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MRDVVSFEQPEFSVSRGDQVARTPVIRRVLDGGKSQVSYR PRIFFEPGHYTVMESCGDFEIRVVRRGDLSTHVTVDFE
 GUVGFPERDUELVESLGQFPLRVIRYSGARGRVVIPYR IIYFEPGHYTVMENCGEFEVRVVRRGDISGYSKVEFE TFEG GVI FEPGHTVMENVGSFEVGVTRAGGDSKPCTVDYC GKLRFTSATVNVDEDAGTVSIEVIRSGGSDGEVTVDYE

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VCFDRKTYHVSETDGFLSAPVERKGDTSSTVSALCY GFPNYTVMENVGNFTITVARLGGDNSTVYVDYK STVFLGNASFTLSEDKGVIEIPVIRQGSDLSSVTVWCA VFFEPCHYHCLENCGSVTLTVACQQGGEGTFYVDYK
 GSIRFSDKLTKIPESSGEAQFKVVRSSGARGMVRVPYK VEFHSASCAVLESAGKVIVIVERKGNIHNKVEIRVE PTLEFDKKTYRVNESAGFLFAPIERKGDSSSTVSAICY GVFSFEHDHFQI DENCGYLSLKIKRTSGCRGKIIVPYR GUFTFEEKVVHVSESDGTMKVKVDRNSGARGTVLLPYR VF GKFNFRNANYSCLE $\mathrm{G} \| \mathrm{FQF}$ PKFEF GTVSL PSMOLDSASYSVTESDGNIIVSVTRSAPSGVPISVDYS TVEF OLLAYTVKEKDGVLHIPIFRTGDLISYKSSVRCF TVEFDPPHYTCLENVGDVYLTVKCDRGADSTVTVHYR PTIEFERAEYSTREPDSVLSVTVIRSGDASEISKVRCS K A

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UniRef90 K9RV26
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UniRef90＿UPI00034B1114
UniRef90－A7BKS7
UniRef90－UPI00034F99A9 UniRef90＿UPI00034F99A9 UniRef90＿UPI00034F99A9 UniRef90－K7FWY2 UniRef90－K7FWY2 UniRef90＿A0YIM6
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| UniRef90-UPIOOOO46C0CF8 | 㑑 |
| UniRef9-UP10004600C | GVFEFSAESLLVNDGDSVIVLQVVRNQGALSCVTLHWI |
| UniRet90-UPIO0039917C6 | STVY $\square P Q S T Y T U E E D V G E L F P V R R S G D V S Q E L M V D C Y$ |
| UniRef90 UPI00046BF877 | SLQVVRDSSTALTMSVNM |
| UniRef90-UPIOO | 1 SLGVVRDSSTALTISVNYR |
| UniRef90-UP100 | SQI YE |
| UniRef90-UP100046C3B39 | $\checkmark$ SGDSYSQI YE |
| UniRef90-UP100046C3B39 | IVLS GDSYSQl YE |
| UniRef90-W5KY64 | DTYSTEEDTGELLDPVRRSGDVSQELMVICY |
| UniRef90_UPI0003C4902E |  |
| UniRefotouplod | GIVQFAPESLSALGPENITLIKRVQGTLGNIRVHWT |
| UniRef90 UPI0003822DF6 <br> UniRef90-UPI0003AF3A9 | RLNTSTVYVGEAAGTATVMVVRSGDLSSQNTVEYT |
| UniRef90-G3QBD0 | RFLETKLSVSEAVAAVRIPVVRVGDTSKVSVVRVH |
| UniRef90 U3K352 |  |
| UniRef90-U3K352 |  |
| UniRef90_U3K | StLQVLRDSSTSVTTMVSYS |
| UniRef90-W5M0 | LGQTDFVVNESSTTVRLII EKTGDPVNITALILL |
| UniRef90-W5M0X7 | LGQTDFVVNESSTTVRLIIEKTGDPVNITALILL |
| UniRef90-W5M0X7 | QTDFVVNESSTTVRLII EKTGDPVNITALILL |
| UniRee990 W5M0X7 | QTDFVVNESSTTVRLI:EKTGDPVNVTALILLL |
| UniRet90- K9TG17 | GLLEFTSSASSSGLEGNSTVVGKI RRSGGSDGEVTVQVQ |
| UniRef90-H2M | GVIGFAQDSLNFEVEELEISLTVERKRGSFGRLTVHWA |
| UniRef90-H2M3Y4 | GVGFAQDSLNEVELESTVERKRGSFGRLTVHWA |
| UniRef90-H2M3Y4 |  |
| UniRef90-UPIO002A49D | GIVQFSKDELVINEPSETISLLITRREGVMGNITVHWQ |
| UniRef90-UPIO002 | GUVQFSKDELVINEPSETISLLI TRREGVMGNITVHWQ |
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| UniRef90-UP100042COC9A UniRef9-UPI0003F120D1 | E |
| UniRet90_UP10003 | GIVQFAPESLSVLEGPENITLFIKRVQGTLGNIMVHWK |
| UniRet90-M7BZ56 | $V$ QFAPESLSVLEGPENITLFIKRVQGTLGNUMVHWK |
| UniRef90_W4X |  |
|  | NEIDGEMSAIITRSGDLSRPAGVRCY |
| UniRefao-M3ZY | EETKFSVNEPVSVVKSVLRVGDTSKVSVVRVH |
| UniRef90-H2YPT6 | ITPQAKYTVVEDUGELLVPLHRSGDATNEFMVRCY |
| UniRef90-13K170 | VLISSSTMSINEDHCHSSIVIVRIGGSYGEVSANWS |
| UniRef90-13K170 | SSSTISINEDHCHSSIVIVRIGGSYGEVSANWS |
| UniRef90_13K170 |  |
| UniRef90-Q6JANO | QTQFVVNESSAIVRLVVERVGDPMNVTALVLL |
| iRef90-Q6JANO | FVVNESSAIVRLVVERVGDPINVTALVLL |
| UniRef90 - 6 JANO | QTQFVVNESSAMVRLVVERVGDPINVA |
| UniRef90-UPIOOO3DOF8ED | DDEYYVDESAGFIEVVVWRTGDLSKSATVTVR |
| UniRef90-L5K6L6 | EWSQTEYEVCENVGMLPLEI ARRGYSMDSAFVSVK |
|  | SLEPTDKTVEEGKTNA FWI LRHRGRFGNVSVGWQ |
| iRet90-UPI | S SLETDKTVEEGKTNA FWILRHRGRFGNVSVGWQ |
| UniRef90_UPI00038EB984 | GLISLLEPTDKTVEEGKTNA FWIVRHRGRFGNVSVGWQ |
| UniRef90-UPIO00194DEB1 | EYEVCENTGVVSLKIMRAGHLGESAFITVK |
| UniRef90-LiJl | SFLETAGEVFVPIVRYGNVDCATTVSYE |
| niRet90_UPI |  |
| UniRef90_W5LL | GRFGFEELTUTVSEPASRANLTVVRSAGGEGTVYLIWI |
| UniRef90 - 661 DE7 | A IIRFGATKFSISEPSSVVKIPVQRTGDDSKVSVVRVH |
| UniRef90-G3QBD1 | DGYVEVKVRTGSDTGTVTVRSR |
| UniRef90-UTQES7 |  |
| UniRef90-E9CFB1 | S SAS ${ }^{\text {a }}$ T TRARGSVGTVTVRFN |
| UniRet90-E4W | desvicles anl IVRLVRHERCLEEATVKWR |
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| UniRef90-F2U UniRef90-F2U |  |
| UniRef90-L8M | NENQTNVTFTVSLAEASNKTUTVDYS |
| UniRef90-M3ZDD8 | GTYQFAPGSLVIAEDTQTI ThYVQKLYGSRSNMTLSYT |
| UniRef90_M3ZDD8 |  |
| UniRet90_M3ZDD8 | GLYQFAPGSLVIAEDIQTLT MVQKLYGSRSNMTLSYT |
| Rei90-G3 | GTHGNVSVNWV |
| UniRet90-G3SU | NVSVNWV |
| UniRet90-G3SUX9 | ETVVRNGGTHGNVSVNWV |
| UniRef90-HoV266 | GVLSFSSVLFEIDEDTTSQEISVVRNGGTHGNVSVNWV |
| UniRef90-HoV266 | GVLSFSSVLFEIDEDTTSQEISVVRNGGTHGNVSVNWV |
| UniRe990-F6C | LHFGDAEYHVEESAGSVEVCVWRTGDLSQASSVAVR |
| UniRef90-UP1 | G VQFTEDALRSTEAEGPLN: |
| UniRer99-UPP003ECC1220 | G VGFTEDALRSTEAEGPLNISIMRREGVMGNITVHWR |
| UniRef90-UP10003EC1220 | GIVQFTEDALRSTEAEGPLNISIMRREGVMGNITVHWR |
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| ef90_UP1000328F6E4 |  |
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UniRef90_UPI00042C0C9A UniRef90_UPI00042C0C9A UniRef90_UPIO003F120D1 UniRef90-M7BZ56 UniRef90-M7BZ566 UniRef90-W4XRF6 UniRef90-H2YPT4 UniRef90-M3ZYC0 UniRef90-H2YPT6 UniRef90-13K170 UniRef90-13k170 UniRef90-H2Y542 UniRef90-Q6JANO UniRef90-Q6JANO UniRef90_Q6JANO UniRef90-B6FVE5
UniRef90-UPIOOO3DOF8ED UniRef90-L5K6L6 UniRef90_UPIOOO38EB984 UniRef90-UPIOOO38EB984
UniRef90- UPIOOO38EB984 UniRef90-E4YJC0
UniRef90-UPIoo0194DEB1 UniRef90-LiJEP1 UniRet90_UPI000440C158 UniRef90_W5L568 UniRef90 B6IDE7
UniRef90 G3QBD1 UniRef90-U7QES7 UniRef90-UP10003C25FAA UniRef90-E9CFB1 UniRef90-E4WWF2 UniRef90-E4WWF-2 UniR Ref90-F2UFL8 UniRef90-L8M549 UniRef90 M $3 Z D D 8$ UniRef90-M3ZDD8 UniRef90-G3SUX9 UniRef90-G3SUX9 UniRef90-G3SUX9 UniRef90-HOV266 UniRef90-HOV266 UniRef90-HOV266
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| UniRef90_UPI00046C0CF8 |  |
| UniRef90_UPI00046C0CF8 | EMFSVLI I NVVSS G R L Gl R T N A ALLTVLD P |
| UniRef90_UPI00046C0CF8 | EMFSVLI I NV S S G R L G I R T N A A L T V L D P |
| UniRef90_UPI00039917C6 | E T F DVLLS MPM G GR I GA EFPSTRITIV |
| UniRef90_UPI00046BF877 | KRFQVVLSNPTGGARVDDAG\ANITIV |
| UniRef90_UPI00046BF877 | KRFQVVLSNPTGGARVDDAGI A NIITIV |
| UniRef90_UPI00046BF877 | KRFQVVLSNPTGGARVDDAGI ANI TIV |
| UniRef90_UPI00046C3B39 | EFFTVVWLK N P K G G A Ell G A S G Y I N |
| UniRef90_UPI00046C3B39 | EFFTVVWLK N P K G G A Ell G A S G Y I Nil |
| UniRef90_UPI00046C3B39 | EFFTVWLK N P K G GAEI GASGYIN I |
| UniRef90-W5KY64 | ESFNITLSMPMGGRLGQEFSTTRI |
| UniRef90_UPI0003C4902E | ENYVVELVSVEGGADLDQEKRATVLAND |
| UniRef90_UPI0003C4902E | ENYVVELVSVEGGGADLDQEKRATVLAND |
| UniRef90-UPI0003C4902E | ENYVVELVSVE G G A DLDQEKRATVLAND |
| UniRef90_UPI0003822DF6 | ET F Al GLQ N P G S GS L GAPRTVLVSI DD |
| UniRef90_UPI0003AF3A9D | E A F TL HL K P DENMVA E T Q VT K V I V Y |
| UniRef90_G3QBD0 | E A F T L H |
| UniRef90_U3K352 |  |
| UniRef90-U3K352 | K R F Q V V L S N P T G GARVD D Y Gl S Nil TIV |
| UniRef90_U3K352 | KRFQVVLSNPTGGARVDDYGI SNI TIV |
| UniRef90_U3K352 |  |
| UniRef90-W5M0X7 | E A F S L RL Q S A A P GVRL G LP S TA TVVTIL |
| UniRef90-W5M0X7 | EAFSLRLLQSAAPGVRLGLP S T A TVVTIL |
| UniRef90-W5M0X7 | E A F S L R L Q S A A P GVVRL G L P S T A T V $\mathrm{T}_{\text {I }}$ |
| UniRef90-W5M0X7 | E A FS L R L Q S A A P GVVRL GL P S T A T V T I L |
| UniRef90_D7PS89 | EKFEVVSLAS P VA AVLK D N S R A T I S I K D |
| UniRef90_K9TG17 |  |
| UniRef90-H2M3Y4 | E S V T I T L M D V T |
| UniRef90-H2M3Y4 | E S V T I T L M D V |
| UniRef90-H2M3Y4 | E S V T I T L M D V |
| UniRef90_UPI0002A49DEC | ELYVVVQLT DVKGGATLDAN |
| UniRef90_UPI0002A49DEC | $E L Y V \vee Q L T D V V K G G A T L D A N$ |
| UniRef90_UPI0002A49DEC | ELYVVVQLT DVKGGATLDAN |
| UniRef90_UPI00042C0C9A | $E F F T V W L K N P K G G A E I G A S G Y V N I$ |
| UniRef90_UPI00042C0C9A | EFFTVWLK K P K G G A EII GASGYVNI |
| UniRef90_UPI00042C0C9A | EFFTVVWLK NPKGGAEI GAS GYVNII |
| UniRef90_UPI0003F120D1 | ESFSVSLS LTM G G Q L GAKPl TR V T L L |
| UniRef90-M7BZ56 | ENYVVELVSVEGGADLDQDKRVTVLAND |
| UniRef90-M7BZ56 | ENYVVELVSVE G G A DL D Q D K RVTVLA ND |
| UniRef90-W4XRF6 | ET F Sl I L G P T G N L L G P V T A TVTVID |
| UniRef90-H2YPT4 |  |
| UniRef90-M3ZYC0 | EAFTVHLKPDENMVAETKMS |
| UniRef90-H2YPT8 | ESFTVRIADVNMA AKDG NEKAII Y I N |
| UniRef90-H2YPT6 | EAFKVKKLVS PMGG R L G NFSTTEVVVI |
| UniRef90-13K170 | EAFIFKLSTVTGNAEVDEPIEMVFYI Q D |
| UniRef90-13K170 | EAFI F K L S TVVTGNAEVVDEPI E M V F Y I Q D |
| UniRef90-I3K170 | EAFIFKLSTVTGNAEVDEPIEMVFYI Q D |
| UniRef90-H2Y542 | ET F FVVHL N SVVHKAQLTK P Y E A L I VL ND |
| UniRef90_Q6JAN0 | ET F VLR L Q S S S N GVTVGGTPNTATI TIIL |
| UniRef90-Q6JAN0 |  |
| UniRef90_Q6JAN0 | E TFVLR L Q S S S N GV TVVGTPNTA T I TI |
| UniRef90_B6FVE5 | NSFTVELNTP T N G T I T G F N T P A RVVI R D |
| UniRef90_UPI0003D0F8ED | EKFELVLRMP MSATLGEPSKATVFIND |
| UniRef90_L5K6L6 | EVFEVILNSP VNAVLGT K T K A AVKILDD |
| UniRef90_UPI00038EB984 | E FYVV KLI N |
| UniRef90_UPI00038EB984 | EFYVLKLI N |
| UniRef90_UPI00038EB984 | E F Y V L K L N |
| UniRef90_E4YJC0 | TNLI E ELQQPTNNAR\GHQRSTN |
| UniRef90_UPI000194DEB1 | EVFEVVLNSP VNAVLGTQTKAVVKILD |
| UniRef90-L1JEP1 | ENFLVNLTVDDQQSRLGLRDSTKVTI I D |
| UniRef90_UPI000440C158 | ETFELELFDPSANNAI R C K T Q V Dild |
| UniRef90-W5L568 | ERFTV QLLSAENEAVINTRNMATVVI |
| UniRef90_B6IDE7 |  |
| UniRef90-G3QBD1 | ESFELVLRMPVNG I L G E P GKAKVFIND |
| UniRef90-U7QES7 | ETVNFALTNPNPK LTL G S P D T A T I T |
| UniRef90_UPI0003C25FAA | EELRLVLGGTPQF GASVGEQNETLI KI R D |
| UniRef90-E9CFB1 | EVF GVRLE\\|VSGGAVDS T A S NVLVT |
| UniRef90_E4WWF2 | ENFKI TLLDQPIN A SLLGDKTECSVISLLN |
| UniRef90-E4WWF2 | ENFKITLDQPIN A S L G D K T E C SVVSLL N |
| UniRef90-F2UFL8 | EQSVFRLLTA S NGATV D A A S A A L T L T V D P |
| UniRef90_F2UFL8 | EQSVFRLLTASNGATVDAASAALTLTVDP |
| UniRef90-L8M549 |  |
| UniRef90-M3ZDD8 | E YFYVNLTHV |
| UniRef90-M3ZDD8 | E Y F Y V N L T HV |
| UniRef90-M3ZDD8 | E Y F Y V NLT HV |
| UniRef90-G3SUX9 | EELQI QPRTI R G GAEVSEPAELLFYTQ D |
| UniRef90-G3SUX9 | E ELQI QPRTI R G GAEVSEPAELLIFYI Q D |
| UniRef90-G3SUX9 | EELQI QPRTI R G G A EVSEPAELLFYI Q D |
| UniRef90-G3SUX9 | EELLQI QPRTI R G G A EVV S EPAELLIF |
| UniRef90_H0V266 | E A Y L L R I H TIIR G G A EVV S E P A ELL F Y I Q D |
| UniRef90-H0V266 | E A Y L L R I H TII R G G A EVV E P A ELL F Y I Q D |
| UniRef90-H0V266 | EA YLLRI H T I R G GAEVVSEPAELLIFYI Q D |
| UniRef90-F6QGV2 |  |
| UniRef90-UPI0003EC1220 | ELY I L Q L T F VEGGGTLLDA |
| UniRef90_UPI0003EC1220 |  |
| UniRef90-UPI0003EC1220 | ELY C L Q L T F V E G G G T L D A N |
| UniRef90-UPI0003EC1220 |  |
| UniRef90_UPI0002A4CB05 |  |
| UniRef90_UPI000328F6E4 | EAFRVLLSAPMGGRVGPAFPGARVA\L |
| UniRef90_S4RE61 | E T F QLKLVMANGGARVNSQA |
| UniRef90-S4RE61 | E T F Q L K L VMANGGARVNS Q A |
|  |  |



## UniRef90 F7FKC9 UniRef90-F7FKC9 UniRef90-F7FKC9

 UniRef90 UPI000328A1FA UniRef90-UPI000328A1FA UniRef90-UPI000328A1FA UniRef90-UPIO0044485CC UniRef90-UPIO0044485C0 UniRef90-UPIo0044485CC UniRef90-F1RA51 UniRef90-A9W9Y0 UniRef90-C5K7A7 UniReftoo-A9B495 UniRef90-W5Q4U7 UniRet90_W5Q4U7 UniRef90-W5Q4U7 UniRet90-W5Q4U7 UniRet90_W4ZGR3 UniRef90-W4ZGR3UniRef90
W4ZGR3 UniRef90-F7FXQ0 UniRef90-F7FXQ0 UniRef90-F7FXQ0
UniRef90 F7FXQ0 UniRef90-UPI00023ACF9E UniRef90-G8ATD4 UniRef90-V4AGX3 UniRef90-H2PG29 UniRef90-H2PG29 UniRef90_UPIOOO3F11C2B UniRef90-UPIo003F11C2B UniRet90_UP10003F11C2B UniRef90-A1TAVO UniRef90_UPIO003F09061 UniRef90_UPIOOO3F09061 UniRef90_UPIOOO3F09061
UniRef90 UPIO003F09061 UniRef90-UPIOOO443CC48 UniRef90_UPIOOO443CC48 UniRef90-UPIO00443CC48 UniRef90_UPIo00333F033 UniRef90_UPIo00333F033 UniRef90-UPIo00333F033 UniRef90-M4ZXP2 UniRef90-UPIO002654FE1 UniRef90-UP10002654FE1 UniRef90_UPIO002654FE1 UniRef90-UPI0003769FB6 UniRef90_W6NTK5 UniRef90-HOX6E5
UniRef90_HOX6E5 UniRef90-H0X6E5 UniRet90_O5H8B9 UniRef90-11G6S3
UniRefol $11 G 6 S_{3}$ UniRef90-11G6S3 UniRef90-A6C910 UniRef90-A6C910 UniRef90-A6C910 UniRef90-A6C910 UniRef90-Q118M9 UniRef90 UPIOOO375E9A2 UniRet90_Q8WXG9 UniRef90_Q8WXG9 UniRef90_O8WXG9 UniRef90-O8WXG9 UniRef90-UPIO00440090F UniRef90-L5KLR5 UniRef90-LKKLR5
UniRefon
UKLLR UniRef90_L5KLR5 UniRe990 UPIO004575102 UniRet90-UPIOOO4575102 UniRef90-UPIO004575102 UniRef90_UP100045DF42 UniRef90-UPIOOO45DF421
UniRef90-UPIOOO45DF421 UniRef90-UPIOOO45DF421
UniRef90 UPIOOO3623CA6 UniRef90-Q9GV77 UniRef90-UPI0001D39482 UniRef90_UPIO001D39482 UniRet90 UPI0001D39482 UniRef90-UPIOOO1D39482 UniRef90-UPIO003332817 UniRef90-UPIO003332817 UniRef90_Q3ASL6



## UniRef90 UPI0003346761

 UniRef90-UPIOOO3346761UniRef90_UPIOOO3346761 UniRef90-F6QMU2 UniRef90-F6QMU2 UniRef90-E9FM822 UniRef90-EOUNC4
UniRef90 Q10W9 UniRef90-EOULQ2 UniRef90-B4D118 UniRef90-F6YYZO UniRef90-F6YYZO UniRet90-F6YYZO UniRef90_Q501W6 UniRef90_UPIO0042AE21A UniRef90 UPIO0042AE21A
UniRef90 UPIOOO42AE21A UniRef90- E3LP54 UniRef90-UPIO0046B302B UniRef90 UPIOOO46B302B UniRef90_UPI00046B302B UniRef90-UPIO0046B302B UniRef90-UPIOOO32B0101 UniRef90_UPIOOO32B0101 UniRef90-UPIO0032B0101 UniRef90-S6EN61 UniRefofo-K1QX77 UniRef90 K1QX77 UniRef90-K10X7
UniRef90- A810V5 UniRef90-L9JP79 UniRef90-L9JP79 UniRef90-L9JP79 UniRef90-D4ZQ91 UniRef90_K9UAC1 UniRet90_EOUGY6 UniRef90-Q8VHN7
UniRef90 Q 8 VHN 7 UniRef90-Q8VHN7 UniRef90-Q8VHN7
UniRef90 E4YP33 UniRef90-14G024 UniRef90-UPI000273C9AB UniRef90-UPI000273C9AB UniRef90-YOKIN4 UniRef90_B8JJEO UniRef90_B8JJE0
UniRef90 B8JJE0 UniRef90-UPIO00372541B UniRef90-UPI0003D70ED6 UniRef90-UPIO003D70ED6 UniRef90-UP10003D70ED6 UniRef90-UPIO004418EOF UniRef90_UPIO004418EOF UniRef90-UPIOOO4418EOF
UniRef90-UPIOOO4418EOF UniRet90_K9ZQB4 UniRef90-Z5X8N7 UniRef90_G3P8K5 UniRef90-G3P8K5 UniRef90-G4V5K3 UniRef90-11X4T0 UniRef90-U5D7G8 UniRef90_D4ZQ98 UniRet90-Q10W90 UniRef90-UPIO003C8A28B UniRef90_UPIIO003C8A28B UniRef90-UP10003C8A28B
UniRef90-UP10003C8A28B UniRef90_S7N412 UniRef90-S7N412 UniRef90-STN412
UniRef90- $77 N 412$ UniRef90-UPI000363D830 UniRef90-W6ECS5 UniRef90-W4GQK4 UniRef90-Q114P2 UniRef90-BOJFX2 UniRef90 G3HL68 UniRef90-G3HL68 UniRef90-A6CBS1 UniRef90-C9YDB2 UniRef90-G1NT16 UniRef90-G1NT16 UniRef90-G1NT16 UniRef90-C1LGZ7 UniRef90-x1L434
UniRef90_UPIOOO34BOD3D

10
$T \vee V$ V 20
 KGMFEDEATSYDVEKGKPITVTIKRVGGSKGATTVRFD

 $G V V G F A Q N S V E E M E Q D N L V T L N V E R D K G T Y G H I D T V A W E$

 al G V L S F N S

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F K FKVKRGGNGTVTVKWL PTLADADAADSGNSGSKLLSFTVTLSAASATAVSVSYA

KGTVSAS $\square$ SDVT LTEGNQQ

VShAKEMDTVDEADKELIVTVKRRGYLGETAFVSVN SLVTLYASTSTVTEDGTTL

 QNLT Y T
LK P $\quad$ FHFSDRT


GT TSVATFTV


ASHATFRVTRS
Q $\square \mathrm{S} \square \mathrm{RDT} \mathrm{Q} \| \mathrm{KEG}$
DTNARFVVTLDNPSPERVVVNYD


UniRef90_UPIO003346761 UniRef90-UP10003346761 UniRef90_UPIOOO3346761 UniRef90_F6QMU2 UniRet90_F6QMU2 UniRef90-E9FM82
UniRef90-EOUNC4 UniRef90-Q10W91 UniRef90-EOULQ2 UniRef90-B4D1188
UniRef90 F6YYZO UniRef90-F6YYZO UniRef90-F6YYZO UniRef90-F6YYZO UniRef90_UPIO0042AE21A UniRef90_UPI00042AE21A UniRef90-UPI00042AE21A UniRef90 E3LP54 UniRef90_UPIO0046B302B UniRef90-UPIOOO46B302B UniRef90-UPIO0046B302B UniRef90-UPIOOO32B0101 UniRef90_UPIOOO32B0101 UniRet90-UPIOOOZ UniRef90-K1QX77 UniRef90-K1QX77 UniRef90-K1QX77 UniRef90-A810V5 UniRef90-L9JP79 UniRef90-L9JP79 UniRef90-L.JP79 UniRef90-K9UAC1 UniRet90_EOUGY6 UniRef90-O8VHN7
UniRef90 $\mathrm{Q} V \mathrm{VHN7}$ UniRef90-Q8VHN7 UniRef90-Q8VHN7

UniRef90 E4YP33 UniRef90-I4G024 UniRet90_UPI000273C9AB UniRef90 UPIO00273C9AB UniRef90-YOKIN4 UniRef90-B8JJEO UniRef90-B8JJE0 UniRef90-UPIOO0372541B UniRef90_UPI0003D70ED6 | UniRer90_UP10003D70ED6 |
| :--- |
| UniRef90 UPIO003D70ED | UniRef90_UPIOOO4418E0F UniRef90_UPIOOO4418EOF

UniRef90_UPIOOO4418EOF UniRef90-UPIOOO4418EOF UniRef90-K9ZQB4 UniRef90-Z5X8N7 UniRef90_G3P8K5 UniRef90-G3P8K5 UniRef90-G4V5K3 UniRef90-11X4T0 UniRef90 U5D7G8 UniRef90-Q10W90 UniRef90_UPI0003C8A28B UniRef90_UP10003C8A28E UniRef90_UPIO003C8A28B
UniRef90-UPIO003C8A28B UniRef90-S7N412 UniRef90-S7N412 UniRefgo-S7N412
UniRefon-S7N412 UniRef90-UPI000363D830 UniRef90-W6ECS5 UniRef90 W4GQK4 UniRef90-B0JFX2 UniRef90_G3HL68 UniRef90_G3HL68 UniRet90_G3HLL68 UniRef90-C9YDB2 UniRef90-G1NT16 UniRet90-G1NT16 UniRet90-G1NT16 UniRef90-G1NT16 UniRef90-C1LGZ7
UniRef90-X1L434
UniRef90_UPIO0034B0D3D

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60
70
80
TRNNSDPSPDDTRPSSGVLHFAQGQMपAS\|PLLTVVSEEA TRNNSDPSPDDIRPSSGVLHFAQGQMLASIPLTVVSDEEA
A


TEPGTGVHGKVYQDTTQDVTFADGETEKTVTIPTIDFTEQ PSDGTAIGPNDYNSDPITSLIFADGETAKTVTIPLIDFEGS TVEGSAKSGKDFQNQKGVVTFKPGQTKKTVNVPTLGDEKT TKDGSANSSLDYAATAGTLTFAPGVTSQTIAVATI EDEFD TSDGTATAPAFYASQSGSVSWADGDNSKTITIPIVSFTGV
A G G SVSDMFPTSGVISFSEGQALSAVTLTVLADEVS
A $A$ G
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TE DGTA

| $T$ | $E$ | $D$ |
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$\left.\begin{array}{lllll}\hline L & E & E & & \\ L & E & E & & \\ L & E & E & & \\ T & A & D & G & T\end{array}\right]$


T S NGTA
 A Y G G A A K E E Q D F R L E S TVVVAS A YGGAAKEEQDFRLESTVVSFQAGQNETEIVLIFVDDEGQ

 TADGTATAGEDYRRTTGRLDFRPGQTRQVI NVPVVGDEPD V
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 TANGSAVAGSDYTATSGILTFAAGETQRTVAVPI TDDEND TSNGTATTGSDYNATSGTLTFSGSTTMQNIPVKINGDEND TSDDDASATAFYT SSQRLHFAPGVTSVTFAMTVHDNAVL TQEGSAKSGKDFQNKRGVLTFQPGQTKKIVSMPIFGDEND









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| :---: | :---: |
| Refo - ${ }^{\text {P10003346761 }}$ | EAYLLQiHt QGGAEVSEPAELLEY:QD |
| UniRef90-UP10003346761 |  |
| $\begin{aligned} & \text { UniRef90-F6QMU2 } \\ & \text { UniRe90 F6QMU2 } \end{aligned}$ |  |
| UniRef90-E9FM82 | K |
| UniRet90-EOUNC4 | ALSNPTGDANVGTQNTATLIINNP |
| UniRet90-Q10W91 | EQFQVKLSGAQNAELSDSKGVGRIQDND |
| UniRet90-EOULQ2 | ENFLVVLSNPCLATLGDNQG |
| UniRef90-B4D118 | KSFNVTL NVGGVVVNS |
| UniRef90-F6YYZ0 UniRef90_F6YYZ0 | ETVI |
| UniRef90-F6YYZ0 | ETVIITLTSITTEGVEDPSKGA |
| UniRef90-F6YYZ0 | ETVIITLTSUTTEGVEDPSKGAT |
| UniRef90 Q501W6 UniRef90-UPI0004 | EHFLVVHLSNVKVIAGLGGLPSTATVAI |
| UniRef90-UPIO0042AE21 | Rratl ElSaAdEl El SPMKGSASIII |
| UniRef90-UPIOOO42AE21 | RRFTUELSAADELEUSPMKGSAS |
| UniRef90-E3LP54 |  |
| Ref90 UP100 | VYQV |
| UniRef99-UP1000 | $\checkmark$ YQV |
| UniRef90_UPI000 | Y Q V |
| UniRef90 UP10004 |  |
| UniRee90 UPIOO | EDCMIRLISVEGGAELL |
| UniRef90 UPIooo32B0101 | DCM RLSVEGGAEL |
| UniRef90-S6EN61 | KDFYLEISSPDNGAQ |
| UniRef90-K1QX77 | KTYQLILSDAAPGS GMNSVANFTLDP |
| UniRef90_K1QX77 |  |
| UniRef90 K1QX77 | KTYQLTLSDAAPGS ${ }^{\text {S }}$ SMNSVANFTILDP |
| UniRef90-L9JP? | RRFTl |
| UniRe990-L9JP79 |  |
|  |  |
| iRef90_D4ZQ91 |  |
| UniRef90 K9UAC1 | ETFRLDLSDAVNASMAVTSATGTLLNDD |
| UniRef90-08 | KRFQIVLFDPKGGARIDKYGTANITLI |
| UniRef90-Q8VH | KRFQ V |
| UniRef90-Q8VHN7 | KRFQ |
| UniRef90 E4YP: | ENFDVQLSDPTM TILEDPSRATVEIID |
| UniRef90-I4G024 | ETVVLTLASGANYTIATTNSVTGTILND |
| Uni |  |
| Reto- Yokin | ESFLI LLKDTGDAVLLNPSMVQV |
| iRef90_YOKIN4 | ETFFVNLSGATNATUADSQGUGTUIDND |
| UniRee90- ${ }^{\text {a }}$ | EVYOVVLYDV |
| UniRef90 - 8 8JJE0 | EVYQVVLYDVK |
| UniRef90-UP1000 | ESFYVALSNPQGL |
| Unir | Fll ELTAADEVE!SPV |
| UniRef90-UP10003D70E UniRef90-UPIOOO3D70E |  |
| UniRef90-UPIO | ERVVVTLEDPSKGATIIDQKRNKSV |
| UniRef9-UP10004418 | EIVIVTLEDPSKGATIDQKRNKSV |
| NiRef90 UPI0004418E0F |  |
| UniRef90 UPI0004418EOF | ETVIVTLEDSPS |
| UniRef90-Z5×81 | TVVSAPANATLADA |
| UniRef90-G3P8K5 | SDPEGGAQ GFGAFAK T |
| UniRef90-G3P8K5 | FFiYLSDPEGGAQUGFGAFAK T L |
| UniRef90-G4V5K3 | $V \mathrm{QLGEPV}$ |
| niRet90_11 ${ }^{\text {ato }}$ | SVTLSNATGGATIDDDGV |
| 50 | QLRLSNASGAA |
| UniRef90-D4ZQ | RVILSRPQNAELGRRQAT |
| UniRet90-UP10003C8A | FHLTLQKTSANVKLGWPRTVTV |
| UniRef90-UP1000 | LQKTSANVKLGWPRT |
| UniRef90 UPI0003C8A28B |  |
| UniRef90_UP10003C8A28B | ETFHLTLCKTSANVKLGWPRTV |
| UniRef90-S7N412 | ETFVIKLTLAKGQAKLDSRAN |
| UniRef90_S7412 | V 1 KL |
| UniRee90-S7N422 |  |
| UniRef90 ${ }^{\text {W6ECS5 }}$ | EYFYitisnatgantlk dnra |
| UniRef90-W4GQK4 | KQFKVVLRDPSVDASIGNQDSAVV |
| UniRef90-Q114P2 | QVKLSGAENGNFSDNTAVGK |
| UniRef90-B0JF | ESFSVNLTNPNGALGTDRGNVT |
| UniRef90 G3HL688 | RHFTIELTAADEIEISPMKGSASII |
| UniRef90-G3HL68 |  |
| UniRet90-A6CBS | ERLLVNLSNLQAGAVSFADTHGVITIL |
| UniRef90-C9YDB2 | ESFNINLSNAVGAVITDSQGV |
| UniRef90-G1NT16 | AYLLQIHTIRGGAEVSEPAELL |
| UniRef90_G11 | E A |
| UniRef90-G11 | EAYLLQ1 HT: |
| UniRef90-G1NT16 UniRef90 C1LGZ7 |  |
| ef90 ${ }^{-} \times 1$ L434 |  |
|  |  |






## UniRef90 S3IXDo

 UniRef90-C3Y1V8 UniRef90-D7G5BC UniRef90-UPI0002B47FA0 UniRef90-A2EHG3 UniRet90-D8G4K6 UniRef90-D4ZPL6 UniRef90-D4ZPL6 UniRef90-T2M8GO UniRef90-V4ANB3 UniRef90-V4ANB3 UniReftol-KgVaK2 UniRef90-14GND6 UniRef90-12GLQ6UniRef90 BoJWV7 UniRef90-F9ZCT4 4 UniRef90-H3CHJ9 UniRef90-UPIO003EEODAE UniRef90-A9V949 UniRef90-A9V949 UniRef90 W5MYY6 UniRef90-E8R3W4
UniRef90 K9P4D8 UniRef90-EOUHWO UniRef90-A6E5W6 UniRef90-V9EXJ9 UniRef90-K6W4E3 UniRef90-14Gz92 UniRef90-B1 X089 UniRef90-D3YYF1 UniRef90_UPIOOO34BB826 UniRef90-A3VZ42 UniRef90_11EEM7 UniRef90-Q8VHN7-5 UniRef90 W4XZ21
UniRef90 A0A024L UniRef90-A0AO24
UniRef90-E11H97 UniRef90-A0AO28V9, 6 UniRef90-A0A028VgJ6 UniRef90-A0A028V9J6 UniRef90-F4L4Q0 UniRef90-F4L4Q0 UniReffo-E9C703 UniRef90-W4GXV5 UniRef90-S6APB5 UniRef90-UPI000440FABD UniRef90_B1KFJ8 UniRef90-KODOZ4 UniRef90-UPI000441BCBA UniRef90-AOLHU8 UniRef90-H2RQR3
UniRef90 UniRef90-BOJFG0 UniRef90-O16858 UniRef90-UPIooo347BBD4 UniRet90-FOBAJ1 UniRet90_A7RSNO UniRef90-L8LHX8
UniRef90 $074 \mathrm{GG7}$ UniRef90-Q74GG7 UniRef90-Q74GG7 UniRef90-UPIOOO3F08499 UniRef90-F2AMHO UniRet90 UЗH8A5 UniRef90_U3H8A5

UniRef90 U3H8A5 UniRef90-F6SR74 UniRef90 Q7UDU8 | UniRef90-Q7UDU8 |
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| UniRef90 | UniRef90_-14H7R1 UniRef90_K9ZN53 UniRef90-UPIO0037D5E41 niRef90_G5ZYA8 UniRef90 UPIOOO34A779B UniRef90-UPIOOO47D5619

UniRef90- UPIOOO47D5619 UniRef90-O16859 UniRef90-K9SK00 UniRef90-QO1621 UniRef90-F2UHC2 UniRet90-F2UHC2 UniRef90-F2UHC2 UniRef90 W5L594 UniRef90_A9V5YO
$-5$ U643 9J6


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 TMDGTAKGGPDYDSNSGVLYFAHGETSKQJSVNLNKEKMH SVDGTATSGTNYTGDSGTLTWADGDTTRVLTFPMFQYPAS SI GGGASAGSDYAVVKTTLVFPKNGQVQKVNVRDFEDEPD
-




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 PTSSSPATADD DYLSDDTTVVIGAGESAVTVPIVRVYDDELS


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UniRef90-UPIOOO363D87C UniRef90-G3VDW8 UniRet90_W4HQ17 UniRef90-FOYED8 UniRef90_UPIOOO255B22A UniRef90_M5R.J04
UniRef90-17ZK13
UniRef90
Q4BYZ6
UniRef90-11G7C2
UniRef90-G9MAJ88
UniRef90 A9E3G2
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UniRef90-A1ZX73
UniRef90 UPIOOO29A3CEA UniRef90 U7QAEO UniRef90-K9XMC3 UniRef90-A8YG54 UniRef90_UPIO0034953FC UniRef90_A0Z5C8



UniRef90 T1IE55 UniRef90-UPIO00477C012 UniRef90-UPIO0036C66FA UniRef90_F5UNF8 UniRef90_11G7C3 UniRef90 K K WJV8
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UniRef90 K9YWV8 UniRef90-A7BMD2 UniRef90-L7WE93 UniRef90-LTWE93 UniRef90 LTWE93
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AFSVGDVTVAEDGGSASVPVSTTTPSSDTVVSTT A F SVGDVTVAEDGGSASVPVSITTPSSVDTVVSIT AF AVGDVTVAEDGGSASVPVSITTPSSVDDVVSVT

AFSVGDVTVAEDGGSASVPVSUTTPSSVDTVVSIT
TEGDTEASFTVSRTGDLSAEVTVDWA KSQYTFSSSE VKKASKQAVVTVRRTAGENYFDTIXVG GSLLSLVQRSRGSAGVATVCVQ PQVSFTQELFIVTEGSNDAIIYLKRSASVEEEVSVRVS TVSMGQTEISVKENKGDFNVPIEVEGTQNGPIMITVE RPTVNTTTQSTVVTEGVGSLQVTATLSKTSASSITIPVS PEVSLSANQDDVSEGGGASFNVSLDQDATEDVTVSFS KPNDYFNTTSSSGDGGTPFTFTVTLSVPSSQTVTVNYA

FNTSSSGDESVSSVALAVDLS KPNGYFN

ITVVSDSVNEDAGTTNYVFTYTGSTVQDATVTYN T $\square$ S A KTTDGNEA

GVLTDNNATDEGDSGTQATPFTVSRS
SPAGGGVTFDIA SVDEAAQQQTHTVTRTGATQVASSIDFS
PTYDFSRS $\square$ F EVSEGDG SVNEGEAATYTITLDKASNQPVTLTVS GVFSFEQPDVVVREGEQPAGUVVKRNGAFGAVEVAWH GVFSFASATQLVREDAGVSVPIRRRLGVSTAVVVSNA VGFASSTFHCVEGTETGA VI VRRKDFDQVISVAYA VLNVQNANVTVEA

EDVIVDEGTSLTFATL

NAGSTAYTFTVTRS
$T$ VRFDPDTYHVTEEDTNDNVTISLVRSADSTVRISSV
IGFASSLFHCVEGRGTAIVIVKRQDVNQVIAVAYA PTUEDSASNLSLNEASGETTITVTLNTEVSQSFSVPL PTYDFTTNTYRIREGNNDDTITIIRSGKVDINSSVTVD S STNDVTVNEDAGTMSFTVSLSHATTAPVSFNYA PSMTLAVSPASVTENGSTLVYTFTRTGSTSSALSVNFS
 S\|VSIVAGPVTFAVDDGDTATVTVTVESADDSPVRVDWS GQVGFLDSHDAVHKSSGKATLRVGRRVPSGEDTMVKYK TILLENDTNEGSELDGVFKLLLNNPAPRGGLIVVNYQ
 TVSVTSLHTSVAESSTNVIFTFTRTGPLDQSLSVNYT PEVSIVTNQANI SEGDDTGFNVSLSQAATEDVIVSF GVLSLERGTYDVIUNEGTVEICVVLTGGLSENTTID保 T $I E F Q V A R \square N A A E G A T S V V D V R$
$\square A T S A V T V T E G D Q Q V T F T V T R T G A T Q D A S S V D F A$ SVVAGSTSVLVTVSRSSGA GDATVDVM MRPVYSTVSPDVASVDEGDSVVQFTVSRDVADDAATLI NAGNILFTFSRTGDTTNALTVNF





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[^1]
ETVVVTL EPGKGYTVGDCKVAKVVI FYLRIS
 ESITFDISSAT GGLVLGDKKSLKLT ENFTLTVGGKTGTATGIDNDAA
RSFKVEDTGAK GASDGTSS

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lupas_21
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[^0]:    lupas_21
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    jpssm

[^1]:    lupas_21
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