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M DETP TL
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WDEQGLL PA
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M D W

T N M T L D I
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MTAD
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LK L


NP
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$\qquad$ $P \square W \square D$
 E L K F D D

 K S

 | $L$ | $K$ | $F$ |
| :--- | :--- | :--- |
| $L$ | $D$ | $D$ |
| $L$ | $F$ | $D$ |EFKLNS

$R I K W W D E$
$D F K L D N S$

E | $L$ | $K$ | $F$ | $D$ | $E$ | $K$ | $G L$ | $L$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
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| $P$ | $A$ | $V$ | $D$ | $A D$ |  |  |  |

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MS WLDD 
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                        \(=\begin{array}{lllllllllll}L & R & F & D & E & R & G & L & I & P & V \\ V & C & W & N & D & D & G & V & A & \end{array}\)
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$L$ L Y Y N Q D G


| $K$ | $F$ | $N$ | $A$ | $D$ | $G$ | $L$ | $P$ | $A$ | $V$ | $Q$ | $D$ |
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$M T M M S$ D F G D S GL V P A V A Q D A E T G EVV L M
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K W S E
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$\qquad$
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LKDSS
EF LPKFDDKGLIPVVTQDYKTKEVLMVAYMNEEAF


I K F D E K GLL P P A I Q D S T S G QV L M L A Y M N
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WN A D G LV P A VVVQ D A D S K E V L M L A Y M N K E S L


M N M E
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M N P L LD




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NKLLIESI NWNKEGLIPVITQQYDSGEVLMLAWDNQTIL LNNDDLKRLDFKGNGLMPAVDQNAVSGRVLMLGYMNREALD MMEFEFHLNEEGLLPVIAQSYKTGEVLMFSYMDKEAF $P$ LID RLDWAKDGMUPAUVQHAASGEVLMQGYMTAEAAL


 NGLVPAIIQHSDSGQVLMLGYMNADAL QNLLPAVIQDAHSGRVLMQGYMNQEAL

 $A L K W D A Q G M I P A L A Q D A E S G R V L M F A F M N A B A$

 MN QE Q $\square$ S QL SWP ES KL L PA V Q HAI S GKVL MQGYMNP QA L

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$\qquad$ 6
































 ATSGEVLM A WMDEAV




$\qquad$ E QLL NWDKN Q | $L$ | $N$ | $W$ | $K$ |
| :--- | :--- | :--- | :--- |
| $L$ | $K$ | $Y$ | $D$ |

MND | $V$ | $I$ | $Q$ |  |
| :---: | :---: | :---: | :---: |
| $A$ | $I$ | $Q$ |  |
| $A$ | $A$ | $Q$ |  |
| $T$ | 1 | $Q$ |  |
| $A A$ | $V$ | $V$ |  |
| $A$ | $I$ | $Q$ |  |
| $V$ | $V$ | $V$ | $Q$ |
| $V$ | $V$ | $Q$ |  |
| $T$ | $I$ | $Q$ |  |


D Q LQ F D G Q

 $\rightarrow>$ | $A$ | $L$ |
| :--- | :--- |
| $A$ | $L$ |
| $S$ | $L$ | GFAS LD

 MSTTDTLDWA KGDGLLPAVVQDADTLRVLMMG LDLS N I S A L D F D K S E L I P A IV Q DVV S G G L L M Q G F C NLLA A V LR PRFDAAGLVTAVVTDVASGDLLMVAHMNAEAAL $\square D F A K \quad E N G L V P A I V Q H A D T L Q V L M L G Y M N A D A L$

 QLLDWDK Q GLL PAAVVQDFHSGKVL MLLGYMNREALL


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LK LD WKTNGLIPAII QDFASNLVLMHGYMNKEAF
$N G L V P V V V Q D C D N K N V L M V G F M N Q E A F$
$G G I V V T V V T Q D A R T G V V M V A H A D R E A L$
M $\square D \square D S N F K G G G V V T V V T Q D A R T G V V L M V A H A D R E A L$

TFDADIIDWKQDGLVAAVVQDVRTLRVLMVGWMDRDAL
LADSLWYRHTDSTVIAVVQDASDKEVLMVGSMNREAV
LDFDKAPLIPTIVQDVDTGSVLMLAYSTPESL
$\square E \square A N K \square N F R E K N L A V A I V Q N V D T G A I L M Q G F A N K E A L L$
EFHPDFKRGGLLPCVQDAGSREVLMLGYVTPEAL NDNLKFR NDDGRELITAVVMDENKNILMTAFMNMESL
 MSAFLD SLKKDNSGLVVA AQHVDTGEVLMQAFSDRAAV

Q $D D F D K$ NGLVPAGVQDYASCEVEMQGFMNEQAL
LLD T K WDS SGLAVAlAQDVDTGAlLMQGFVNRDAV
DLDWEKNDMIPVIVQNYRSGLVLMQGFMNKEAL
TПDFAK
GDGLVPVVVQDAATLQVLTLAYMDRAAL
NTQLNVQFAKRG GLVPVIVQDVDSMEILMLGYANEKAF
FGPDGLVPAVVVDEDDQVLMLAYMDAEAL VNLTDSFIVLDFDKMPLIPVIAQSVNGGVLMLGYANRAAF

A $\square \mathrm{DFEK}$
A G

Swnaawoegk
DP LAS WNQAWQEGKLEVVVAQAPDGQVLMLGYTDREAL
K LN WKTHGRIPVIIQHNSSGQVLMHGYMDQDAL
GLLPVVVQNCEDGMVLMLGYADPAAL
DSTVIAVLQNVNTKEVLMVGSMNKDAV VIAVLQDVESKEVLMVGNMNREAV

ELTPKFDASGTLPCITQHVESGEILMVAYMNQESL D $\square D \square D F E K L K K D A S V V P V A V Q D V D S K D V L I I A F M N K E A C L$ LDFDKLLAVSKGGNGLIPVVTIDAKGLFLMQAFSTPESLC LNWKKGAPPQPMLPVIVAQARTLEVLILAYVNR

VPVAVQDVDTREVLLLAYANEFAL
D पK $\square$ NHKGLLPVIVQDFVDNSVLLYTHMNEDAW MNLDKVWNENNGVPA!IQDANNKNILMLGYMTKESY TDELKLDFQGQEVIPVAVQNADTNEVILVAYTNEQAM $\square S T V A \square Q D A H S Q E \| L I V G Y V N P E A L$

KDG\|FPT\|VS TETGHSMGUVYSSVESVIV

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UniRef90_R8VZY UniRef90-R8AP10 UniRef90_UPIO0038253AC UniRef90-U1LDC7 UniRef90-E6LB20 UniRef90-UPI0002EDFFF8 UniRef90-Q12NT1 UniRef90-C9RPU9 UniRef90_UPIO00467C9D1 UniRet90-UP10003B7B919 UniRef90-F4B0J5 UniRef90-14C478 UniRef90-13IJV3 UniRef90-W7CLA7 UniRef90-A3QF22 UniRef90_UPIO00050F746 UniRef90-F4Al25 UniRef90-E6PHS2 UniRef90-UPIOOO365066E UniRef90_Q7VJ02 UniRef90-TON380 UniRef90-K9AZ19
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UniRef90 A5KSK UniRef90-C6UMY7 UniRef90-A9PAQ7
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 K E SLLASGKKTTFYSRSKERLWTKGESSNNYLRLEGGYSDCD EKTKTTGYVWFWSRSRKKLWMKGEE KLTAQEKRAVYWSRSRGKLWYKGEE ADTHQTGLAHAWSRAQQDLYKPGEAL QHTLATGYATFYSTSRGKLWTKGETSGDRLKTQSVLPDCD ПKTLTTGYVHFWSTSKKKLWLKGETSHNYQUVEDVKVDCD VLTLTTGLVHFWSLSRNRLWLKGETSGNFQYLQDFKIDCD EKTFELGKLTFFSRTRNTLWTKGETSEHFDELVKMRADCD NKTLTSGLLTYYCTDKGGVSVQGEKSGNFQYVRERELNFE AKTMATGETWFWSRSRKTLWHKGATSGNDQTVKT AVDCD T $D T E K G A A Y W S R S R Q K L W V K G E T S G M R Q Q V H Q L$ LI DDD AYTLEHGVAAFWSTSRNELWVKGATSGDTLKVVEI RVNCE ELSQKESMGMYFSRSRNQLWKKGDTSGHDQKLKRVLAPKD ARSDELGQAVFYSTSRRELWHKGATSGDYLKLEELRVNCE AEARRRGVCVLWSTSRRKLWVKGETSGDYLDLKEVRVNCE HRTLTTGRCTYWSRSRREYWVKGDTSGHFQWVKSVALDCD NKTLSTGLFTYFSDTHNRSWVKGKKYGNYQYVRELFLNGE

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LS KA DA T Y WK S DA D GLIP TVVT DVH G DALGGAYTSEESD INVADAFLTS DRKDGLFPTVVSSYLDGRTLGLVYSSYESV


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N N T G
 LIN WK K K DDGL FTTVVVCTRNNEALGLVVYSSTSS
$\square L A A A W H S D R P D G L D P T V V V D E H D$ TALGLVYSSEESV $L L S Q L K T D R K D G L Y T T L V L D$ T S DRCLGLVYSSDES, EDQLWT TLVVD ERGKALGVCYSNQESL LI A A R VT D Q SNGLYATSVTI

T N L F T S F L R T DR D GLLYP TVVS T A

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