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| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

$\square$ WFC WIE A F C S S LIE GHECFAE
$\begin{array}{lll}E & D & D \\ R & D & E \\ E & D & E \\ R & D \\ R & D \\ Q & D \\ Q & D \\ R & D \\ R & D \\ Q & D & Q \\ D & N & D \\ E & D & D \\ E & N & K \\ D & D & E \\ L & D & D \\ R & D & \\ R & D \\ Q & D \\ K & D & \\ E & F \\ Q & D \\ S & D \\ E & D \\ Q & D & D \\ R & E & S \\ E & D & D \\ E & D & D\end{array}$


 | $N$ |  |
| :--- | :--- |
| $N$ |  |
| $N$ | $L$ |
| $N$ |  |

 L S $\checkmark$ N Y F
 MT WI E WYCS LK GNQYY DQVDESFI R DEFNL SGLQY QVSYY $N W L D N N L S K R G N N F L C R V D E A F I A D N F N L Y G L T S G S N G F$

 VS WI E WF CQ L K QN DF L VEVDEDF I R DEFNDIGGLQNKVPHF $V$ SWIS WF C GL R GNEFFCEVDEDYIQDKFNLTGLNE QVVPM Y
$L S W \square D N F L C Q P G S E W F C Q \square P E A Y L N D G F N L Y G L E S S$ S C C H G E Y F A EVDEDYI LDRFNLTGLNGEVQEY
 T WI Q WF C GLEE GHEMMFC E I D R GY I E D A F N L Y G L


 SWVS WF CHVQGHEFFYE VDVEY VQDDFNLCGSSNQVPYY W $\square$ Q WF $\square$ S LQ DHDF LLE $\square$ D R DY LS DKMNLLLK $\square$ REHFPRY MRWTDHILTSDNYKYFVR DDDEFAFNSFNLFGTRKYVTHF $\square P W I D D F V Q A R G N E F Y V R V P D S F M M E G F N L L G L E N L L P Y F$

PW WF QFCNLP QNRWY VA ID DD WVT D WF NQYG R E L F E N F WRDWF $\square S$ S R GNEYFCEIDEDYLTDRFNLTGLNTEVQYY
$W \square S Q F C S E K K F K W F C H V S E A Y L D D P F N L F G L Q N L F K H Y$
P WI K QF CS QPVVNNWF VEI DPTWAA DWF NQY GI K ELLFED F
VS WV T WF C G L R G N E F F C E E V D E D Y DQ D K F N L T G L N E Q V P N Y
P WVVMQFCSSMPENK WYAKI DRNWLDDP FNQYGLEEDLPN F
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VS F A Q WL I S H P A Y S Y M I I E V
TSWIS WF CNLR GNEFFCEVDDDFVQDDFNLCGLSSQVMYY
NWK E D F L
E Y F A E V V E D Y I LD R F N L T G L N G E V
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R

NA ${ }^{50}$ OMKK




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RET M

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$G L A A M L E K F K N C D F G R C P R V S C S G Q P C L P M G Q S D I P R S S T$
 GLLA EMLDDKYNRKVFGTCPRVECEKQAVIPYGMSTNLGVSG GME LMK KKYDQEIFGKCPRMGCNDTPLLPMGTTFTLLRRHS G $\$ A Q M $\square E K Y$ Q T G DF GHCPR
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 GLEKL KKKYENNDYDRCPNVNCNRQ CLPIGLSESLGEGC GI N QVK E K Y N R R E Y G F C P R I S C N K E P L L P I GIIT S E L K K N R


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 $V K L F C P R C E E I Y K P R S T R H E S L F G Y Y F$


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VKLYCYRCNDLFH CRENSNLDSAYF GPNLPQMLRMMS P
 $V K M F C S S C N D I M Y P R H T R H Q A L D G A Y F G T S F P E M F L M M Y P$ $V K V Y C P C C H D I V N \quad T N Q Q L D G A L F G P Y F P H F L L Q$

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#### Abstract

VSLSDSALLPQVDEDYIQDKFNLTGLNEQVPHY  


TS W $\square$ S WFCNLRGNEFFCEVDDEY DQDDFNLCGLSSQVPYY WlCC E I D N D Y L L S QV S YY GL S Q Y I T Y Y
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PWVEWYC RSNPFYVEVDDDY $\square R D D F N L T G L A T V V P H Y$
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UniRef90_B4GU05
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$60 \quad 70$
70
|
$H$
$S$
S R
S $1 \frac{L}{T}$ T N P EQAAEMLYGLIHARY\|LTNR EACYNALDDFNKSTDFS EESALYYLI HQRYI YTMS KKLLK II RDSEEMYKNKDMHEQNAACLYGLI HSRFI LTSK GLCIKYI RGNDYPRNDQESLLNEVRVLYGLLHARYVVTEE DDAY $\square$ A ${ }^{2}$ QDQKPSKNFSVES YILAHQRYVFTKT
 H DALDCI LDDESDPENTDHDEQAAEMLYGLI HARYILTTDS


D YA DDDLLDVESSHSDMFTEEQAAEMLYGLIHVRYDLTSK SHCCKKI DISECDDAKKERF DKNCDKLYGLLHGRFILTEE





 RQALDM LDLEPDPNQSDLIEQAAEMLYGLIHARYILT TETLQVILNNPVLDSSLDD NRALQUI LDNYEDRGKKH■LNASSQLLYGLI HNRYI ITTK EEALDIITTQSYDKNGRRQLS SETKLLYGLIUQRFIVTVP KGTLNKILSYSTFYENQEQT GDAMRMY IMMLHQRYLLTPD DNLIENI I HCKEDNDNTPKMKNKTKQLFRILHHDYLETEK
 VHALDLI LDVLDPDELQDEVETSARHLYGLI HARYILTAQ QYALDLVTDVDCDDEMRET IEKSARHLYGLVHARYIVTTR


 XXXXEPEDELDENPHQSDMTEQAAEMLYGLI HARYI LTNR
 SACLDDLILDRGPEDSDDSHLTQSACTLYGLIMARYVVTTH RSLD

 KADKQGIYPSKHPDDUALLPDEAMLVMFAEI HRRYVMTEE


[^1]



G LK QF YK LVQSNVYGKCPTDGCNCQ VVPVGLDNTPGDSP GVDDMRQKYERGDFEVCPKLSC RQRALPVGPSDVWVKSN GMQQMLDKYKSKLFGSCPNFSCENAPVLP GLKKMYEKFRRGEFGACPRVLCD DVDNMHQKYERGDFEVCPKLSC RQKADPVGPSDVWVKSN GLKQDNNEDRKKRYGVCKREQCNKNPLIPTGHSDNYSTKR GMDKL DEKYNT I LLPRCPRVYCNGARCFPVG VERDGADF G
GTSN $\square E N V R S K V Y G S C S K Y G C K E S P F \square P V G D S N E F G R G K$ GL YKMFKTCRF
GLAKMH
GMNH $\square$ LKRQSSGAFGECPCCRCQYAHLFPAA $L S D L F G D D S$ KSLPVGPSDVWVK SN
GCKHAKKAWEEGFWGSCRNPNCKGYHLLPYGKSYIINQSP GLKKMKKKYKKQEFGDCPRYYCNKAALLPFSPSDKLNESN GLH G M
GIA QMDEKYQTGDFGHCPRVYCESQPMLPD
GCKHAKKA WKEGFWGSCRNQNCKGYHLLPYGKSY IVNQYP GLP Q M
GLDSMYNKV
GLDTVRRRFLYK DFGKCPGLGCNGMPLLPYGASNDYNDSR DVDDMRQKNERGDFEVCPKLSC RQKTLPVGPSDVCCKSN
GVDDMRQKYERGDFEVCPKDSC RQKGLPVGPSDVWVKSN GLEEVFLRVINEVYGTC



[^2]

|  | UniRef90_B3W |
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|  | UniRef90-C4V6) |
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|  | UniRef90 A8Q2MMO |
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|  | UniRet90-A2D9 |
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|  | UniRef90-A2DDT8 |
|  | UniRef90-ROMDF3 |
|  | UniRet90-V6LQY0 |
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|  | UniRef90-M1E |
|  | UniRef90-V6LU81 |
|  | UniRet90-841P32 |
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|  | UniRef90 A0AO23B2R9 |
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|  |  |



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पGGYCVYCKDVY पPDVLKGELVDGSFYGSSFPQVF पSRYP VK LYCFSCNDVYDAPSNTKY DGAAFGPYFPQFF TKVFCYVCECLYTPKGP LKGLDGCAWGNSFPMFLMISFP KCKTLYDDTQYDEFCVDGCFYGPDF DGMFVATYY
FAVYCDKCNDTYH


VK
$V K L F C Y K C Y S F Y \quad R A P K D C K D S S T A F G A N F C E D Y R D C F$ TK L Y CNSCKS LYEPKG VLKK LDGCVWGT ILCPYLILM

VK LI CPSCKEVYNTPSP FNRVDGAYFGSAF $\square$ PT TVKEHP VKIFCPRCND MNLYCGCCGK $\square Y S \quad$ TDSEYVLDGAYFGPWF $\square P N F F L E Y P$ ■QLC

MNLYCGCCGK $\square Y S \quad$ T DSEGVLDGAYFGPWF $\square P N F F L E Y P$
AKRYCASCEQVFYHWDSK VDGCAWGNSFCHLF LMEF VK $\square$ F CPRCNDFYELRSD

TQLDGAMFG

[^3]

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| UniRef90_T0MGT4 | Y K F K K R |
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| UniRef90_A2F7A7 |  |
| UniRef90-I1C7L2 | $D L L P K$ |
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| UniRef90_A2F2I7 |  |
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| UniRef90_S2K6N5 | $E L V P S P$ |
| UniRef90_UPI00045728FC |  |
| UniRef90_A2DHL6 |  |
| UniRef90_C4V6Y4 | Y K F K K K |
| UniRef90_A0A059EWL5 |  |
| UniRef90_A8Q2M0 | $\mathrm{H} M \square \mathrm{P}$ T K |
| UniRef90 A0A059C404 |  |
| UniRef90_A2F1B4 |  |
| UniRef90_E0S9Q5 | Y H F P S |
| UniRef90_A2G4G6 | D V |
| UniRef90_A2D9V2 |  |
| UniRef90_B4FN07 |  |
| UniRef90_A8BRC7 | K L |
| UniRef90_U6GWC8 |  |
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| UniRef90_R0MDF3 | Y K F K R K |
| UniRef90_V6LQY0 | E L |
| UniRef90 F7CT18 | E Y R |
| UniRef90-M1EJF2 |  |
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| UniRef90_B4IP32 | K L R P Q P P |
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| UniRef90_J8ZTIO | H L K P |
| UniRef90_A2END2 | D K L P E R |
| UniRef90_E2L7K9 |  |
| UniRef90-B7XHW3 |  |
| UniRef90_UPI000185A27A |  |
| UniRef90_U7PR13 |  |
| UniRef90_D8M3P9 | E V L |
| UniRef90_B4NV30 |  |
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| UniRef90_T1H5U1 |  |
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| UniRef90_U6LJR1 |  |
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| UniRef90-B4IN58 |  |
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| UniRef90_G1M4H3 | K CKLKE |
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[^0]:    lupas 21
    lupas_14
    lupas_28
    jnet
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    jpssm

[^1]:    lupas_21
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    jhmm
    jpssm

[^3]:    lupas_21
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    jnet conf sol25 sol5 sol0 jhmm
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