

MTAHPGHDELTELDLLDLELDAARYGAIGSQRPRTGTAVQPGPVRRGLTRAEQARLLPPGLPARERWTRI GAATMVTLPALLGDLWGAILAYVFFYPVLM SLVWMIGGIGFYLRFERKPH 45
MTLPALMGNFVGWMLSYVFLYPVLM SLLWMIGGVAFYFRYERHHPH 45
MMMFERIVDALLAFTFMYPLL MAYLWMFPGGIYYRLQWEKHGD 42
MEEFLTHLVGGILDFFYYPLFMAYLWMV GALYYFAHWELVAG 43
MTAHPGHDELTELDLLDLELDAARYGAIGSQRPRTGTAVQPGPVRRGLTRAEQARLLPPGLPARERWTRIGAATMVVLV CALFLVAVGYLVTHRWN SGLMALYTVVVTTYVLSRFVLAAG 120
MSC 3

RRVDQPPLREHYPIIAVLVPCYNEE ANVEETVDALMELRYP..NFEVITAINDGSKDRITGELLNTLAA RYPKLRVIHQVE..NQGKAVGLNTAA.LLTHAEILV GIDGDARLDPHSLHWLV 160
RIVSQPPERADYPLIAVLVPCFNEE ANARDTIDALMDLRYP..NFEVITAINDGSRDRTGEILDALADEYPQLRVIHNVK..NQGKAVGLNTAA.LLTHAEILV GIDGDARLDPHSLHWLV 160
DDWQHPKPLPFYPHVTVM LFCHEGDLVVETLSFLNLNDYP..NYDVITAINDGSTDNTGEILDEQVKLHDKLRVIHLAT..NQGKAMGLNTAA.LMTESEYLV CIDGDALLDRHALHWLM 52
RRIDQPRL ENYPGVTF LVPCHNEGENVEETIEYLAKQQYP..EFEITAI DDGSQDDTGEILDRLAEQHQR LRVIH LAS..NQGKAMALRMGA.MASNHEFLICIDGDALLDPHATPWITM 158
MRAEHP LMSVIVPVFN GTRVLPRALAALAASDLPRACWELIVDDGSTDDTPG...VASRWADLVVRIPGV..PHCPGYARNRGV.EAARGEVVVFIDADV VVHPDTLRRIA 106
MRAEHP LMSVIVPVFN GTRVLPRALAALAASDLPRACWELIVDDGSTDDTPG...VASRWADLVVRIPGV..PHCPGYARNRGV.EAARGEVVVFIDADV VVHPDTLRRIA 106
MRAEHP LMSVIVPVFN GTRVLPRALAALAASDLPRACWELIVDDGSTDDTPG...VASRWADLVVRIPGV..PHCPGYARNRGV.EAARGEVVVFIDADV VVHPDTLRRIA 106
MRAEHP LMSVIVPVFN GTRVLPRALAALAASDLPRACWELIVDDGSTDDTPG...VASRWADLVVRIPGV..PHCPGYARNRGV.EAARGEVVVFIDADV VVHPDTLRRIA 106
YR..PPPD LGHEPTVAIVVP AFNESA VAVRR TIDACMAVNYDQERLRLIVVNDGSSDDT WQHMIQAASRYPRGRVECLDLGVNRGKRAAMAAGIRAAADAEILV FVDS SMPAPQAIRQIV 238
AVNPSAAPDAAPPLVSVILPVYQGEATITQVRSVLTQTYA..HL ELIVDDGSTDA TAQR..LAAIADPR LRVIRQDN...QQVAFARNMCF.SQARGEYIAFIDADRWLPEKLA VEM 115

RHFDE.PQVAAVTGNPRVRRNST.LLGRIQVGEFSSIVGLIKRAQRSGCLIFTVAGVITAFRRSALH.....AVGYWSP EK.LTEDVDISWKLQ MADWEVRFEPRALCWILMPETLRG 270
RHF DV.PEVGAVTGNPRVRRNST.LLGRIQVGEFSSIVGLIKRAQRSGCLIFTVAGVIAAFRRSALF.....EAGFWSPDK.LTEDVDITWKLQ LAGWEVRFEPRALCWILMPETLRG 270
THFVKS PRVGAVTGNPRI RRNST.LLGKIQVGEFSCIIGLIKRAQRIYGRVFTVSGVVVAFRKAALQ.....RVGYWSDM.ITEDIDVSWRLQLAHWDVR YEPNALCWILMPETIKG 163
THFIDS PRVGAVTGNPRI RRNST.LLGKIQVGEFSCIIGMIKRAQRIYGRVFTVSGVVVAFRKAALQ.....RIGYWSPDM.ITEDIDVSWRLQLAHWDVR YEPNALCWILMPETIKG 268
QHFIKGP RVGAVTGNPRVRRNST.LLGKIQVGEFSAIIGMIKRAQRIYGRVFTVSGVVSAFRK S ALH.....NIGYWNLD M.ITEDIDISWNLQ LNHWDIRFEPNALCWILMPETLRG 269
WVFAHDPGLGALFG..SYDDRPP.APGLVSRYRNLLHHWHHQQNPGPAETFWAGC GAVRRRVFLAAG.....KFDEWHYRRPSIEDIELGHRIALIGERILLRPEIQCAHLKQWTLWN 216
WVFAHDPGLGALFG..SYDDRPP.APGLVSRYRNLLHHWHHQQNPGPAETFWAGC GAVRRRVFLAAG.....KFDEWHYRRPSIEDIELGHRIALIGERILLRPEIQCAHLKQWTLWN 216
WVFAHDPGLGALFG..SYDDRPP.APGLVSRYRNLLHHWHHQQNPGPAETFWAGC GAVRRRVFLAAG.....KFDEWHYRRPSIEDIELGHRIALIGERILLRPEIQCAHLKQWTLWN 216
QGFAD.PKVGAISGVTHVRNAARNTLTRMQMAYFVSFQLLKS AESVVGAVACCSGCFAYRTSAVLPVLD AWENQRFLGVECTYGD DRALTNMLRRRWITIFDSSAQAWTDAPERYRQ 357
QTVEQHGQPLCIVYSRYGVDDADRLINLSP.SFTASGDALETILNNE SVMLPSTALHRQVYEAAG.....GFSKDCYHEDRSFFTACRDFPAFPTQQRLTLYRQAMSGR CRRVLA 227

LYRQRIRWADGAEVWRLYLSEKLRQRRLWLVEYINSALWGLVLLLAAYALRPPRWLVYPLVAAWYGLANLTCLLQYRASLLGDALYAEGLHLVYVWVWYPAAWYL
LWKQRLRWSMGCTQVLLDYWPQLLSLRRLARLWPLCI EYALSI LWACLFATLAVYRVTDLVLYRIDLQSAPIILLGWAGL LIGTTCLLQMMLSLILD RPYDHGLLRNYFWTIWYPIIYWVI 390
LWNQRLRWATGGAQVIFDYWSEIW..QRPRMWPVFV EYSMSILWAFCMALLVYVRTADLVFYKHDLQSV PVLMLGWTGL LIGTTCLVQMMLSLWLDRPYDQGLLKNYFWMIWYPVIIYWL 388
LFRQRTRWAQGGAEVWRLYLPK.....LWLLGKIVPLPDYLYIKTLLPGWTCVILGFTCLLQFLVSLIIDSRYERGITRNYWMIWYPLAYWML 185
LYRQRTRWAQGGAEETWLRYPKMMHWKKRRFWLVAL EYITSVIWSYTLTAIALWLLGKIVPLPDYLYIKTLLPGWTCVILGFTCLLQFLVSLIIDSRYERGITRNYWMIWYPLAYWML 388
.....MWPVAL EYIVSVLWSYTLIGVLLWLLGKIVPLPDYLYIKTLLPGWTCVILACTCLLQFLVSMVIDSRYERGITRYWYIWIWYPLAYWML 90
LWKQRLRWAGGCMVFLKYLDPARHWRKRRMWMVYLYLTSVVMWAYLMVATILLFILGLFIDLPPFLQVQTLLPAWSGVVLGVTCLMQLFAVALLIDSRFERGITGRVYWMIWYPVVYWL 389
VVRTDIK..DRGIPWMRLLLQEGKLGQRRSLNLKPIEKINTALVG...LAVLALAAAVALRDPRWLLVVPAAVAFVGLANLRFYGFVLRAGGLGFALGAFPIHLLYYIVNGVCAAGGYV 330
VVRTDIK..DRGIPWMRLLLQEGKLGQRRSLNLKPIEKINTALVG...LAVLALAAAVALRDPRWLLVVPAAVAFVGLANLRFYGFVLRAGGLGFALGAFPIHLLYYIVNGVCAAGGYV 330
VVRTDIK..DRGIPWMRLLLQEGKLGQRRSLNLKPIEKINTALVG...LAVLALAAAVALRDPRWLLVVPAAVAFVGLANLRFYGFVLRAGGLGFALGAFPIHLLYYIVNGVCAAGGYV 330
VVRTDIK..DRGIPWMRLLLQEGKLGQRRSLNLKPIEKINTALVG...LAVLALAAAVALRDPRWLLVVPAAVAFVGLANLRFYGFVLRAGGLGFALGAFPIHLLYYIVNGVCAAGGYV 330
FFRQQLRWKKSWSREGPLLLSHIWRSRFRAFPVFLMGTL SALLSP...FVLLNLNAQPAISG.....QLPVVYLLGLFLVSMAYALFYRALRNDGLWTYACLGTIFYIATSPQLWVAM 467
DYDAAIDA EFSIVSALQGALLSEERLERLRLRVQAKNLLYR.....FLMYGYMDYARRFYPRVDRSLLRADKKGRLLALITMMTGINALISAARLCAQTVLRLALAPVWKTRLAQL 334
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NHHTVGEPADEAAVQAGRAWSDRGARABLSAWAPR
TAATSVALPRILLRDTGKRARWTS PDRGIKPDASH..... 426
SATTAVAALPAALARRSGKRA TWISPDRGISPD TNRAN NKR 429
..... 185
NVITT VVGFPKAI FKKKKGQRA VWKSPDRGLQSLDN..... 423
NVATT VCGFPKAI FKKKKGQRA IWKSPDRGLQNRDN..... 125
NVLTA VVAAPRAIRKRRGTRATWVSPDRGLRP..... 421
AHHLIGEPAPEAAVQAYAEVGVRRWPPIPARAPIGAWAPR. 370
AHHLIGEPAPEAAVQAYAEVGVRRWPPIPARAPIGAWAPR. 370
AHHLIGEPAPEAAVQAYAEVGVRRWPPIPARAPIGAWAPR. 370
AHHLIGEPAPEAAVQAYAEVGVRRWPPIPARAPIGAWAPR. 370
LRIRDGSGWGT RPSLVGSSAARTPSRPSMTEANSRDTSGETA 508
NAIWQPSAGSADALKAISHAAV..... 356
* * ** *

☐ non-conserved
☒ ≥ 50% conserved