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UniRef90 G1KP27 UniRef90-L9KQ10 UniRef90-U31937 UniRef90-U31937 UniRef90 UPI00042BD574 UniRef90-N4V2L9 UniRef90-G3WGW5 UniRef90-G3WGW5 UniRef90_W3X409 UniRef90-B9V2Z7 UniRef90-U4KXS2 UniRef90-G1KCL6 UniRef90-M7TMW6 UniRef90-B2AMT0 UniRef90-UPI00033371F2 UniRef90 W5KXN2 UniRet90-F0XAU2 UniRef90_UPI0004419AC8 UniRef90-UPI000440D97D UniRef90-UPIO0046B548F UniRef90-F9G6L3 UniRet90-RoIJB2 UniRet90_W2S799 UniRef90-V8NBM8 UniRef90-V8NBM8 UniRef90-F7FA83 UniRef90-E6R9VO UniRef90-UPIO00393F404 UniRef90-H2LGG5 UniRef90-C3Z0Z6 UniRef90-M3ZT00 UniRef90_L7IK12 UniRef90-UP1000333F768 UniRef90-UPIOOO38EC245 UniRef90 TOLVJ2
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Q $V$ F $\quad$ Q $D \quad L$
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50
60
70
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## $-1 \ll$ <br> $>ト \vdash \mid$ <br> \section*{$T$ $T$ $T$

}
## V

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 V D A A QARPSDNCVFSVVELQLPPKEAALAHLDRGSPPPARE $V$ D A A QA QPS DNCVFSVVELQLPSKAAALAHLDGGSPPPARE
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 TDPNDATDTDNYVYWI DTLHTNKSTVLPYLGGTASPPPKY T TEDAARSWDNKI LLVELLLAPNKSDTLPFLNNTTTPPPRC

E

## V



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## \section*{}

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## V

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| QUERY | GKSKDP ${ }^{\text {L }}$ |
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| UniRef90-Q0ULI5 | K G G S IP P |
| UniRef90-R7YU22 | G G G R V P Y |
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| UniRef90-B2AKJ3 | G G G K |
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ADARTKTMEKNS\| LLI E LE LLPKKKKA|LIKT|LWWKARPQRQ
























































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ESPEDASVVNSSYI FLI DLHMTLKSAVLQYLDGGHRQPDRT $\bar{V} D P G Q A Q P S D N C V F S V E L Q L P A K A A A L A Y L D R G G P P P A R E$





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a RAT FFGAQEHPNI

ARVII FFGAQ XPQPYVTEFAVGPLP QPSYMWDVTVE R R AHIEEVDHRASHNPAYLDYVVGPLPISNKTTVEPLAWPYTK ALAAVMFGVPEKAYLQEFKVGPLPITNASSVTPFTFANTK ARVTMHHGAHAEPVIRDYLVGPLPLSSVTTIRQLTMYHEP ARAVIFFGDQEHPNVTEFAVGPLPGPCYMRLSPRPGYQSS
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ARALVFFGEQAQPNVTEFVVGPLPRPSYYRA ARATVQFGSPEVPYLQEYRI GPLPATNTTAVEPLRFPFNG ARVSIHHG TIPAVKПYLLGPLP ARVVIFFSAQEHPNVTEFAVGPLPQPDY $\square R \square S P R P A K H R S$ AKVVISFADQPQPNVTEFLVGPLPHP YYYRPIVYRGNK ARVTIHHAARTTPVIKDYLVGPLPGGQNTSMRELTEIV AHVVLDNRATENPYYEDLLVGPLPIKNGTTYEPLDYPFTK ARATVQTGATDDMYWQEYMVGPLPATNETRAEPLTFPFNS ARVVIQFANQASPNLTEYSVGPLP NPTSHKPHTFKKGR AKAHVVSGLDDPPTVKTLLVGPLPVSSDTRDENLKTYHN ARVTVHHGAAAEPVVRDYLVGPLPVGEETKMRELTIYHHD ARVII FFGARKPPRISEYTVGPLPRPSYLQVVPVQPAHDP ARVVIFFGAQKHPKVTEFAVGPMPLP $\square Y M R$
ARVA HHGTSDEVYWDEYLVGPRPVTPATEDQPVKYPHR
ARIAIHHGTSQEVYWDEYLIGPLPVSNETNIKPMEYRHR ARVVIFFGAQKHPNVTEFAVGPLPAPRYLRMLPFRPGHRV ARAVVFFGDQERPNITEFAVGPLPRPTYLRVLPPRPDHTP TRVTIHHGSAAEPVIKDYMVGPLPVSSKTTMREDTVYHR
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GEKLDP
WASR
WASR
GGCAVPF

SWAS R P
H GGP L P Y
GP G S
KGGKI N VPY
WASR
RKNPDPW TWTSRP
WT S R
RGYTVP F
WT S R
WASR
SWT SRP
WASR
HRNP $\square P Y$
SWTSRP
SWSSRP
G GRAVPF
GRNSV
HRDS IP F
K T N
K
T N G R V R W
RKNPDPW
GG LP
SWS SRP


GRNYV
SWASRP
S WASRP
HRDP $\square P Y$
NSRPLP

GGRPDPF

WASR
G Red DiP Y

| H R | $E$ | $D$ | P |
| :--- | :--- | :--- | :--- | :--- |
| S A G | RII |  |  |

NA G
GE $\prod_{1}^{1} P \mathrm{P}$ W

S WA S R P
SWASRP $\begin{aligned} & \text { D } \text { R } \\ & \text { R }\end{aligned}$
RPDQIPY
RKTRVPY
HAGK
$R R$ LD $\quad$ P $W$
HGGPLPY
YEVPF
$R D T \square P F$

|  |  |  |  |  |
| ---: | :--- | :--- | :--- | :--- |
| $R K$ | D | P | P | P |
| S | P | P | A | Y |

GRNYV
SAG
GNTKV
WR GPIP W
GRNSV



 HDDRSLVFADLT QEE YLLQVQQYMQRE L N L
 CPA HDGPPASPPAPNPWAYLQQHETADI QA WLLESNLLNL PDS $\quad$ TANHDHGS 1 F A DLTTPKEYQAI RDYMWSQLRII CSTQRVHPLHDERSLAFADLTREEYQQVQRYLVRQKDL


 | $R$ | $T$ | $L$ | $V$ | $F$ | $A$ | $D$ | $L$ | $T$ | $R$ | $E$ | $E$ | $Y$ | $M$ | $K$ | $V$ | $Q$ | $Q$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $K$ | $L$ | $Q$ | $K$ | $D$ | $L$ | $A$ |  |  |  |  |  |  |  |  |  |  |  |
| $K$ | $Q$ | $L$ | $L$ | $W$ | $D$ | $L$ | $S$ | $P$ | $Q$ | $E$ | $L$ | $E$ | $C$ | $V$ | $H$ | $N$ | $F$ |
| $L$ | $R$ | $R$ | $E$ | $L$ | $E$ | $L$ |  |  |  |  |  |  |  |  |  |  |  |

 S S ID T S EPDP TI FH GLT GQELQQSI QEYMKSELLNI
 C T S DLSS E P D D P P $\quad$ P S M F S D L

DC $\square$ G DEQLP VEARKPPVLNDHFD DE
GRR
S G S SK P GPSP F S A A D P HP LEEDLYPSETQDワFHALMSNLQL
 GLF E DL LIE DE HKAVRDYMLE ELGLL


A P GRS LFRDLTENETRAVGHYLYSTFNF $R C P S S A Q P R T P P S$ Q S QLLFA DLS P E E L T A V M S F L T Q Q L G

SHQYPQA QHARPSVFSP母SYEE $\square$ K S VVDYCE Q T N $\square$
STCQPPGQEDADAGHS LVFADLTPQELLQVVRYLRGQLNL

CD DP A NPPTKEEKTTPFDPLTSDEELTVRRFMLSRKEL A DKPTLFDPLTSTEEFLVREFMGRQRNL H DLS WE E CQ S SV V K WL Q S GLLD W
T P CK WT H P K P E L F S P I N S T E MVK AR D A L Y R A Gi I
 QASAGRVIDLLTEPEPP【FHDLTRGE DEKIF
RCPS T IDD TS E P E P Di F H DL T T K E I Q R I Q S IQ W

 H P L D P L N P D E I N Q V $\quad$ CLVV
 PRHWLF D DL S A S EVVRAVAA YVI A S R P G G E L L A A E VVR RV A T WA T TAAK G F
 HPLDPLNPNEIDRIR
T A A Q P HP LDP L $N P$ TE LDDE $T R$

$G \underset{L}{L}$| L | L | L |
| :--- | :--- | :--- | :--- |
| L | A | I | FSASTSHPLDTLNPTEINKIR

L TV
SPFAPLTAAEELLVREY
HPLDPLTPTEFNRTRD\｜IQK
DPNPTKNRVPHPLDQLSVQEVCAVTELVKANFG HPLDPLNPSEINNQAKLIV
PHPLDP L N PA E I N H $\square$ R H $\square$ DQ K

 H P L D P L S S T E I N K V RLLLV QK
D S S P A VR H P
PSHESDVPRHP
A H P L D P L SPAE I NKTRDIVQQSY

HPLIDPLTI GEI NRARELLRRAH PL
T AEADHPLDP L S P DE I E S A Y E T L T E ERA

Q P H P L P L TA A F R S V A L G S E G G
C P S SE $\quad$ TVHHP
L D P L T T D E ll DRVGGSVMRS
PSHENDVPRHP

SHPLDPLSI EEI P
S P H P F D P L L S P D E I T Q T A
H P LD P L T P S ELNLLVRTIVQTSQNL
HSHHHPLDSLTPSEFRQVQA
THPFEPLTPSE\｜IEATS\｜L

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 TPYEKATVADNYI Y FI K LYLDPNKADVLRYLDENGPKPERN




 SHSLLTAKPSENFLFLI DLQLPKKRDALQYLDHHAQKPQRK






 TS R T M T IF H R NK VFS VE LH L P P K A A AL A H L D K G S P P P S R E
 VD A S R A K P S D N CI

T N Y D L T S H F IE L N DP N K T DVLP Y IDD G D S MA P T R Y





 $M \square E V V$ V Y P P K A E VL A Y LT S P S A $\square P$ S R N
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| iRef90-K1R0Q8 |  |
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| UniRef90_M3ZKTC |  |
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| UniRet90_A8HSQ9 |  |
|  |  |
| UniRet90 W |  |
| G3 |  |
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| UniRef90-R9ACC2 | RRTK |
| UniRef90-13k13 |  |
| UniRee90-UPIood |  |
| UniRef90-14Y\|A9 | P |
| UniRef90-UPIOO03F4A1F1 UniRet90 V3ZY47 | P F |
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| UniRe90-G5EH48 |  |
| UniRe990-A7SMM6 | Y |
| UniRet90-V4AHT3 |  |
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| UniRef90-B9RS23 | QASKLP |
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| UniRee90-A0AO59CIC8 | ACEAP |
| UniRef90 Mov2U5 |  |
| UniRef90_K7U2E4 |  |
| UniRet90-A0A017, |  |
|  |  |
| UniRef90-K7N3G7 | VA S QLP F |
| UniRef90 D7T6W4 | AASELP |
| UniRef90-G2WZA6 UniRet90-F6HUC |  |
| UniRef90_F6HUI4 | T A T K A P |

20
 L D PLTVDEVQTASQUVHK QDGC LDPLSPAELLRVVA CGSTAAQDTTPDTAHPLDPLSPAELLRVVA
 A HPLDPLTADEFSAVASILQREHGV MSVQSAEVRTATTNPLQPLAPDEVRRTAQILREQRQL DHPLTPLTADEITAVRE PHPLDPLTPBEEUTAVRDAVLAS SCHASGTAGGPAPGPHPLDPLTADEFRAAAARLRRDRGV



lupas_21
lupas_14
lupas_28
jnet conf sol25 sol5 sol0 jhmm



A ANELP

