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                                   10        20        30        40        50        60
GmTLP1    MALF................................SNHRHSSEA..LLGFLLFL....VFRGVSV.SGATFTFVNKCDYTVWPGIL...GTPELGSTGFELA    61
GmTLP2    M.........................................ASSTQFSTTLVTLCL....FQFLAGS.YSTTFTIVNKCSYTVWPGILSGAGTSPLPTTGFVLQ    59
GmTLP3    MSAGNSV..FHLISIYRMAFVVTMATTCNVRMGNSTKMASIV...TMASLFF....FQFLSGS.CSTRLTITNKCSYTVWPAILSATGSSPLSTSGFVLQ    90
GmTLP4    ...............................MAVTK.SLSIFLFIA...MSCVAAA.QAANFNITNNCTYTVWAAAVP.......GGGARLN    49
GmTLP5    MVY.......................LALCS......LLTL...ALSLATT.HAANFEIVNNCPYTVWAAASP.......GGGRRLD    47
GmTLP6    MSPFF........................SHHPLSPQR..FFIFLLIL....AFRGVRV.SATTFTFVNKCDHTVWPGIL...GKPDIGTTGFELK    62
GmTLP7    MPIV......................MTSWK..FPSFLAIL....FTLLSYS.FSSIFTITNNCSHTIWPGTLSGAGSPPLPTTGFRLD    60
GmTLP8    ..........................MPTSM.YPFIFLSI....LISIPLT.GGTQLILVNNCQESVWPGILGSGGHPTPKDGGFHLC    56
GmTLP9    MDQ.........................LTL....AFPFLLTL....HLLVSGVVATTSFTLVNKCDYTVWPGILSNAGIATLPTTGFVLQ    58
GmTLP10   MPYR.........................................................................NKCSYTVWPAILSAARSLPVHTPGLVLQ     4
GmTLP11   ..........................MA......FTTVVFF....LGFLSGS.YGATLMVTNKCSYTVWPAILSAARSLPVHTPGLVLQ    52
GmTLP12   ...................................................................................MQQELE     6
GmTLP13   MASPH.....................IALLK.LTSIFIVI...ASAPELCG.SSKTFTLVNYCKETIWPGITRSDNH...SGDGFALK    59
GmTLP14   M.........................AALRK...AVFFVIA....QCFTFSA.YAARFEITNRCTYTVWAASVP.......VGGGVQLN    49
GmTLP15   ..........................MTLTK..ALFFVTA....LCCTSAA.YAARFDITNRCSYPVWAAAVP.......GGGRRLN    47
GmTLP16   M.........................PTLRP..ILTTIFFL....FTVLKVS.ASSSVIFYNKCPHPVWPGIQPSAGKPVLARGGFKLA    57
GmTLP17   MDH.........................LTL....AFPFLLTL....HLLASGVLATTTFTLVNKCDYTVWPGILSNAGIATLPTTGFVLQ    58
GmTLP18   .............................................MFIVKAMWYLI..GTLSGSGSPPLATTGFRLD    30
GmTLP19   ..........................MAMPR.SLFITLAIF....LGFLSGS.YAAKFRISNECISTVWPAIVANS....TSTTGFSLQ    53
GmTLP20   ..........................MARTS..SILFYLVA....FCSIIII.DGAQLILVNNCGESVWPGILGGAGQQTPKDGGMHLG    56
GmTLP21   MAMM...................GSMLLSLRP..FLTTIFFL...TLTVLKVS.ASSSVIFYNKCQHPVWPGIQPSAGKPVLARGGFKLA    65
GmTLP22   MANPH.....................IALLK.LTSIFIVIF...ASAPELCG.SNKTFTLVNYCKETIWPGITRSDNH...SGDGFALK    60
GmTLP23   MSQLHG.......................................................LADSGQGLN    15
GmTLP24   MV............................................................................     2
GmTLP25   ...............................MMSN...IFSLCLSF....SLLFYVA.QGATVTFTNNCQYTVWPGTLTGDQNPQLSTTGFELA    55
GmTLP26   MTSNMQNSPLHLQNENY.............TYPTMTTT...RVALCLLF....AFLFYAA.EGAKVSFNNKCTYTVWPGTLTGDQKPQLSTTGFELG    76
GmTLP27   ...............................MTTT...RVALCLLF....AFLFYAA.EGAKVSFNNKCTYTVWPGTLTGDQKPQLSTTGFELG    55
GmTLP28   ...............................MMSN...IFSLCLSF....SLLFYVA.QGATVTFTNNCQYTVWPGTLTGDQNPQLSTTGFELA    55
GmTLP29   MAPTMQNSPLHLQNE..............KYPTMTTT...RVAICLCF....AFLYYAA.EGAKVSFNNKCSYTVWPGTLTGDQKPQLSTTGFELG    74
GmTLP30   ...............................MAKNV.SLNLFLPML....LLCAGVQ.SDVTFTFENLCSDTLWRA.....SNPSIGDLEPDLP    52
GmTLP31   ...............................MAVTK.SLSIFLFIA....ISCVAVA.QAANFNITNNCTYTVWAAAVP.......GGGSRLN    49
GmTLP32   M.........................ASSAQFSTTLVVLCL....FQFLAGS.YSTTFTIVNKCSYTVWPGILTGAGTSPLSTTGFVLQ    59
GmTLP33   MALF........................SHHRHSYET..LLGFLLFL....VFR..EV.SGATFTFVNKCDHTVWPGIL...GAPQLGSTGFELV    59
GmTLP34   MGRLLLF......................LIILSLVA....FSFLSDV.QSASFKIVNKCRHTIWPGLLSGATSPPLPTTGFTLE    58
GmTLP35   ..............................................................................     0
GmTLP36   ...............................MARSL..FLCSLLIFA..VTTFSSPT.GALILTLVNNCNYTVWPAIQPNAGHPVLAGGGLTLR    58
GmTLP37   ...............................MATSS..HYFIFFSI....LVSISLT.DGTQLIIVNNCKESVWPGILGNGGHPSPKHGGFHLG    56
GmTLP38   MGRLLLF......................LIIPSLVA....LSFLSEV.QSASFKIVNKCRHTIWPGLLSGATSPPLPTTGFTLE    58
GmTLP39   MGL..........................LASS...CFILIALL....LLTPKGV.MGATFTFFNKCDYTVWPGILANAGSPPLDSTGFELP    58
GmTLP40   ...............................MARSL..FLCSLLILA..VTTFSSPT.GALILTLVNNCNYTVWPAIQPNAGHPVLAGGGLTLR    58
GmTLP41   MA...........................LKQLSLLV....MLFSLGV.DATVLTLQNKCRDIVWPGILTGAGRPELIDDGAELT    53
GmTLP42   MA...........................LHLQT..ILPFILVLAIILSGQRTCD.SARVFTIVNYCKETLWPAVTPGES...FNGGGFVLK    59
GmTLP43   MALI......................PNSKT..SALFHLLL....FILGNVA.YATVFTLENHCSYTVWPGTLSGNGAATIGDGGFPMA    60
GmTLP44   MALI......................PNSKT..SALFHLLL....FILGNIA.YATVFTLENHCSYTVWPGTLSGNGVATLGDGGFPMA    60
GmTLP45   MALI......................PNSKT..PPLFHLLL....FLLGNVA.NATVFTLENHCSYTVWPGTLSGNSAAILGGGGFALA    60
GmTLP46   MA...........................LHLQT..ILPFTLVLAIILSGQRTCE.CARVFTIVNYCKETLWPAVTPGEN...FNGGGFVLK    59
GmTLP47   MPIV......................MTSWK..FPSFLAIL....FTLLSYS.FSSIFTITNNCPHTIWPGTLSGAGSPPLPTTGFRLD    60
GmTLP48   MDR..........................PTLSS..LFSFLLTL....HLSLSGV.ISTTFTLVNKCDYTVWPGILSNAGVPPLSTTGLVLQ    59
GmTLP49   ...............................MEASS..IFALTLS.....TFLLSGA.YSATFTVTNNCAFTIWPATLTGGGNSQLPSTGFELT    55
GmTLP50   MSPY.........................HGHSSQR..FFIFLLIL....AFRGVRV.TATTFTFVNKCDHTVWPGVL...GKPDIGTTGFELK    59
GmTLP51   MSA..........................STHDQFAATLIFLFF....SHFLRGS.NSATFSIVNKCSYPVWPGILSGAGTAQLATTGFALQ    61
GmTLP52   MALI......................PNSKT..SALFHLLL....FLLGNVA.YATVFTLENHCSYTVWPGTLSGNGAALLGEGGFALA    60
GmTLP53   MDR..........................PTL.S..LFSFLLTL....HLSLSGV.ISTTFTLVNKCEYTVWPGILSNAGVPPLSTTGFVLQ    58
GmTLP54   MDS..........................MAPHC.FSIHIALIW....VLLCQGA.LGATFTLINKCDYTVWPGILANAGSSGLDSTGFELR    60
GmTLP55   MQ..........................LPKYI.AASFFCLICSSIIYYGKAEA.HQVNFYVHNKCPFPIWPATAPNSGQPVIADGGFYLA    63
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                        70          80          90         100         110             120         130         140
GmTLP1   KGGSRSFQAPTG.WSGRFWGRTGCQFD.GL.GKGTCATADCGSGEVNCNGAGA..SPPATLAEFTLGTG.....SMDYYDVSLVDGYNLPMMVVAR....  147
GmTLP2   PGESNVIAVPAA.WSGRLWGRTFCTQD.AT.GKFSCVTGDCGSSAVECNGGA..APPATLAEFTLNGA...G.GLDFFDVSLVDGYNLPMIVEPQ....  146
GmTLP3   PGDFKIVPVPPA.WSGRLWGRTLCSLDITS.TKFSCVTGDCGSTTIECVGNA..TPPVTLVKFTLNGT...G.GLDFYEVSLVDGFNLPVRVEPR....  178
GmTLP4   PGESWNISVTNGTTRGRIWGRTNCTFD.NA.GRGKCLTGDCE.GVLECNKTG..TPPNTVVDFALNQY...N.NLDFYDISLVDGFNVPLQLTPT....  135
GmTLP5   RGQTWNLWVNPGTAMARIWGRTGCNFD.GS.GRGRCQTGDCT.GGLNCQGWG..VPPNTLAEFALNQF...G.NQDFYDISLVDGFNIPMDFYPL....  133
GmTLP6   RGSTRTFDGPPG.WSGRFWGRTGCQFD.QS.GQGTCATGDCGSGQVTCNGAGA..TPPATLAEFTLGEG.....APDYYDVSLVDGYNLPMMVDAS....  148
GmTLP7   SGQMMKLTSVPG.WSGRIWARTGCTFD.AT.GIGKCQTGDCG.GRLECDGNGA..APPTSLFEITLGKG...N.DQDYYDVSMVDGYNLPLLVQPR....  146
GmTLP8   SGDEVVLEVPEG.WSGRIWGRQGCCFDTKT.GKGTCETGDCG.GLLKCGGMGG..VPPATLVEMTLGTP..QSALHFYDVSLVDGFNLPVSMKPV....  144
GmTLP9   TGESKTVTAPTS.WGGRFWGRTLCTQD.SA.GKFSCLSGDCGSGKLECAGNAA..TPPATLAEFTLDGA...G.GLDFFDVSLVDGYNVPMLVAPQ....  145
GmTLP10  ..............................................SCA.GGMKCTG.GG.VPPVTLAEFTIGTG...S.AQDFYDVSLVDGYNVAMGVRAT....   53
GmTLP11  PGDTNTIQVPPT.WSGRLWGRTLCSYN.IT.GSFTCVTGDCISSTVECGG..A..TAPVTLAEFTLNGT...G.GLDFYFDVSLVDGFNLPLVVEPR....  137
GmTLP12  NAKQV.......................TG.GRLECEGNGS..APPTSLFEITLGAG...N.GQDYYDVSMVDGNNLPLLALPR....   60
GmTLP13  SGQSTVYTAPDG.WSGRIWARTGCNFD.NN.GNGKCQTGGCG.TSINCTVPG...SPPATSADFTLGE......PDFYDVSLVDGFNLPIVVKAI....  141
GmTLP14  PGQSWSVDVPAGTKGARVWARTGCNFD.GS.GRGGCQTGDCG.GVLDCKAYG...APPNTLAEYGLNGF...N.NLDFFDISLVDGFNVPMDFSPT....  135
GmTLP15  SGQSWALDVPAGTKGARVWARTGCNFD.GS.GRGGCQTGDCG.GVLDCKAYG...TPPNTLAEYALNQF...S.NLDFFDISLVDGFNVPMDFSPT....  133
GmTLP16  PNRAYSLQLPAL.WSGRFWGRHGCAFD.VG.GRGRCATGDCG.GSLFCNGIGG..SPPATLAEFLTLGNE....QDFYDVSLVDGYNLPISITPF....  141
GmTLP17  TAESKTVTAPTS.WGGRFWGRTLCTQD.SA.GKFSCITGDCGSGKLECAGSGA..TPPATLAEFTLDGA...G.GLDFFDVSLVDGYNVAMLVAPQ....  145
GmTLP18  TGQSIKLTTVPG.WSGRIWARTGCTFD.AT.GVGKCQTGDCG.GRLECQGNGA..APPTSLFEITLGAG...N.GQDFYDVSMVDGYNLPLLALPR....  116
GmTLP19  PGKSYMVTMPTG..EVKVWARTFCSYS.IA.GNFSCFTGDCSSSNIDCRGGNANPKPPVTLAEFTLNGS...Y.GLDYYKVSLREGFNLPMSTEPG....  141
GmTLP20  SGEEVVLDVPEK.WSGRIWGRQGCSFD.ND.GHGHCLTGDCN.GMLHCRGQGG..VPPATVVEMTLGSS...SSPLHFYDVSLVDGFNLPVSMKPV....  143
GmTLP21  PNRAYSLQLPAL.WSGRFWGRHGCSFD.AG.GRGRCATGDCG.GSLFCNGIGG..SPPATLAEFTLGNE....QDFYDVSLVDGYNLPISITPF....  149
GmTLP22  SGQTTVYTAPDG.WSGRIWARTGCDFD.NN.GNGKCKTGGCG.TSINCTGPG...SPPATSADFTLGE......PDFYDVSLVDGFNLPIVVKAI....  142
GmTLP23  AQQTHM.......................GNSLVPLVTVDQVKCHASWW..NPPVSLVEFTLASN...K.GQDFYVVSLVDGFNLPVLVTPQ....   78
GmTLP24  ................RHGCIFD.SS.GSGTCITGDCG.GKLKCDGVGG..APPASLAEFTLDSQ....EGDFYDVSLVDGYNLPVSIFPT....   68
GmTLP25  PGGTNSVNIPSP.WSGRFWARTGCSNN....GGFTCDTGDCASGQVECNGAGA..IPPATLVEITVAPN...G.GQDFYDVSNVDGFNVPVSITPQ....  140
GmTLP26  PGASNSVDLPSP.WSGRFWARTGCSNN..N.GRFSCATADCASGQVACNGAGA..IPPATLVEITVAAN...G.GQDFYDVSNVDGFNVPMSVTPQ....  162
GmTLP27  PGASNSVDLPSP.WSGRFWARTGCSNN..N.GRFSCATADCASGQVACNGAGA..IPPATLVEITVAAN...G.GQDFYDVSNVDGFNVPMSVTPQ....  141
GmTLP28  PCGTNSVNIPSP.WSGRFWARTGCSNN....GGKTCDTGDCASGQVENCNGAGA..IPPATLVEITVAPN...G.GQDFYDVSNVDGFNVPVSITPQ....  140
GmTLP29  PCASNSVDLPSP.WSGRFWARTGCSNN..N.GRFSCATADCASGQVACNGAGA..IPPATLVEITVAAN...G.GQDFYDVSNVDGFNVPMSVTPQ....  160
GmTLP30  RDTYEIFNMDDH.YSGSIWVRTGCSTN.AS.NYFSCETGDCGNGIMECACLNP..SFPITQLNFVVNN.......PIVSYEVSLKHGQNMLVRIKPN....  137
GmTLP31  PGESWNISVTNGTTGGRIWGRTNCTFD.NA.GRGKCLTGDCD.GVLECNKTG..TPPNTLVEFALNQY...N.NLDFYDISLVDGFNIPLQVSPT....  135
GmTLP32  PGESNVITVPAA.WSGRLWGRTVCTQD.AT.GKFSCVTGDCGSSAVECNGAGA..APPATLAEFTLNGA...G.GLDFFDVSLVDGYNLPMIVEPQ....  146
GmTLP33  KGGSKSFQAPTG.WSGRFWGRTGCQFD.GS.GKGTCATADCGSGEVNCNGAGA..SPPATLAEFTLGNG.....SMDYYDVSLVDGYNLPMMVVAR....  145
GmTLP34  SGKSRIVKIPKS.WSGRIWARTLCGQD.SD.GKFSCATADCGSGKVQCVG.GA..KPPATLAEFTLNGA...D.GLDFYDVSLVDGYNLPMLIVAK....  144
GmTLP35  .................................................................................................    0
GmTLP36  TLTHQSIPVPDAHWSGRVWARTGCAYS.GT.A.FSCASGDCG.GRLQCNCAGG..APPATLAQFEVHHG...SNDYASYGVSLVDGFNVPMTVTPH....  145
GmTLP37  SGEEIVIHVPKV.WSGRIWGRQGCCFDQNT.AKGSCQTGDCG.GLLQCNCIGG..VPPATLVEMTLGTS...QSPLHFYDVSLVDGFNLPVSVKPVEGGG  148
GmTLP38  SGKSRTIKIPKS.WSGRIWARTLCGQD.SD.GKFSCATADCGSGKVECVG.GA..KPPATLAEFTLNGA...D.GLDFYDVSLVDGYNLPMLIVAK....  144
GmTLP39  KDTSRAFQAPTG.WSGRFWGRTGCTFD.GS.GAGSCLTGDCGSGQVECNGAGA..IPPATLAEFTLGTG...GQDFYDVSLVDGYNLPMIVEGT....  144
GmTLP40  SLTHQSIPVPDAHWSGRVWARTGCSYS.GT.A.FSCASGDCG.GRLQCNGAGA..AAPATLAQLEVHHG...SNDYASYGVSLVDGFNVPMTFTPH....  145
GmTLP41  PGKAINITAPKG.WSGRIWGRGCTFH.SY.GSGTCITGDCG.GKLKCDCGVGG..APPASLAEFTLDSQ....EGGFYDVSLVNGYNLPVSIFPT....  138
GmTLP42  PGESAVFTAPVS.WSGRIWARTGCKFD.QN.GNGNCQTGSCG.TTLKCSASG...KTPASLAEFTLAQ......PDFYDVSLVDGFNVPMAVKPI....  141
GmTLP43  PGSSVQLTAPSG.WSGRLWPRTGCNFD.AS.GNGKCLTGYCA.GGMRCTG.GG..VPPATLAEFTIGS....G.GKDFYDVSLVDGYNVGVGVRAT....  144
GmTLP44  PGSSAQLTAPSG.WSGRLWARTGCSFD.AS.GNGKCLTGDCA.GGMRCTG.AG..VPPATLAEFTVGSAGKGG.GKDFYDVSLVDGYNVGVGVRAT....  148
GmTLP45  PGSAVRLIAPAG.WSGRFWARTGCRFD.GS.GAGKCTTGDCA.GGLRCTG.SG..VPPVTLAEFTIGSASN.G.NKDFYDVSLVDGYNVGMGVRAA....  147
GmTLP46  PGQSTVFTAPVS.WSGRIWARTGCKFN.QN.GNGNCQTGSCG.TTLKCSASG...KTPASLAEFTLAQ......VDYYDVSLVDGFNVPLFVKPI....  141
GmTLP47  SGQMIKLTSVPG.WSGRIWARTGCTFD.AT.GIGKCQTGDCG.GKLECDGNGA..APPTSLFEITLGKG...N.DQDYYDVSMVDGYNLPLLAQPR....  146
GmTLP48  TGASTTIAAPAS.WGGRFWGRTLCSED.ST.GKFSCVTGDCGSGKLECSGNGA..APPATLAEFTLDGA...G.GLDFFDVSLVDGYNVPMLVVPQ....  146
GmTLP49  SKASSTIDVTAP.WSGRFWAKSQCSTD.TY.GKFTCATGDCGSGQVPCNGNGG..TPPVSLVEFTLASN...K.GQDFYDVSLVDGFNLPVLVIAQ....  142
GmTLP50  RGSTRSFDAPPG.WSGRFWGRTGCEFD.DS.GHATCATGDCGSGQVNCNGAGA..TPPATLAEFTLGEG.....APDYYDVSLVDGYNLPMMVDAS....  145
GmTLP51  PGQSNAVAVPTA.WSGRLWGRTLCSTD.SA.GKFSCVTGDCGSSAVECGCGGA..VPPATLAEFTLNGA...G.GLDFYDVSVVDGYNLPMLVEAR....  148
GmTLP52  PGSAVQLTAPAG.WSGRIWARTGCSFD.AS.GSGKCVTGDCG.SGLKCSG.GG..VPPATLAEFTLGSASN.QSNKDFYDVSLVDGYNVGMGVRAT....  147
GmTLP53  TGASTTIAAPAS.WGGRFWGRTLCSQD.STS.GKFSCVTGDCGSGKLECSGNGA..APPATLAEFTLDGA...G.GLDFFDVSLVDGYNVPMLVVPQ....  146
GmTLP54  PGGSQSFHAPPS.WSGRFWARTGCNFDPNT.QQGSCTTGDCGSDNQIQCNGGGA..SPPATLVEFTIGSG.....TQDFYDVSLVDGYNLPLIVDPN....  147
GmTLP55  PGQTQRVIAPWT.WNGRIWARTGCNFA.SN.WKPACETGDCD.GRLACNGLIG...TPPATLVEVSLQGR.....NPNFYDVSLVDGYNIPVSVTPK....  148
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                 150        160        170            180        190        200        210        220        230
GmTLP1   GGS.....GSCGATGCGEDLN..RRCPSELR..VEGGD......ACQSACGAFGKPEYCCNGAFSNPS.TCKPSMYSQMFKSTCPKAYSYAYDDATSTF  230
GmTLP2   GGTG...AGNCTATGCVVDLN..TPCPAELM..VMSSGE....GVACKSACEAFDDPQYCCSGAYATPD.TCKPSSYSQFFKSACPRAYSYAYDDGSSTF  234
GmTLP3   GG.....RNRRATGCEMDLN..LSCPTELK..VI.RDGD...AVACKSSCQA...................EPCLTSQFFKTACPGAHVH.........  236
GmTLP4   .......YNCSSVKCAADII..GECPTQLQ..VPG.........GCNNPCTVFNTTQYCCSTGAA....GCGPTDYSKFFKERCPDAYSYPMDDATSMF  210
GmTLP5   N......GGCHKISCSADIN..GQCPGPLR..APG.........GCNNPCTVFKTNEYCCTNGQG....SCGPTNYSRFFKDRCHDSYSYPQDDPTSTF  209
GmTLP6   GGS.....GACAATGCGADLN..RRCPAELR..VDGGD......ACQSACRAFGKPEFCCSGAFNSPA.ACAPSMYSQIFKAACPKSYSYAFDDATSTF  231
GmTLP7   GVYG...TGVCNATGCVTDIN..RGCPKELQ..VVGGDAYQDGVVGCKSACEAFGSDQYCCSGEFANPT.TCQPSYYSTLFKQACPKAYSYAFDDATSTF  238
GmTLP8   GGG.....IGCGVAACEANLN..VCCPFALV..MK.RQGK...VVGCKSACLAAKSDRYCCTGEFATPK.SCKPSAFSRLFKTICPKAYSYAYDDSTGLK  230
GmTLP9   GGSG...DNCTSTGCVGDLN..GACPSELR..VTSVDGKQ..SVACKSACEAFGSPQYCCSGAYGSPT.TCKPSPYSQIFKNACPRAYSYAYDDKTSTF  234
GmTLP10  GGT.....GNCQYAGCVTDLN..GKCPTELQ..VTAEGGS...IVACKSACAAFNAAEFCCTGEYSTPQ.TCKPTQYSEIFKSACPSAYSYAYDDATSTC  140
GmTLP11  SAIG...AENCRATGCRRNLN..KKCPVELQ..VIKEGEG...VVGCKSSCEVHE............PC.SNNSNLFSHFLKTRCPDAYHNA......SF  208
GmTLP12  GVYG...GVCNATGCITDIN..RGCPRELQ..LLGGHQNQQ.VVGCRSACEAFKTDKYCCR.......N.TCKPSYYSTIFKKACPRSYSYAFDDGTSTF  144
GmTLP13  NGT.....GNCSTVGCDGDLR..QNCPSELA..SK.DNDK...VIACRSACDVFNTDEYCCRGTYGNPA.TCLASNYSKIFKQVCPAAYSFALDDPTSLI  227
GmTLP14  SN......GCTRGISCTADIN..GQCPSELK..TQG.........GCNNPCTVFKTDQYCCNSG......SCGPTDYSRFFKQRCPDAYSYPKDDPTSTF  210
GmTLP15  SN......GCTRGIRCTADIN..GQCPSQLK..TQG.........GCNNPCTVFKTDQYCCNSG......SCVPTDYSRFFKQRCPDAYSYPKDDPTSTF  208
GmTLP16  KGS.....GKCSYAGCVSDLN..TMCPVGLQ..VRSRDNKR..VVACKSACSAFNSPKYCCTGSYGSPQ.ACKPTVYSKIFKTACPKAYSYAYDDPTSIA  229
GmTLP17  GGSG...DNCTSTGCAGDLN..GACPSELR..VTSEDGKQ..SVACKSACEAFGSPQYCCSGAYGSPN.TCKPSPYSQIFKNACPRAYSYAYDDKTSTF  234
GmTLP18  GVYG...DACNSTGCITDIN..RGCPKELQ..LLGGDQNQR.VVGCRSACEAFKTDKYCCSGAFANPN.TCQPSYYSTIFKKACPRAYSYAFDDGTSTF  206
GmTLP19  .......GSCRSTGCGRDLN..QKCPTKLK..VIIDGGD...VVGCQSLCQAHE................TCKSTLFSEFSKTKCPEAYQH......GSF  205
GmTLP20  GGG.....VGCGVASCEVDLN..VCCPSALE..VK.RNGK...VVGCKSACLAMQSAKYCCTGSYSDPK.TCKPTLFAHLFKAICPKAYSYAYDDSSSLN  229
GmTLP21  KGS.....GKCSYAGCVSDLN..TMCPVGLQ..VRSRDNKR..VVACKSACSAFNSPRYCCTGSYGSPQ.ACKPTVYSKIFKTACPKAYSYAYDDPTSIA  237
GmTLP22  NGT.....GNCSTVGCDGDLR..QNCPSELA..SK.DNDK...VIACRSACDVFNTDDYCCRGTYGNPA.TCLASNYSKIFKQVCPAAYSFALDDPTSLI  228
GmTLP23  GGL.....RGCNTTSSPSDVN..KVYPPSFS..VKGSDGS...VIACKSACLALNQPEYCCTGPFASAD.KCPPTPYSIIFKNMCPQAYSYAYDDRTSTF  165
GmTLP24  GGS.....RQCKAVTCRSDLN..RNCPSRLE..VRNQSH....IVGCKSACMAFNKPEYCCTGYFNSPK.KCQPTSYSKVFKASCPQAYSYAYDDATSTF  154
GmTLP25  GGS.....GECKTSSCPNNINDVNVCPSELQ..VKGSDGN...VIACNSACVAFNEDQYCCRGDYDTEE.TCPPTNYSQIFEEQCPDAYSYAYDDKSSTF  229
GmTLP26  GGS.....GDCKTSSCPKNIN..SVCPAELQ..VKGSDGN...VIACKSACEAFKEDRYCCTGPNNTAE.TCPPTNYSQIFEEQCPDAYSYAYDDKSSTF  249
GmTLP27  GGS.....GDCKTSSCPKNIN..SVCPAELQ..VKGSDGN...VIACKSACEAFKEDRYCCTGPNNTAE.TCPPTNYSQIFEEQCPDAYSYAYDDKSSTF  228
GmTLP28  GGS.....GECKTSSCPNNINDVNVCPSELQ..VKGSDGN...VIACNSACVAFNEDQYCCRGDYDTEE.TCPPTNYSQIFEEQCPDAYSYAYDDKSSTF  229
GmTLP29  GGS.....GDCKTSSCPKNIN..SVCPAELQ..VKGSDGN...VIACKSACEAFKEDRYCCTGPNNTAE.TCPPTNYSQIFEEQCPDAYSYAYDDKSSTF  247
GmTLP30  GGTLVDGSGPCPMVDCNKELS..SVCPLDLI..AGNKNDQ..YVGCNSPCDGYKDPKYCCNGN......GCQPDEISVKYKGLCPFAHTYPGDNQPPIY  224
GmTLP31  .......YNCSSVKCAADII..GECPTQLQ..VPG.........GCNNPCTVFNTTQYCCSTGAA....GCGPTDYSKFFKERCPDAFSYPMDDASSMF  210
GmTLP32  GGSG...AGNCSATGCVVDLN..TPCPTELK..VMSSGD....GVACKSACEAFDDPQYCCSGAYATPD.TCKPSSYSQFFKSACPRAYSYAYDDGSSTF  234
GmTLP33  GGS.....GSCAATGCGEDLN..QRCPSELR..VEGGD......ACQSACGAFGKPEYCCNGAFSNPS.TCKPSMYSQMFKSVCPKAYSYAYDDATSTF  228
GmTLP34  DGTR....GGCSATGCLVDLN..GGCPAELR..VARSNGSRG.SVACRSACEAFGDPRFCCSEAYSTPD.MCGPSPYSLFFKHACPRAYSYAYDDKTSTY  234
GmTLP35  ...........................................................................MFKAACPRSYSYAYDDATSTF   21
GmTLP36  EGK.....GVCPVVGCRDDLL..ATCPHVLQHRVPAVHGP...VVACKSGCEAFHTDELCCRNHFNNPS.TCKGSIYSSFFKHAYPATFTFAHDTPSLMH  234
GmTLP37  GGG.....AGCGVAACEANLN..VYCPSSLV..VE.RNGK...VVGCKSACLAAKSDRYCCTGEFAGGRYYCKPTVFARLFKTVCPNAYSYAYDDDSAVL  235
GmTLP38  DGIR....GGCSATGCLVDLN..GGCPAELR..VARSNGSRG.SVACRSACEAFGDPRFCCSEAYSTPD.TCGPSPYSLFFKHACPRAYSYAYDDKTSTY  234
GmTLP39  GGS.....GLCASTGCTSDLN..QQCPAELR..ASEGS......ACKSACEAFGSPEYCCSGAYGSPA.TCRPSIYSEMFKAACPRSYSYAYDDATSTF  227
GmTLP40  EGK.....GVCPVVGCRNDLL..ATCPRVLQHRVPAGHGP...VVACKSGCEAFHTDELCCRNHFNNPN.TCKGSIYSSFFKHACPATFTFAHDTPSLMH  234
GmTLP41  GGS.....GQCKAVTCQSDLN..RNCPNGLE..VRNQSH....IVGCKSACMAFNKPEYCCTGDFSNPR.KCQPTSYSKVFKASCPQAYSYAYDDATSTF  224
GmTLP42  NGK.....GNCSTAGCDSDLR..NSCPKELS..LR.ANGK...TVGCRSACDVFNTDEYCCKGNYGNPS.TCKPTFYSKKFKEACPTSYSYAYDDPTSIF  227
GmTLP43  GGT.....GDCKYAGCSEDLN..PACPAELQ..VKDGGGA...VVACKSACAAFNTAEFCCTGDHSSPQ.TCSPTRYSKIFKNACPAAYSYAYDDPSSIC  231
GmTLP44  GGT.....GDCKYAGCSEDLN..AACPAELQ..VKDGGGE...VVACKSACAAFNTAEFCCTGDHSSPQ.TCSPTLYSKIFKNACPAAYSYAYDDPSSIC  235
GmTLP45  GGT.....GDCQYAGCVADVN..GVCPAELQ..VRDGAGS...VVACKSACAAFNTAEFCCTGDHSTPQ.TCSPTHHSEIFKKACPTAYSYAYDDASSTC  234
GmTLP46  NGK.....GNCTTAGCDSDLR..ATCPNELA..VK.VNGK...TVGCRSACDVYNTDEYCCRGNYGNPS.TCNPTFYSKKFKEACPTSYSYAYDDPTSIF  227
GmTLP47  GVYG...TGVCNATGCVTDIN..RGCPKELQ..VVGGDGYQGGVVGCKSACEAFGSDQYCCSGEFANPT.TCQPSYYSTLFKQACPKAYSYAFDDATSTF  238
GmTLP48  GGSG...EKCTATGCVGDLN..GACPSELK..VMGADGREG.VVACKSACEAFNSPQYCCSGAYGTPD.TCKPSAYSAIFKSACPRAYSYAYDDKTSTF  236
GmTLP49  GGL.....RGCNTTSCPSDVN..KVCPPNFA..VKGSDGS...VIACKSARLALDQPEYCCTGPFASAD.KCPPTPYSVIFKNQCPQAYSYAYDDRTSTF  229
GmTLP50  GGS.....GSCAATGCGADLN..RRCPEELR..VDGGD......ACQSACRAFGKPEFCCSDAFNSPA.ACAPSMYSQIFKAACPKSYSYAYDDATSTF  228
GmTLP51  GG.....GNCTATGCAADLN..GGCPAELK..VKTVASGE..GVACKSACEAFGDPRYCCSGRYATPE.TCKASSYSQLFKSACPRAYSYAYDDATSTY  235
GmTLP52  GGT.....GDCQYAGCVADVN..GVCPAELQ..VRDGSGA...VVACKSACLALNTAEYCCTGDHNTPQ.TCPPTHYSEIFKNACPTAYSYAYDDASSTC  234
GmTLP53  GGSG...GKCSATGCVGDLN..GACPSELK..VMSGDGREG.VVACKSACEAFNSPQYCCSGAYGTPD.TCKSSSYSEIFKSACPRAYSYAYDDKTSTF  236
GmTLP54  GGS.....GTCGSTGCLADLN..QGCPNELR..VADRS......ACRSACEAFQSPEYCCSGAYASPA.TCKPSVYSQIFKSACPKSYSYAYDDATSTF  230
GmTLP55  ITN.....PKCNIPGCLKDLK..GLCPPELE..VLNSKGE...IVACKSACLAFDNDKFCCRNQYGSPG.KCKPSVYSKIFKDACPNYFSYAFDTPIPLV  235
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                         240
GmTLP1   .TCSG.AD.YTITFCP   243
GmTLP2   .TCAT.AD.YTITFCP   247
GmTLP3   .TCSS.HD.YTITFCP   249
GmTLP4   .TCMG.SD.YRVVFCP   223
GmTLP5   .TCPAGSN.YKVVFCP   223
GmTLP6   .TCTA.AD.YTVTFCP   244
GmTLP7   .ICKA.FE.YDIIFCP   251
GmTLP8   .ICKA.HR.YVITFCP   243
GmTLP9   .TCASAAA.YTITFCP   248
GmTLP10  .TCSA.SD.YVITFCP   153
GmTLP11  .TCVS.AD.FTITFCP   221
GmTLP12  .TCKA.YE.YDIVFCP   157
GmTLP13  .TCSK.AN.FVVIFCG   240
GmTLP14  .TCNGGTD.YRVVFCP   224
GmTLP15  .TCKGGTN.YRVVFCP   222
GmTLP16  .TCTK.AN.YFLTFCP   242
GmTLP17  .TCASAAA.YTITFCP   248
GmTLP18  .TCKA.NE.YDIVFCP   219
GmTLP19  .TCAS.AQYYTVTFCP   219
GmTLP20  .RCRA.PR.YVITFCP   242
GmTLP21  .TCTK.AN.YLVTFCP   250
GmTLP22  .TCSK.AD.FVVIFCG   241
GmTLP23  .TCSGGAN.YSITFCP   179
GmTLP24  .TCQG.AN.YLIRFC.   166
GmTLP25  .TCFNGPD.YAIIFCP   243
GmTLP26  .TCSNRPD.YAITFCP   263
GmTLP27  .TCSNRPD.YAITFCP   242
GmTLP28  .TCFNGPD.YAIIFCP   243
GmTLP29  .TCSNRPD.YAITFCP   261
GmTLP30  .QCKG.ADSYDITFCP   238
GmTLP31  .TCMGGSD.YRLVFCP   224
GmTLP32  .TCAS.AD.YTITFCP   247
GmTLP33  .TCSG.AD.YTITFCP   241
GmTLP34  .TCAN.AN.YLIIFCP   247
GmTLP35  .TCSG.VD.YTVTFCP    34
GmTLP36  .QCSSPRE.LKVIFCH   248
GmTLP37  KTCVA.PR.YVITFCP   249
GmTLP38  .TCAN.AN.YLIIFCP   247
GmTLP39  .TCSG.AD.YTVTFCP   240
GmTLP40  .QCSSPRE.LKVIFCH   248
GmTLP41  .TCQG.AN.YLIRFC.   236
GmTLP42  .TCTG.TD.YVIAFCS   240
GmTLP43  .TCSG.SD.YVITFCP   244
GmTLP44  .TCSG.SD.YVITFCP   248
GmTLP45  .TCSG.SD.YRITFCP   247
GmTLP46  .TCSG.TD.YVVAFCA   240
GmTLP47  .ICKA.FE.YDIVFCP   251
GmTLP48  .TCAS.AD.YTITFCP   249
GmTLP49  .TCSGEQT.IPSHFAP   243
GmTLP50  .TCTA.AD.YTVTFCP   241
GmTLP51  .TCAS.AD.YRITFCP   248
GmTLP52  .TCSG.SD.YRITFCS   247
GmTLP53  .TCAS.AD.YTITFCP   249
GmTLP54  .TCTG.AD.YTITFCP   243
GmTLP55  .SCAS.SE.FIITFCP   248
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X   non-conserved
X   similar
X   ≥ 80% conserved