP_235552
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PLLRRLQSSLSQSRNTQORENDEEMKAAKEKLYWQLRHLERARLLIELLRKREKLKREOVKVEQMAM
ELRLTPTLVLLRSVLEQLQEKDPAKIFAQPVSLKEVPDYLDHIKHPMDFATMRKRLEAQGYKNLHAF**FEED**
FNLIVDNCKMYNAKDTVIFYRAAVRLRDQGGVLRQARREVDSIGLEEASGMHLPERPIAAPRRPFSWEEV
DRLLDPANRAHMSLEEQRLRELLDKLDLTCMKSSGSRKRAKLLKKEIALLRNKLSSQHSQTPSIGAGTG
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GRKAAPRRRCASESSICSSNSPLCDSSFSSTPKCGRGKPALVRRHTLEDRSELISCIENGYAKAARIAAE
VGQNSMWISTDAAASVLEPLKVVWAKCSGYPSYPALI**IDPKMPRVPGHHNGVTIPAPPLDVLKIGEHMQT**
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ASDLSDID

Canonical Epc-N
PHD 6.3e-10
Bromodomain 2.2e-32
PWWP 1e-19

>HsapiensAAF19605
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QTHLQSORNCDQVGRDSEDKNWALKEQLKSWQRLRHDLERARLLVELIRKREKLKRETIKVQQIAMEMQL
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SRGSLTPHPAACDKDGTDSAAEESSSQETSGLGPNMSSTPAHEVGRRTSVLFSKKNPKTAGPPKRPGR
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PVPPLVLEVLKLGEMTQEAAREHLVLFVFDNKRTWQWLPRTKLVLVPLGVNQDLKKEKMLEGRKSNIRKSVQI
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Canonical Epc-N

PHD 5.4e-12

Bromodomain 3.9e-35

AT hook

PWWP 4.6e-40

>Rnorvegicus XP_342736

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Canonical Epc-N

PHD 5.4e-12

Bromodomain 9.3e-31

AT hook

PWWP 4.6e-40

>GgallusCAH65210

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PGRPPKNRDSQIAPGHGNSPIGPPQLPIMGSSQRQ**RKGRSPRPSS**SSSDSDSKSTEDAPMDLPANGFSS
GSQPVKKSFLVYRNDCNLPRSSSDSESSSSSSSSAASDRSTSTPSKQGRGKPSFSRVNFPEDSSEDTSGT
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Canonical Epc-N

PHD 5.4e-12

Bromodomain 7.7e-35

AT hook

PWWP 4.8e-40

>DrerioAAH44418

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DSGAEPPGATGSTAAACNGGGESGGGDRMDTANGEKGAQKTGKHKSKKKSDESGAHHHINTSGPAVKLP
EVMFRELQDRPDAPPRPMS**SYRYIDKSAEELDEEVEYDIDEEDYIWL**DIMNEKRRSDGVAPI**IQEVFEY**
LMDRLEKESYFESHNKGDPSALIDEDAV**CCICNDGECQNSN**ILFCDMCNLAVHQECYGVPI**PEGQWLC**
RRCQSPSRAVDCALCPNKGAFKQTDDSRWAVV**VCALWIPEVCFANTVFLEP**IDSIEHIPP**ARWKLTCY**
ICKQRSGGACIQCHKANCYTAFHV**TCAQQAGLYMKMEPVRET**GANGTS**FSVRKTAYCDIHT**PPGSARPLG
GVGGVSADSSRSEAEPEEEEEPPAAEDDGKGSERAKRAKAKSRLKMKRARKILAERRAAPVLSVPCI
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KEQLKAWQRLRHDLERARLLVELIRKREKLKRETIKVQEMAMEMQLT**PLLVLLRRTLEQLQERDTNNFFT**
EPVPLSEVPDYLDHIERPMD**DFHKMWKCVESH**RYLS**SFEAFEGDFLQIV**NNCLKYNAKDT**IFYRAALRL**REA
GGVVL**RQARRQ**AERIGFDYETGLHLHREPS**PENTH**THQDRERERVYIEGELLSES**WRRLPVDEQLQILQ**
SRYEEAASGKHSIGQORRAKALKKEMTALRRKLAHPRDTLLLDTHSHTHILSKDGVCV

Canonical Epc-N

PHD 1.4e-10

Bromodomain 5.2e-24

>MmusculusBAC31528

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TPAATPKSGKHKNEKRRKDSNHHHSAPASAAPKLPEVVYRELEQDTPDAPPRPT**SYRYIEKSAEELDE**
EVEYDMEEDYIWLDIMNERRKTEGVSP**IQEIFEY**LMDRLEKESY**FESH**NKGDPNALVDEDAV**CCICND**
GECQNSNILFCDMCNLAVHQECYGVPI**PEGQWLCRRC**LQSPSRAVDCALCPNKGAFKQTD**DGRWAHV**
VCALWIPEVCFANTVFLEPIDSIEHIPP**ARWKLTCYICKQRSGGACIQCHKANCY**TAFHV**TCAQQAGLYM**
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IKMKKARKILAEKRAAPVVSVPCIP**PHRLSKITNRLTIQRKSQFMQRLHSYWT**LKR**QSRNGVPLLRRLQ**
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Canonical Epc-N

PHD 5.4e-12

Bromodomain 3.9e-35

>TnigroviridisCAG11339

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GAQSGPAVKLPEAVFRELQDRPDAPPRPMS**SYRYIDKSV**EELDEEVEYDIDEEDYI**WLKIMNDKRRKRDG**
VTQIQEVFEYLMDRLEKESY**FESH**NKADPSTLIDEDAV**CCICNDGECQNSN**ILFCDMCNLAVHQECY**G**

VPYIPEGQWLCRRCLQSPSRAVDCALCPNKGAFKQTDARWAHVVCALWIPEVCFANTVFLEPIDSIEH
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SEETSGTENDSYSVGGSRGVSHLVRGRARSGCWMSSDDYSSLEALDLVWAKCRGYPSYPALIIDPKMPRE
GVFHRGVPPIPVPLDVLKLGEOQTQEAAREHLFLVLFDFDKRTWQWLPKSLVPLGVDQELDKEMLEGRK
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AT hook

Canonical Epc-N

PHD 5.4e-12

Bromodomain 1.3e-26

AT hook

PWWP 4.8e-40

>CbriggsaeCAE60017

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AENPVDYSIDEHDI TWLMRMAHQASQGRMTLVATFEHWVDRLEKNSVWKPKEHHKLRDEHGEELEDVC
NICLDPDTSNQNIVYCDRCNLTVHQDCYGIPIPEGCLECRRCVVSPAKRVSCVLCPSRTGAFKQVDHK
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Canonical Epc-N

PHD 1.6e-06

Bromodomain 9.6e-14

>CelegansAAB03164

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Canonical Epc-N

PHD 1.4e-06

Bromodomain 4.6e-20

>OodioicaAAS21398

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C2H2 0.00089

Canonical Epc-N

PHD 1e-13

Bromodomain 7.8e-20

PWWP 8.9e-06

>UmaydisEAK86867

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STRRSIAAETEAEVKSEQAIAEALPATPVRSRRRSTOSSAHAASTEHI DAQSDARPOSSMOTSLSQTS
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Canonical Epc-N

PHD 2.5e-15

Bromodomain 5.7e-23

PWWP 7.1e-08

>DdiscoideumEAL65544

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 DNDDDSFEVIKTPSKKSHISNKSSKSTPSKSNTNLKSKPQPPKPKLKSJKSTPSKKNANHKKKKKIDS
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Canonical Epc-N
 PHD 4.7e-14
 PHD 3.1e-05
 Bromodomain 5.3e-18

>TnigroviridisCAF96088
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 QAVEPRRRCASESISSSSSSLQGSTSTTL SLPKCGKGPALVRRNTVEDKSEL IACIETGNFAKARIAA
 EVGNSNIWMPASAATVALEPLKLVWAKCSGYPSPALI IDPHMPRAGCQHNGVSIPTPTDVLRIQEOMQ
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 VSDLSDVD

Canonical Epc-N
 PHD 3.1e-10
 Bromodomain 1.3e-34
 PWPP 1.3e-19

>CneoformansEAL20164
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QVPVAEEPSRSARSTSTILPPTRQQRGVIGLEALPLLTTKERLEQERALDLTTTEIDAADQFKRFVNGWV
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Canonical Epc-N

PHD 7.1e-16

Bromodomain 8.9e-18

PWWP 2e-05

>HsapiensNP_056510

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SRVRGPHSFVTSSYL

Canonical Epc-N

PHD 4.3e-08

Bromodomain 2.2e-35

PWWP 6.4e-28

>DrerioCAI20717

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Canonical Epc-N

PHD 1.2e-09

Bromodomain 2.6e-29

PWWP 4.4e-21

>AgambiaeEAA03942

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C2H2 0.0027

Canonical Epc-N

PHD 2.3e-11

Bromodomain 3.9e-29

PWWP 2.9e-17

>PtroglyodytesXP_518433

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Canonical Epc-N
PHD 4.3e-08
Bromodomain 2.2e-35
PWWP 2.9e-27

>DpseudoobscuraEAL24777
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C2H2 0.0032
Canonical Epc-N
PHD 2.3e-11
Bromodomain 2.7e-31
AT hook
PWWP 3e-15

>TnigroviridisCAG01066 (misannotation?)
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^{FYKYTERLAEELDEEVEYDMDEEDYAWMELVNEKRRSE}GIGQVSH^{NLFEFLMDRFEKESHSLTRGQSDLO}
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RSQ^{EAGAVPPQPLGAKTFLSVVIPRLETLLLPGKRRRSIDSEQEEAEPVKRLGTGRVANGLAAEEELSAA}
PRPLEPRRRCASESSISSGSGLLPNTSAAFL^{TKSGKGRSPARRSTVDDKNALRTCVEHRET}PGSGESK
GLPVT^{TAPRRQKTAPRLRWAELPRPPVDVLRAGEQRRFRFAEKLFLVLF}IGSRHSW

Canonical Epc-N
PHD 1.2e-11
Bromodomain 4.2e-10 (misannotation)

>CfamiliarisXP_538883 (misannotation?)

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Pkinase 9.2e-35
PHD 4.3e-08
Bromodomain 2.2e-35
PWWP 2.9e-27

>MmusculusXP_196171
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Canonical Epc-N
PHD 4.3e-08
Bromodomain 2e-33
PWWP 1.1e-09

>RnorvegicusXP_228039

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Canonical Epc-N

PHD 4.3e-08

Bromodomain 1.4e-33

PWWP 4e-27

>GgallusXP_419262 (misannotation?)

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PHD 3.2e-07

Bromodomain 3.2e-35

AT hook

PWWP 8.8e-09 (misannotation)

>AmelliferaXP_395348

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Canonical Epc-N

PHD 0.0015

Bromodomain 1.5e-30

PWWP 7.8e-20

Epc-N SUBFAMILY IV

>GgallusXP_416870

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Canonical Epc-N
PHD 1.7e-16

>CfamiliarisXP_540950

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PHD 7e-16

>TrubripesCAE30495

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PHD 3.5e-15

>TnigroviridisCAG01391

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Canonical Epc-N

PHD 3.2e-09 (misannotated?)

>DrerioCAE30492

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Canonical Epc-N

PHD 4.3e-17

>RnorvegicusXP_227074

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THLRQDLERVRNLTVMVTRREKIKRSVCKVQEQIFSLYAKLLEQGVSGVPSSCSSLENMLLFNSPSVGP
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Canonical Epc-N
PHD 7e-16

>GgallusXP_420467
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Canonical Epc-N
PHD 2.2e-07

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Canonical Epc-N
PHD 7e-16

>HsapiensBAC86931

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Canonical Epc-N

PHD 7e-16

>MmusculusCAE30496

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PHD 7e-16

>HsapiensCAE30500

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PHD 7e-16

>MmusculusBAC33688

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PHD 7e-16

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PHD 1.2e-12

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Canonical Epc-N
PHD 3.6e-15

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Canonical Epc-N
PHD 7e-16

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PHD 1.8e-12

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PHD 8.7e-17

>NcrassaEAA26920

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Canonical Epc-N
PHD 1.8e-12

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Canonical Epc-N
PHD 2.3e-16

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Canonical Epc-N
PHD 7e-16

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Canonical Epc-N
PHD 5.1e-17

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Canonical Epc-N
PHD 2.1e-10

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AT hook
Canonical Epc-N
PHD 1.6e-14

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Canonical Epc-N
PHD 1.5e-17
AT hooks

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Canonical Epc-N
PHD 1.5e-17
AT hooks

>CfamiliarisXP_538629

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Canonical Epc-N
PHD 1.3e-06

>MmusculusCAE30498

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Canonical Epc-N
PHD 1.3e-15

>RnorvegicusXP_220398

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Canonical Epc-N
PHD 1.3e-15

>HsapiensCAE30501

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Canonical Epc-N
PHD 1.3e-15

>ScerevisiaeCAA95027

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Canonical Epc-N
PHD 1.9e-17

>TnigroviridisCAG08803

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Canonical Epc-N
PHD 8.7e-16

>AgossypiiAAS51419

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Canonical Epc-N
PHD 2.3e-17

>AmelliferaXP_396822 (misannotation?)

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Canonical Epc-N
PHD 1.8e-09

>KlactisCAG99327
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Canonical Epc-N
PHD 3.1e-14

>CalbicansEAL04413
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Canonical Epc-N
PHD 2.3e-14

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ARKQSNKTYLPTTVFSKIMEILETQTYTAIHKQLLSNLHVCVSSPRDDDECDVCRD VDTDGSEEMIYCD
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PHD 3.8e-09

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Canonical Epc-N
PHD 1.1e-12

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PHD 1.6e-15

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Canonical Epc-N
PHD 8.1e-07