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 L A K R G D L H A R R Q A L A Y LAKEDSVANRRLAFSRMRNKNMVGKLFGTLAPRYQARPGG K A K R G DLHARRRVLTVVRDKTVVHRRLFAEI GPQYRNRPGGG K AKRGDLHARRQVAQVI RNKTVHHRLIFTEIAPAMAERQGG FGKRGDLASRRRRVMRKI S DKSAVHRLIFTEIAPDMAERPGG LA K R G DL HARRQVLAYI FDEDVVTKLIDEIAPEYAERNGG L G K R G D L H A K R Q A M S Y M L I A K D N T L H S R R QV L A Y V T K E D V V LARRGDLHARRQAAAVLYDKQVLKKLGDVI GPRYS DRAGG


 L G K R G D L A A R R QV L Q Y V W W D E K V V G K L
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 K A K R G D L H S S R R R V A R T I R D K D V L R H L F D D I A P V L E G H E G G Y A K K G DVVHAK Q L A L R RVVREKPVVVTKLFEVL GPRYE DRDGG KSKEDTTHNRRVVFSYLQNKYAVSELFRTIAPKDAERNGG LGKKGDVSARRLALRRLPDKKAVHRISDEISPKFKNRPGG LAKRGDLHARRRQALAYI YDESVVVTKLINQIAPRYADRNGGG
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 F A K K G D L A A K R K I FA Yi Y D E DVVAN K L DE E I GP K Y S D R Q G G
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| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | $I$ | $I$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | $T$ | $T$ | $E$ | $A$ | $K$ | $A$ | $K$ | $E$ | $V$ | $R$ | $R$ | $I$ | $A$ | $D$ | $K$ | $M$ |
| $I$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Q T T EAKARALRPVVEKLVT

 R T T DAKAKALRPYAEKLI T


| V |
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| S |
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S T T | V | $A$ | $K$ | $A$ | $K$ | $A$ | $L$ | $K$ | $I$ | $Y$ | $V$ | $E$ | $P$ | $L$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

TTVAKAKEVR RLADRMV

| K |
| :--- |
| R |
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T T L A K A R E AQP LAAE K M
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T TL L RAKE TQKMMADRMI

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\begin{array}{lll}
\mathrm{V} & \mathrm{~T} & 7 \\
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\mathrm{~K} & \mathrm{~T} & 1
\end{array}
$$

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\begin{array}{lll|lllll|l|l|lll|l}
\hline E & T & T & L & T & R & A & K & E & V & R & S & L & A \\
E & K & M & T \\
T & T & T & L & A & K & A & K & A & L & R & V & H & M \\
E & P & L & V & T \\
V & T & T & E & A & K & A & K & E & A & R & K & L & A \\
\hline
\end{array}
$$

ETTEAAKAKE A R R S A A A K M

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## 






 RTTVPK AKEVRP LDERII T | $K$ | $T$ | $T$ | $L$ | $T$ | $R$ | $A$ | $K$ | $A$ | $I$ | $K$ | $P$ | $V$ | $V$ | $E$ | $K$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $Q$ | $L$ | $V$ | $T$ |  |  |  |  |  |  |  |  |  |  |  |  |
| $Q$ | $T$ | $T$ | $V$ | $A$ | $K$ | $A$ | $K$ | $E$ | $L$ | $R$ | $R$ | $V$ | $A$ | $D$ | $R$ |
| $V$ | $V$ | $T$ |  |  |  |  |  |  |  |  |  |  |  |  |  |

 K T T $V$ V A K A K K L T T TLLPRAKELRKHVERLI T ETTTEARAAK EVVRKA V K K M
 $>\vdash$ $\rightarrow-$

L|GKRGD|L|HARRQAASF\|RNEYAVQK|L|FDD|AKRYEERQGGG L S K V D TVA NRRRLAF DRTRSKEAVGKKLFTDLGPRFDDRPGBG
 MAKS P S L A R R RLLAFARLRDSAAVAKLGDDLGPRFQDRPGG L G K K G S V A H M Q R A G A F L L K P A M V P K L F N V F A P R Y A E R P G G
 KAKRGDTHNRRLALLRTLGDRELAYILEEELAPKFAERDGG RAKEDTTHNRRQVFRYLQDKEAVKEELFGEIAEKVNGRPGG

 LGKR GDLAARRKAAAFVRNKSALVKVLFSDVAPRYKDRNGG L A K R G D L N S R R L A A A R L R D E D M V K K L F D D V L A T R Y K D R N G G VAKKGNLNARRYLISKI KNELAVEKLMTTLAPRYAERHGG I AK K D TVVANRRLLAKKKLNNKEAVQKKLFTDVAPKFKDRNGG L GKR G GL HARRQADAEVRDVAVVRKLGDVI GPRYKDRNGG LAKRGDLHARRQVAAYVRREREIQKLFDEIAPRFAERNGG

 KAKDGSLAKRREVLAKVPNKPAVARLFDELAPQFEGRDGG F GK Q G T A H A RVVQA GK Y V S TR P E LV K L F T IL A E R Y K D R P G G LGKK G DLA S R RQAAKVVRDVEILVQKLFGEIAPRYTDRQGG
 KSKNDNMHSRRVVVFSYLGQKEAVTELEKEVAPKIVNRPGGG LGKEGTELDAKRRAGSFVRGDDIVYKLFTEFAYRYKDRAGG KAKVGDFNAHRVVFASI QDKVATKKLVEE\|APKYKDQNGG LGKKGDLSADRLAYKKLHNKDAVRTVFKELAPRYKSRPGG

 LA K T D NISNRRLVVARI HNNEIVAKLGNKLGPRFKSRPGB
 A GKANDLNAHRYVFAYLQDKVATKKLVTELSPKYTDRNGG LGKK GTLHARKMAEQFLNPKDTDPLLEGPYATRYABRPGG
 LA K K G DL H A R R Q AL S I L Q DK F A V H K L F E EVVAPRYA D R P G G LAKRNDLHARRQVMAVLVDETVTKKLFEEIAPRYEGRQGG KAKSGTVADRRLVMKHLPQKDVVNYLFDELAPKFENRAGG
 L G K R G D L $\operatorname{H}$ H A R R R Q A A A A F




 L A K D G A L H K R R Q A L G F $I$ Y D K Q V V
 LA K R G D L H A R R QAA E VI Q D E DVVLK K L F D M I G S R Y K D R N G G LAKR G DLHARRRQVAAFVRPETANQKVAFAEIAPRFABRQGG SGKKG DLHARRQAAAFI RHEYADQKKLFDDVAPRYAARQGGG LGK R G D L H A R R Q A L A V I R S K K V T Q IL F E D IA P R F S N R D G G L S K R G DLHARRRQAMSWMTDKQLVGHALFEQGAGRYADREGGG
 LGKRGDLSARRAALAYITDEEVVKNLISE\|APKYAERNGG
 KSKDDS THSRRRIVFSYLKNKEAVAELARTIAPKDADRPGGG IA K V D SVANRRLVFSRVRDNDVVAKLFNEIGKLNANRPGG L G K Q G DLAA R R H A M S Y L M E E DVV V K K L F E T I A P K Y A D R Q G G
 LGKRGDLHARRQAA QVI RNQDAVQKLIDDIAPRYEERQGG KAKKDALHLRRLAQSDVRDETAVTKLFNETYKEFANRNGG WGKEGDLHARRKAAAVVRGDDVLQKVFTEMAERYKDRDGG LA K D N T LA S YR QALSSYI TKE DVANKL FKE IGPKYADRNGG
 $M A L Q D T L H A R R Q A F T V L G S H H S V K K L F D E V G P R F K E V P G G$
 RAKTDTVANRRIVNRTITDRGVVHVLFTEIGPLMEGRDGGG IA K K N DHEA W DKASNVFQPKTTLTVVFDELAPRFQERPGG L G K R G D L H A R R Q A L S Y I Y D K R VV D K L F N EIIA P K Y E N R D G G
 KARTNDSMAHRLVFSHLQHKESVKKLVKEIAPKYVGKNGG LAKRGGLSNVRLAARTVKDRTVLQKVFSEYKERYASRPGG
 FAKEGSLRARRKAAAVVRTDAMVNKLFTELAERYKERPGG LAKDGSLHARRQA $\square$ GFLYDKELVANLFENAPDRYAERPGG L A K E D S VV H NRRRLAFSRRLRDKA AVGKGMSSELGPRYESRPG G K A K K D T $\quad$ L A A R R L V L A Y V $V$ R H E K LGKRGGLSCRRQADSFLGDKDLAAKIMGPLAERYKTRAGG L A K K G D L A S R R Q A A A F L R N E I A D H R L F D V Y G P R Y A D R N G G LGKKNSLQ SKKNLFAQLQSKSSVVKLSKLLSQRYDKRKGG LAKRGDLHARRQAASFVRNVDAVKKLFDEVGSRYEERNGG



UniRef90＿O8DMK9
UniRef90
B7GO099 UniRef90－B7GO9s
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UniRef90＿U5PAK2 UniRef90＿UPI000225BC8C UniRef90＿UPI000379E0C1 UniRef90－D7CVG6 UniRef90－E8R484 UniRef90－Q6MJ37 UniRef90－X1KDM1 UniRef90＿G9RPP3 UniRef90－F8N9J8 UniRef90－F8WVV2 UniRef90－B0VIO3 UniRef90－F7XUM4 UniRef90＿UPIOOO36C3763 UniRef90－BOUOW4 UniRef90－Q89A88 UniRef90－K8EH42 UniRef90＿KOP558 UniRef90＿V8BNY6 UniRef90－UPI0002EE5F36 UniRef90＿UPI0004764D15 UniRef90－A7HBP6 UniRef90－11FWU6 UniRef90＿A6DLN8
UniRef90＿Q7XYN8 UniRef90＿U4KMC9 UniRef90－UPI0003777DFE UniRef90＿－14EJ08
UniRef90＿Q7M8F8 UniRef90－C8X448 UniRef90－WORKZ3 UniRef90＿K9RDJ6
UniRef90＿G2QQ19 UniRef90＿G2J9L7 UniRef90＿U5DRB6 UniRef90－R5FVH7 UniRef90－K2BAD3 UniRef90－A9WSR0 UniRef90－D5XAB2 UniRef90－C8N616 UniRef90＿UPIO00372BA32 UniRef90－D4W508 UniRef90－K3X3S5 UniRef90＿UPI000429D1E7 UniRef90－J4V5H3 UniRef90－K4GA15 UniRef90－G7V8X0 UniRef90＿UPIO0047CB884 UniRef90－J6GRT5 UniRef90－B9NL83 UniRef90＿Q04G59
UniRef90＿D1AGS8 UniRef90＿UPI0003B55197 UniRef90＿B6G9D6 UniRef90＿Q2LQC8
UniRef90 44 H 4 K 7 UniRef90－J4H4K7
UniRef90＿K1MG46 UniRef90－11AQK8 UniRef90－15CA00 UniRef90－J3JB45
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UniRef90_I0IMW5
UniRef90-W7J3G6
UniRef90-V6MF16
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UniRef90_M3B6L4
UniRef90-M5E8A5
UniRef90_UPI000388E251
UniRef90_UPIO0036EA06E
UniRef90-B3SCT2
UniRef90_D3SQD7
UniRef90_UPIO0046879E1
UniRef90_UPIO004726E07
UniRef90_B5YDX1
UniRef90_R6X5P1
UniRef90_U4KLP2
UniRef90-B2UL54
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 A T H V VK A MFLK N M S A S LillSAHRWAMLRTMADQLIQHER
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S





A S H R Q A ML


S H Q R K A ML
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S A
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UniRef90-10A145 UniRef90_Q88XV9 UniRef90_JOL630 UniRef90_U5PAK2 UniRef90_UPIO00225BC8C UniRef90-D7CVG6 UniRef90-E8R484 UniRef90_Q6MJ37 UniRef90_A0A058Z283 UniRef90_X1KDM1
UniRef90 G9RPP3 UniRef90-F8N9J8 UniRef90-F8WVV2 UniRef90-B0VIO3 UniRef90-F7XUM4 UniRef90_UPIO0036C3763 UniRef90-B0U0W4
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UniRef90_U4KMC9 UniRef90_UPI0003777DFE UniRef90-I4EJ08 UniRef90-Q7M8F8 UniRef90-WORKZ3 UniRef90-K9RDJ6
UniRef90 G2QQ19 UniRef90_G2QQ19 UniRef90_U5DRB6 UniRef90-R5FVH7 UniRef90-C1G2C4 UniRet90-K2BAD3
UniRef90_A9WSR0 UniRef90-D5XAB2 UniRef9O-C8N6I6 UniRef90_UPI000372BA32
UniRef90_D4W508 UniRef90-D4W508 UniRef90-K3X3S5 UniRef90_UPIO00429D1E7 UniRet90-J4V5H3 UniRef90-B9L6T6 UniRef90_G7V8X0 UniRef90_UPIO0047CB884 UniRef90-J6GRT5 UniRef90-B9NL83 UniRef90_Q04G59
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UniRef90_UPIO0046879E1 UniRef90_UPI0004726E07 UniRef90_B5YDX1 UniRef90-R6X5P1 UniRef90-U4KLP2 UniRef90-B2UL54 UniRef90_UPIO002196D35
UniRef90_E4UDW6
$L A K D G S \mid L A A R R R A L G Y L Y D K Q L V J H L L F A Q A P E R Y G D R Q G G$ TAKKNKLHARRKDNE IVRTATEQTKLMTVLGPRYAFRQGG
 KARVGDFNAHRADFQYLQDKEATKKLLNEIAPKFVGVNGG LGKRGDDHARRQAAAYVRNEVVASQNLPSELAPRYAERNGG IA K K G DLHSRRRLLSSRLRRSDSHAAK LANVLAGRFANRQGG HGKK GSLHHRRLALAQVPNSHVVAKVFDDVAGRYAERQGG TAK G G DLHARRQVLREIHDVALVRKIMDEIAPSFAERAGG

 LAKDGTLHSRRQALAFVNEPALVTKLFNEFAPRYRERSGG L GK G G GLHSSRRQALSFVVDKRLTDKLFTELAPRYAERPGG










 $L A K A G D L H Q R R Q A D S V I R D L D A V R E L F D N I A P T F K D R N G G$
 $F G K K G T V H A R R Q A Y K \square L K K R D M V K K L F D E D A P K Y K N R S G G$ MSREDTLHHRRLVMARLNDERATSKGGDVI GPRFDGQPGB KASEGSSNAHRAVFAHLQDKNATNKLVVEIAPKYSDRKGG $M G L E N T V H A R R K A Y K V L G N H A L V K K L F D E V A P R Y T A A K G G G$ KAKS GTLHARRLAGRHVQKRETADKLFREVGPKFATRPGG
 QAKKNNEPARRKAQGDLFNAHEMPKLFGELRERYLDRPGBG RGKRATLANRRLAFARLRHREAMSKLFNVLGPRYQNRPGG LAKD GS LAA R R RAF GYLYDK QLVHNLGESAPGRYATRSGG
 LA K N D S V A N R R L A A D R L R D K E A VA R L F T H I A P R H TK R P G G FA K R G D L A S R R R V L A L I I R N K G V V V A E E L F T D I A S A V E K R D G G
 HA K N H D D V A R R RLDAFS R L R R D R K A V L G K R G D L L A A R R Q A A A Y Y V R A E DIA N Q K L LAK Q GDEVA K K RAQA IL RTP EAVV K L F DVVFGKRYEARQ G G KTKKNESHNHRVVFAELQDKAAVKELFTVVGPKVASRPGG
 YAKKGDTDDRKMANFWLTEKDLLPKLGRVLAPRFAARGS G K S K NA DLNTHRYVYSKL RAKAATRKVDEEIAPKFENRKGG KAK L LGGLHNRRLVASRMPNKMAVKKLFDDIAKRYANRNGG

 LGKRGDLHARRRQAAS QLKEDKDVAKLIFEVLGPRYAERQGG
 LAKKNSLHTRRKVLRFVYKKDVVKKLFEDIGPRFTERPGG WAKKGDLHSRRLAI AKLGDKNLVAEIADKAAQMWADRNGG
 LGKK G DLA SRRRAASFLRNE IAADARLIFDTYAERYAERNGG $L G K E G G L Q S R R Q A L S F I F G K K V T D K L F D E L A P K Y A E R P G G$
 IGKVYKEKNKRLLISKI KNPDIADKGDGDLSVRYKSRNGG FAK RGD LHARRRVI S L L R DK SVV H T L FTEIA PQVE DRQGG


 L GKRGDLLHARRQAATVLRTQFAIVKLVTDDAPRYTERQGG
 L A K E D T L A S R R Q A A T L V R N Q N A L Q K L F S D L GPR Y K E R T G G L GKRNTVASSRQGAQAGLFEPHRHPKVFNELRHRYASRPGG $L G K R G T P T A D S S A Q S F L F N T G T S D P R L A E M A A R Y A E R P G G$
 LGKKKNKDAKDSAWSFLVEKVVVPKLFNVLAARYATAPGG

 RAKTDSVANRRIAFARI RDKE CVVKLVSTLGPRYRARPGG IA K E D SVVHHRRLVYAWLQDRELVRKVFVDIAPKYKDRNGG L G K E N T L T S S K R R A F A F L K K K E E V V Y Y K L F N N K I A P F Y A P R N G G L A K E G T L S A R R Q A A S L VV R D E M A V Q K L F DVI A G R Y T D R K G G A K R G DVVH S R R L LA TA T I H N T T A AV K R L F D E I A P L C A E R K G G


|  |  |
| :---: | :---: |
| UniRef90_Q8DMK9 |  |
| UniRef90_B7G099 | YTRLMKLAKPRAGDKADMAVLEYVD |
| UniRef90-10A145 UniRef90 O88XV9 | YTRVIVKGARVGDAAQMALEEVD |
| $\begin{aligned} & \text { UniRef90_Q88XV9 } \\ & \text { UniRofan_ } \end{aligned}$ | YTRVYK TMPRRGOGAGA |
| UniRef90-U5 | YTR |
| UniRet90-UPIO00225BC8C | YTR1MKHGFRYGD |
| UniRef90 UPIO00379E0C1 | YTRVLKLGP RNGD |
| UniRet90-D7CVG6 | YTRIYRL ETRRGD |
| UniRef90-E8R484 | YTRIYKLAKVRQGD |
| UniRef90-Q6MJ37 | YTRIIKIG RRPGDTAEMAFLEFVD |
| UniRef90-A0A058Z2 | YTRVLRNGT RLGDRAPQSVI |
| UniRef90-X1KDI |  |
| UniRef90-G9RPP3 | YTR I KTG VRRGDAAEMAIIELV |
| UniRef90-F8N9J8 UniRef90 U8WVV2 |  |
| UniRef90-B0VIO3 | YTRVLKAG FRKGDNAP |
| UniRef90-F7XUM4 | KAG FRKGDCA |
| UniRef90-UPIO0036 | VGD |
| UniRef90-BOU | YTR LKCG YRFGD |
| UniRef90-089A | YTR LRCG FRSGDQA |
| UniRef90 K8EH42 | YTRVTQ ${ }^{\text {T R }}$ YRVGDAAKMAYI EYl D |
| UniRef90_K0P558 |  |
| UniRef90-V88 | YTRVTKLG DRKSDAAPMAF |
| UniRef90-UP1000 | YTRVLR TKRRRGD |
| UniRef90-UP1000476 | YTRIIRTG YRDGD |
| UniRef90-A7HBP6 | YTRVRVG RRAGDNAD |
| UniRef90 11 FWU6 6 | YTRVLRIPN REGDKAPMAVVELVD |
| UniRef90-A6DLN8 UniRef90 O7XYN | YTRVKKELKPRRGDNAELALYIEELV |
| UniRef90-U4KMC9 | YTRIFK TMPRRGD |
| UniRef90-UP1000 | R $\square$ G |
| 14EJ08 | YTRYKLGT RRGD |
| Q7M8F8 | YTRVVRGGEPRRGDAAPM |
| UniRef90-W0RKZ3 | YTRILKLGHRRGDGADMARIELVE |
| UniRef90-K9RDJ6 | YTRIL ${ }^{\text {c }}$, VPRRGDNAQMA |
| UniRet90-G2C |  |
| UniRef90_G2J9 | CGGR |
| 5D |  |
| UniRef90-R5FV | LKG RRQGDDAMMC |
| UniRet90-K2BAD3 | MKCGERAGDQAPMAYI ELVED |
| UniRef90-A9WSRO | GD |
| 俍et90_D5XAB2 |  |
|  | YVR LKCGYR |
| UniRef90 UPlooo372B |  |
| UniRef90-K3х3 | YTRILKA DFRQGDGAEM |
| UniRef90 UP1000429D1E7 | YT |
| UniRef90-J4V5H3 UniRef90 K4GA15 | YTRI IKAG FRPGDKADMAYMELVD |
| UniRef90-K4GA15 |  |
| UniRef90 B9L6T6 UniRef90 G7V8<0 |  |
| $\begin{aligned} & \text { UniRe990_G7V8X0 } \\ & \text { UniRe90_UPIO0047CB884 } \end{aligned}$ | YTR MRVGP RRGDAAELVILELVE |
| UniRe | YTR1LKTGN RLGDNAAVCFI ELVD |
| UniRef90-B9NL83 | YVR LKAGFRYG |
| UniRet90-004G59 | QRRGDAAPMALLEFVD |
| UniRef90-D1A | YTRITK TDVRRGDSSEMA |
| UniRef90-UPI0003B5 | YTRIIKTGQ RAGDGAQQ |
| UniRef90-B6G9 | YTRIMKDGP RKGDCAEM |
|  |  |
| UniRef90-- 44 H | YTRIHKFGN RPGDNAPHAILELVD |
| UniRef90-K1MG46 | YTRLKKGG RRGD |
| UniRef90-X1AQK8 UniRef90 $15 C A 00$ | YTR1IKLGPRGDGAA |
| UniRef90 15CA00 |  |
| UniRef90-Q2GH |  |
| UniRef90-AOAO22LR78 | YTRATKLGFRKGD |
| UniRef90 B2V714 | YTR YKLENRRMGDGGEKALIEFVE |
| UniRef90 W7J3G6 | YTRATK TMPRKGDNAPMAlVI ELI |
| UniRef90-V6MF16 | YTRILKCGFRAGDNAPMA |
| UniR | YTRUVRTTP RRGDNSEMAVV |
| UniRef90-891 | YTRTMKVGP RRGDGSEMVI |
| UniRet90 B8LLF4 | YTRVLRVEPKKDDQAPSAL ELVD |
| UniRef90_UPI0004013022 | Y ${ }^{\text {T }}$ |
| UniRef90-M5E8A5 | YTRVHLMGH RKGDHAPRAVLELVD |
| UniRef90-UPIO00388E251 | YTRLLQ\PNRENLDRAKMAL |
| UniRef90-UPIO0036EA06E | Y LRiVRTG FQKGDGAEKAFI |
|  | YTRIVR |
|  | YTRIIKLPHR |
| UniRef90 UPIIOO046879E1 |  |
| UniRef90-UPIO004726E07 |  |
| UniRef90-R6X5P1 | YTRVLKTGP RRGDGAEMA |
| UniRef90_U4KLP2 |  |
| B2 | YTRIVK■GQ R LT DSALVAMIE乌I D |
| UniRef90-UPIO002196D35 |  |
| UnRef90-E4UDW6 | YLR\|IMKVG FRYGDSAPMAlVI EFVD |

UniRefigo 10 JW11 UniRef90-C0QQQ2 UniRef90_K9EG63 UniRef90_UPI000372222F UniRef90-K8ZAU3 UniRef90-D4JY86 UniRef90-R5HUB6 UniRef90-IOYMV1
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HRRALLSNLSSSLKKKKIFTTLAKSKALRKY门EPI I R

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SSRELLFVSLVEELVRHGRDSTTKAKAKAMRRVVEPLIVTV HREALLKNLVTQLLQHGTI SSTHEKCKEASRLADRVI N ARHVKSMDKNLTANLI RHEYI VTTRTKAKRVQAKAETFLAA RILHLRNLLTGGVRHERIEAPWARVDEMRGYAE


 REALFAS LIAKALIMNGKIVTTRAKAKAVIGSVEKMVT



RKHLYRNDMDA TLEHRKПTTTHAKAQA\RPQUEKLITT
HLLGNLLTGLVRHQGILSAYGRYYLKGYTEKLIDD

 ARHVKSMNKNLVANLI RHEYVVTGRAKAKRAQSKIESFLS



HRQQ \ARRMVTEM\RKDYCIVGGARAPVLR LLADHVVD AQRKALIHGLIANLVLSEKIVTTEAKAKElKPVMDKII T ARHTKQIIKNLAANVI RNEYIVTTLGRARKAQPKIERLLAA TSHRTAMLRNLTTSLI EHDRI RTTVTRAKEVRRVADQMVT
 RALTRKLAVNFFLKGKLSTTLSRAKAIKPVIVELIE
 SHGLSIIRNQMRELIEHGSIITTVKKAKVVRIYFEKLMT



## UniRef90 H2ZMM9 UniRef90-R5TT68 UniRef90-D8QST4 UniRef90-Q4UD42 UniRef90_S9Y932 UniRef90-R7HEA6 UniRef90_J3JUS1 UniRef90-D4M8F4 UniRef90-UPI00037DA5EB UniRef90-E9ESI5 UniRef90-K2AIS8 UniRef90-H5SFY4 UniRef90-K2DK08 UniRef90-R6H302 UniRef90_UPIO0035DDF9C UniRef90-C5MAH8

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UniRef90-UPI
 YGKKGDLDSRRKALAFLQNDTEVKIVFDDLASKYAKRNGG LGKAGTLSADRRAGAVLRTDETVHKVFYKLAPRYADRHGG LAKKNSLASRRRAISQMMDRLVIEKLFSELGPRFTSRQGG YSKKNKRHARILINSYLYDRQLTENVLKLAPERFKERHGG YGKDGDTNERRMADFWLTEKDLIPKLVQVLAPRYQGQNGG YGKDGSLVARRKADAFLHNDNEVQKVFNDLAKKRYENRAGG RARGGSVHD $\square R V V F S R M P H K E A A T K L F K E V A P R Y M S F K G G$
 LAKRDNEPCIGGARETALDDEADRMLIGGELRNRYLTREGGG KARRADLHTRRLVARVIRDEAVLQELFDVVAPVVAERNGG KAKLGTVHVRRLLHAFLGNQEAVKKLVDELAPRMDKRPSG VTNLEDKLKSDKALNYLQPPDCGSKMLEDID YGKTGTLVSRRKALAFLHDKAVVSKVFDELAPKYANRNGG

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 VAKVDNFNNRRAVKKWLLNDQLVNHLLKKVARRFKDRNGGG RAKKGNQFAYRLTLAELGNPDRTKQLMEDAKTRFTNRTSG LAKNDTVANRRLAFARTRSAATVGKLFTVLGPRYKERNGG KAVKAKKADRREIFKALGDRRLVNKLVDEIAPKYLDRQGG KAKEESDADRRQLFAELGDRKLVNKLVDEIAPKYTGRNGG NADREHNATMEMADYWLLEKQLVAHKLIFKVLVPRYENYTVG LAKKANVNAQRRAVQLI GDREAVAGLFDTVAPRFVDRPGG YAK AGNTNAGAMADYWITEKDLI PKLFETLAPRFADHDGR LAK K GS LHKRRQALGFI YEKQIVHALFAEVQDRYGERM LAKNQDTASLRLLIARLPKKAAEKMFYEVAPKFKTRPGG WSK DD DAENKNRLFLSGDNSKLLKKLYTYLAP DYSKRTSG LA KTDSVANRRLAFARTRDNEVVAKLFNELGPRFASRAGG LAKKDTLASKRQVLKRDKNKEI STILWTDVAKTFANRPSG MAKKVNQMEDGRARDKYDNNHLLINLVNAIAPKY DSRQGG
 !SKNYSNFNFKF DYKK TKNDDTIFKLFKIIGPRYVFKNGG IA NKDKMNADRETWKYLFTKESSLELENNVAPKYSDKKSG
 TSDQDKMNADRRVGEYLFTKESSIALEEQVAPKYKGKTSG RSKNDTTTSRRVVFRYLQNKYAVKALFGEVAEKVANRPGG EADRSHKPTMEMASFWLEEKQLVHKLFKVLAPRFKDYQVA KSKEDTTHNRRLVFSKLRSKEAVTELFRDVASKVADRPGG


 QAK TPATRRLVSQFLVKKETQEKLIKDIAPRLKSRTSG RAKKEGVVQKRLLRKFFNSKDVKKVVDEVAPQFKERKGG KVKK DTKDETKKVA ILRDDRKEVKKLSGEFSVKFSERSSG
 MARRVPTPQRRGMDEGGTKKAVHRLL EVAPEYADRPGG YGKLADANERHMADFCLTEKDLVPKLFQVLVPRYQGQNGG
 DAI RGDCHTRTMADFWI NEKQLVHKLFKVLAPRFATYQGS
 KAI EENKKLMEEYDQPPDRNEIGSKI DKELSERYPDRTHG EAIRHGPMHKDMANFWD DEKQLVHKLFKVLVPRYQYYTTS
 1 VKPGYVHCYRQVLSKLGNADVVEKLFGEIDQGYMNRNGG KSKTENTHSRRVVFSHLQNKEAVSELFRDVSEKVANRPGG $L A K A G D T D S R Q H L A Y F L H D P L M V D K A F D E Y P R R F K D M Y G K$
$K L K K A K D D K Q K K I L R K D L N V D C V T K L S G E F F K K F D G R N S G$ NAMHQDTVSALRFLQDPDQEECGNKVDNEDAQRYSNRTHG LAKKGTDYARQRAAVTVKTDEAMEKLFDTIAGRYK LAKKGGDHNYRQALGFFYDKKLTRSLFQQ
KMKVKTESNDNYLKQKDDSKEVDEMAYKD KAQKGTVHARRQUASSVSNHKTANKLVDVIAPLMPNRRGG SGKKGDLHARRQAAAFVRHE
KA $\square K$ K NQASRRQDYRHLQDRRLVNKLVDEDAKEV GRTSG LGKKPSLAN RRLAFDRTRNRDVVVKLFDELGVRFATRNGG LAKDGSLHARRQAGGRLH
I A AQGDKNHEAMANYWLKDKDLIHKLFKVLVPRYENYTTC LAKNDSVNARKRVFSKLGDKDVVK■LFDKVAPLYKD IDP DA


UniRef90_X0TJP9

| UniRef90_H2ZMM9 | YTR\\|A M |
| :---: | :---: |
| UniRef90-R5TT68 | YTRILKLDERRG |
| UniRef90-D8QST4 | Y TRVVQ TRHRLGDKS |
| UniRef90-D6YRY4 | YTRVLK S DRRVGDNAQKCDI EFLLE |
| UniRef90-Q4UD42 | Y CRIIKRLS S CNVGDNSNRAI L ELLLE |
| UniRef90-S9Y932 | Y T RMLQI PNRSQQDRAKMA |
| UniRef90-R7HEA6 | YTRII KLTE RRGDDALEVK |
| UniRef90-J3JUS1 | Y TRLLKAPRPYPGHEDDKG |
| UniRef90-D4M8F4 | YTRIVKLG VRAGDGSEMA |
| UniRef90-UPI00037DA5EB | YTRVIKINRRLRDGAKMCYVELV |
| UniRef90-E9ESI5 | Y T RVVRTEPKNTYDQGESSI |
| UniRef90-K2AIS8 | YTKSYHLAP R L G D G SKMM |
| UniRef90-H5SFY4 | YTRIVKLG FRRGDGAQEAII QLVD |
| UniRef90-K2DK08 | F TRINKLG VRRGDNASVVKMSLVD |
| UniRef90-B9WMEC | FTRVIKLEPRLGEDNAPMSVIELVD |
| UniRef90-R6H302 | YTRII KL K ERIG D DALLTVRLELVD |
| UniRef90_UPI00035D | Y T RVLKLAERRRGDGT QLALVVELVD |
| UniRef90-C5MAH8 |  |
| UniRef90_Q04PW6 | Y T RVLKLVN RASDNSEVGULELT |
| UniRef90-Q3S662 | Y TRTVKLDN |
| UniRef90-W4ZBN8 | FTQLLRVPGFHEERGRKMAF |
| UniRef90_U6LIK4 | FTRVLNQF RLRMRDAAPMAYI EFVD |
| UniRef90-G8JVI5 | Y TRLMKL EPRLLGDRAPSSVLELVD |
| UniRef90-UPIO00429FFB4 | YTRIVKLP ARRGDNTPMAQ |
| UniRef90-K2BDR3 | YTRMTKLG YRKGDGAEQVQLEFVN |
| UniRef90-A0A024HY12 | Y TRVLKLGK RQGDATEMAVIQFVD |
| UniRef90-X1KAR1 | Y T R I |
| UniRef90_K2ADL9 | Y TRVVKTG R R A G DSAHMA |
| UniRef90-K1Z351 | Y LR I I KLG T RDGDLA KMA |
| UniRef90-P47424 |  |
| UniRef90-K2AZ25 | Y TRTLRLGLI GSDAKDMVQISFVD |
| UniRef90_UPI000442 | Y LRVLKAG FRAGDAAPMAYVELVD |
| UniRef90-B71HX4 | YTAIYKVGP RRGDGAEMSL |
| UniRef90-A7HM23 | YTRVIKVGQ R R G DGAEVSV |
| UniRef90-B3M8X9 | Y T R MF NAPRTYPG $\square$ Y Y K N SV |
| UniRef90-M5TZX6 | Y T R $\$ M R L A T PRLGGDGGT R AVLEFV  \hline UniRef90-M5T9G5 & YTRIMRLATPRLGDGGTRALLELV  \hline UniRef90-C3YC16 & YCRLYRLPVTTQNTR DMAVLE  \hline UniRef90-K1YES4 & Y $\square R$ VVKAAEARMRDGS |
| UniRef90-A7TQM6 | F TRVLHLPP RENDSARQSVL |
| UniRef90-W6SVJ2 | Y TRILKCG FRAGDNAPMAYI ELVD |
| UniRef90-K2F261 | FTRII PL $\quad$ S S K G D L A EMVRLEWTD |
| UniRef90-H2ASQ8 | YTRVIRL EPRLT DKACESILELVD |
| UniRef90-A3LYY6 | F T R I I K L EPRLGEDKAPMSVI ELVD |
| UniRef90_E9PKV2 | Y TRMLQIPN R S LD R A K M AV |
| UniRef90_S5SY28 | YLKI YKNG FRKGDNSSTCIISFVV |
| UniRef90_K2FVT1 | $\square$ IRITAl KFREGDCAKLVKI ELV |
| UniRef90-A0A024WBY3 | Y TKIKLLPKSRKGDASRMAML |
| UniRef90-Q7UIC4 | Y T R I M R L A K P R L G D G G T R A |
| UniRef90-K1YCZ0 | FTRITPI KYRMGDNAKL |
| UniRef90-K1RVM1 | Y T RVIKLGT RQGDA |
| UniRef90_A21450 | ALYKAPKKYPDELLLS Y S |
| UniRef90_L7W630 | YTRIIKLGN RLLGDNADMAMI ELVD |
| UniRef90-K2F6L9 | RSISLP R RVGGDAQMVRLEWTE |
| UniRef90-Q4N7Y8 | RVVNQYKLRQRDSAPLAYIELLVN |
| UniRef90-E2BLJ2 | F T KLLHAPKNYPGSPYERAVLE |
| UniRef90-M7ZDV2 |  |
| UniRef90-K2CEU8 | Y T SVVKLG R R L G D G M M MVS |
| UniRef90-X1MW54 | YTRIIRKGP RKSDGAK VII I ELVK |
| UniRef90-K2FU23 | FTRI MKMG RRKSDGAEMA |
| UniRef90-R5J758 | YTRIDKTGH RLLGDNAEMCFIELVD |
| UniRef90_UPI0004785809 | YVRITRVGQ RKGDAAEMSVIELV |
| UniRef90-S7PG03 | Y TRMLQIPNRNKQYWAKMAV |
| UniRef90-C4XZY6 | FTR\\|IKLEPRLGEDKAPMSVLELV |
| UniRef90-A0A023FY41 | Y T R V HVL Q |
| UniRef90-K2EBH3 | F T RIT KLEK R R G D A M M AV |
| UniRef90-UPI00035A22EF | F T DLHKQAVEYPGHGNPNGVL |
| UniRef90-G8Y5C8 | FTRIDKLEPRLGEDKAPMSVIELVD |
| UniRef90-E1ZXK7 | KLHKAPN I YP $\square$ GHYERA |
| UniRef90-H8XAM4 | F T R I I K Le P R L E D K A P MCVLELV |
| UniRef90-X1JRW1 |  |
| UniRef90-131M88 | Y T R I LKLS G T R L |
| UniRef90-UPIO00237D17A | YTRULKLGN RLGDASEDCY |
| UniRef90-K4DTS0 | YAMMTRLKSRRRTDGVAMYF |
| UniRef90-K2FIQ6 | Y T R I I KL T D RKS S AKMAV |
| UniRef90-A5E716 | F T RVIKLEPRLGEDKAPMSV |
| UniRef90-D8M047 |  |
| UniRef90-U6G6E0 |  |
| UniRef90-K2EXQ7 |  |
| UniRef90_UPI0003708EA7 | T $\downarrow$ KK T G $\square$ RRGDAS T MATVAF |
| UniRef90_M3HUQ2 |  |
| UniRef90-F7YX37 | F TR\\|VR】GT RRGDAAEMA |
| UniRef90-F2BAM3 | YLRILKCG F R K G N A P L ALVELV |
| UniRef90-R1E3Z6 |  |
| UniRef90-R7UA11 | A T R M WT LP VE Y P G G K N K T S $\quad$ Le L |
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| UniRef90-B7QBD5 | Y T A L HVLP T P F NERYNQM |
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| UniRef90_S4LBC8 | YTR】IKVENRNGDNAKMATI |
| UniRef90_UPI00034D0ED0 |  |
|  | $\mathrm{R} \\| \underline{\mathrm{V}} \mathrm{K}$ T G F R K G D A A P L A V |

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 HRGSLIEKNLAVSLII HEKIETTLEKAKFVKMFVERVI T WRRGPGLRGHHVRI I D
 MLRNLAANLITHERI EATRDGAVAYTPTAELAVD SSGRLIVI GQHITTQLFKFERI TLDYHHALEVQGYTERLI T T
 RLEI LRRMCSTLFREERAEFRFHRAVELRPYAERLLQ


 AQRRALLRALTTSLLRYGKIVTTEAKAKETRRKVDRI IT
 EKTVT RDSVTSLIVEERTHLRMGRAQLTRLYAERLIS $R \square S W L R R C V S A L V D E E R \| E L P W P D A L E T R Q Y A E R L I Q$ A HR L A M LR NLSRS LA LHGRDRTTMGRAKALRRLVGPAI A


R L E V V R R IVTRTVREERVELKWNRADEARPYLERL!Q S QR RALL K



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[^0]:    lupas_21
    lupas_14
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    jnet
    conf
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    jpssm

