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MKTVVFAYHDMGCDGПEALLAAGYETSATFTHTDFYGSVA MRIVFMGTPDFAVPSLQRLIDDGHEVVAVYTQPDKPKNRG MRVVFMGTPEFAIPSLQAIVKSGHEVVLVVTQPDKPAPVK MRVIFMGTPDFAVPSLEKLLEAGYEVCAVYTQPDKPKGRG MK LEMGTPDFAVPSLRALLQDGHELLGVFTQPDKPKNRG

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$M K V V M G T P D A A G I L E S I D N A G H Q V V L V T Q C D M F P P V K$ LRLVFAGTPEFAAEHLKALLDTPHSIVAVYTQPDMPSPVK MKVVFMGTPDFSVPALKA AGKHDVTAVVTQQDRPKGRG MNVIFMGTPDFAVPCLQKLIK NHNVIAVFSQPDMPTPVK MRIVFMGTPDFAVPTLDRLHADGHDIVAVYTRAPKPSPVH MKVVFAGTPDFAASHLQALLNNHVDVVAVYTQPDRPAPVK MKLVFAGTPEVAVPSLRALIDSEHEVAAVVTRPDARAGRG MRIIFMGTPDFSVPTKKSLVEAGHEVAAVVTQPDKPTPVK MRLVFAGTPSVAVPPLERLVRSGHEVVAVVTRPDAPAGRG MKIVYMGTPDFAVPPLAALVKAGYEVTAVVTQPDMPTPVK
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$R I V F M G T P H F A A H V L E Q L I N H E E I V L V V T Q P D R P T P V K$ MRLIFMGTPDFSVPALNALHAAGHDI CAVYTRPPTKSPVH

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 ES GVVTIMHMAEALLDAGDVI SQARTPI DPDETVGELDHDRLA



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KEGAALLTESLR



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 A I G G R L I I
 V I G G DLL LVETDFKL ENREI A PVVPQDEAEATYAP




 $E M G S Q A V V D V V A Q F A N G Q V V A E V Q D D S L S C Y A K K L T$ VS G A G L L V R TVV G DA S G E L S P V V P P D A DV S Y A G K L T

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Mr|LVIFAGTPEPAVIPSLIRRLIEAGHDVV|AVVTRPDMRSPVIG LRIVFAGTPDFAAASLKALFETHHNVIAVYTQPDRPAGRG LKIVMGTTDFGVPALENLVAAEYQVIAAICQPDRPNKRG KAVVFAYHDDGCAGQNALLEAGYDI AAVFTHADDPKENN
 MKVIFMGTPEFAVVPLEMLIKENVNVVAVVTQPDRPPPINK VVFMGTPQFAVPILQGLLDQKYDILCVVTQPDRPSPVK LRVVFAGTPEVAVPSLRALLVSRHEVVGVVTRPDAASPIR RLLFFGTSEFAVPQLQALTSLGHDLVAVYTQPDHPSPRA $K I I F M G T P Q F S V P Q L E A L C E Q G \| D V Q C V V T Q P D R A P P V K$ RIIFMGTPEFAVAPLEALTQDNWNIVAVITAQDRSSAVK $K I V F M G T P V F S V P G L Q G L V E S G Y E V V A V V T Q P D R P T P V K$
$R V I F M G T P E F A V P C L A A L Y E H C D V I G V V T Q P D K P S P V K$ MRLLFAGTPDPAVVALEALLASRHEVVAVLTRPDHPSPVK LKIIFAGTPDFAAKTLQSIURSHHQVIAVYTQPDRRSGRG K VFMGTPAFSAP ILLRLHEEGYDIAAVVTQPDRPPPVK MKIVFMGTPDFAVASLKALVESGKEVVAVITAPDKPSPVK LRLVFMGSPDFSVPCLKALVDAGHEVVCVYSQPPRRAPVH MKAIVFAYHDDGCAGLKALTDAGYDI QAVFTHTDDPGENN MRLIFAGTPEPAVVALQKLI ASDHEVVAVLTRPDHPSPVK LKIVFAGTPEFAALHEQALI DSEHQVIAVYSQPDRPAGRG MNVVFMGTPDFAVPTLEMLIDEKYTVSAVVTQPDKPPPVK LRVIFMGTPEFSVPTLRAIAEAGHEI SAVYTQPPRPSPVQ LRVVYMGTPAFGLPTLEALYNS YDVVGVVCQPDKPSPDK MRVVFAGTPEPAVASLEALIESRHEVVGVISRPDAAAGRG MRIIFAGTPEPAVVALEKLIASEHEVIAVITRPDHPSPVA RI I YAGTPFFAVPALQALADDSVELVAVYTQPDRPSGRG MRLVFCGTPQFAVPTLEALLAAGHQVSLV SQPDHPTPVK MKVIFAGPDFAATALDALLKADHEVVLVLTQPDRPAGRG MKVIFMGTPEFAVPALKKLITHAHEVKAVFTQQPKASPBH LRU FMGTPEFAVASLQRLIDAGKNVVAVITAPDRPSPVK MRIIYMGTPDFAVPALDALRAAGHAIAAVYSQPPRPAPVH MRVVFMGTPDFAAPLLQKIVADGHEVAAVYTRAPAPAPVH MRLVEAGTPEPAVVALEKLIASRHEVVGVDTRPDRPSPVK MKAIVFAYHD ${ }^{\text {GGCVGLEALALAGYEIQAVFTHSDAPGENH }}$ MRLLFAGSPAAAVPSLEALLGSRHEVVAVLTRPDRPSAVG
 RIVFMGTPEFAVASLAACLDDGEVVAVVTQPDKPPPVK LRLAFAGTPDFAAASLQAVLDSDHQVVAVLTQPDRAAPVK LRIIFAGTPDFAASSLAAVLASEHDVVAVYTQPDRPAGRG LRVAFAGTPEFAAAALDAILDAGFSVPLVLTQPDRPAGRG MRIVFMGTPDGAAACLEKLLTEHMNVVAVYTKPDTPQNRG MKVVFFGTPQFAVPTLEKLLNHEFQVLAVVSQPDKPSPVK MRIIFMGTPDFAVASLKALLDSGENVVAVVTVPDKPAGRG MRVVFAGTPAVALPSLRALLDSRHDVVAVVTRPDRPAGRG MILVFMGTPQFSVPGLEALVANDYQLLAVVTQPDQQTPVK MKIVFMGTPEFSVPILQALTNEKYDIKAVVTQPDRPTPVK
 MKIIFMGSPEFSTSALSCLIEENHEIVAVYTRVPKLAPDH MRLVFAGTPEVTLPALDAIAASAHELVAVVTRPDAPAGRG MNVVFMGTPEFSLPTLHKLHESDHDLLLVVTQPDRPPPVK MKVVFMGTPDFAVGTLKELIDNQYDVVAVVTQPDKPSPVK LRLVFMGTPEFAAIILQKIVASGVDIVASYCQPDRPVGRG
$M R L I F M G T P D F S V A L H A L L D A G H E V V A V Y T Q P P R P A P V H$ MKI AFMGTPEFAVTVLEGLLNTKHEVGLVATQPDQYTPVK
 MRVIFAGTPEFARVALERLLSAGFTVPLVLTQPDRPAGRG MKTVFMGTPDFAVPSLR VVAENTDLALVVTQPDRPQGRG MKAVFMGTPDFAVPTLQKMVDMGDETTAVVTQPDDYSPVK MK VFMGTPDFAVESLKSLQQAGNNI LAVVTNTDKPTPVK MRLVFAGTPEVAVPTLQELLDSDHEVVGVVTRPDTTAGRG MRIVFMGTPDFSVPTLESLVKGGHEVLAVVTQPDKPTPVK
 MK VVEMGTPEFAVPSLKKLIEH HEVLAVFTQPDRPSAVK MKTIVFAYHDMGCAGINALLKAGFTISAIYTHADTASENH $M K \ V F F G T P Q F A V P T L K F L I E H K F E V V A V V T Q P D \prod P S A T K$ MGTPDFSVPVLQGLVDAGYTIKAVVTQPDKASPVK LK』VFMGTPDFSVPGLEALIEENYDVDSVVTQPDREPAVK MRIIFMGSPEFSVPILSSIISAGHDVVAVYCQPPRPAPVH RVVFAGTPEFAAAHLDALVAAGHDVCAVLTQPDRPAGRG

 MRLLFAGTPEPAVPSLQALLASRHEVVAVLTRADAPAGRG MRIVFMGTPDFAVPSLVSLVEAGNEIALVVTRPDEPSPVK MRLVFAGTPDFAVPCLDACRGSGAEVVAVYTQPDRPAPVK MKLVFMGTPDFAVATLDSLLSAGHEIVAVYSHKEQPSPVH


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 $M K V V F F G T P P F A A N V L T Y L I D D H S I E V T A I V T K P D K P G R S G$
 LRVAFA GTPEFARVAL EA I HAAGFPVVAVLTQPDRPAGRG


 $M \mathrm{~K}$ I V F M G T P D F S L Q P L K KL I E A G H Y V V S L V L T R E D K P T P V K
 $L R V V F M G T P E F A V P S L R A L V A G G Y N V V A V V T T P D K P A G R G$

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 L R I I Y M G TPPQFA V P A L E A L I Q H G Y E V V T V I T R P D K P A P V K

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 $M K I \quad F M G T P S F A V P A L K K G I S E K H Q V V L V V T R E D K R P E D K$ $M N V V F M G T P E F A V P T L E K L T Q F H H V A A A V T Q P D K Q F P P V G$
 $M K L V F A G T P E V A V P A L D A L I A S G H E V A A V V T R P D A P A C R G$ LKKLI FA GTPDFAARHLAALLSSDHEVVAVYTQPDKPAGRG

 $M K V F F G T P Q F A A N V L S D L L N S H D D V V A V I T K P D R A C G R S$
 $M R L I F A G T P E F A Q V A M A A L H A A G H E V V L V L T Q P D R P A G R G$ $M R M$ M T P QFAVPILQALIDEAYDVKAVVTQPDRRVGRK
 K I I F M G T P P E F A V P C C

$\square$ K I I F M G T P A F F A V


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 QK A L E L L
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 EVAALA Y K I P P V A Q P D D I I R E D Y E
 $\qquad$ $\square A$ FLGK MAPDMIFSFYYRA Q
 $K \bigvee A \square A H N L P V W Q P K R \square K K D P E L D A M L E N L Q A D V F A V V A Y G Q$ $M F A L E H G I A V A Q P R S D D A A A A R T A L E A A K A N V M V V A A Y G L$
 Q A A



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 RKA QE H G L P V Y Q P A S L K T P E A Q S E L A A L E A D I M V V V A Y G L H Y A L A H G L H L M Q P E K $\quad \mathrm{L}$ L R D P MF AV A N N WP V A Q P R S L R L D GK YP A L Q K A Q P D V M V V A A Y G L Q Y A V E H G L K L L Q P V K L K D P D F I E E L R S L K A D L Q I V VA F R M



 E L A L
 $E V A A E H G I D T Y K W P S D E A R A D L R Q L A D D G V E A V A V V A Y G N$
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$M K I V L F G Q K W A A E V L K A T I A P G V D V V V C D T E T P D V L R ~$ MK VVLFGQKWLAAEVLKA ITAPGVDVVTVCPDTETPDVLR DR AITGQSNFAADVLELLEKKYNVVGVFTDPNKGSRED $K V A V L V S G N G S$ NLQALIDTCAEITLVVSNK KDAFALL MKVLVIGAVDFSGHCLETLGKAGADIVGVVTTSDPSRYSD MRILFAGTPEDAVPTLRALHQAFGVCAVLTNPDRPGTRG $M R\|V Y \square G C V E S S R M L R Q V L Q P K G E V V G\| V T R N A D F A S G E$ MKVFWGTPKYAAENLKTDAKAGYEVIAVVTQPDRPSPVK RVLFFGTDQFAREALRALHAAKLEVVTIPSLDPRGLPVK RVLFFGTDDFAAESLRALDAAREVVTLPSSSARSLPVE

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पN VFAGSPA TAA LLKGTDEKQVGTAAVLTNAPSPTPVA MKI GYFADGPWSHLALEKIADKRLEVSFIVPRYDHQDKVE K GVVLGCQQTCVDFLKYLNSSDIUVSJVVTYTYNYKSVL DREFGTDGFALKSLEELHRAMQDSVVVPTPKPHPCLVA R R F LG TTSFAVEHLRFLVEEAYHVVGIVTTPDKPAGRG LKIVFMGTPSYATTILEALLEPSTEVILLVTQEDKPPHTK LKVLFAGTPDVAVPSLKLAQEHFEVVAVLTRPDAPNPVK RILFVG $\square P D M A Y I G L D G L L M S G V N I V G V K K D H N M Y Y D F K$ RVMFFGNDDFSVKSLQMLIDSKVDVVTTSTGSGDNVKSF MRIVFAGTPEFAVPSLRAI ARSDHEVVGVITREDTPSPVA KILWFFWTPNLAKRVLEDIVNSKFE:SFVVTWTDKPVWRS MKLVLFAYTEFGYQCTKYLHDQGHEIAAISAPADNGKPI N $R \| V V L \square S G N G S N L Q A L I D A Q A N I V A V I S N R P R A Q K V G$
 MKVAVLASG SGTNLQALIDSGVEUAAVDSDRRKA YAL


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UniRef90 Bowser

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Y S G|V|G|I MQMEA G|L|DTGP|I L $\frac{140}{L}$
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$R$ $\square k \square A V L V S G G G S N \square Q A \square I D A C A E \square V L V F S N Q D A G G \square E$ NVVVLLSGTGS NLQALTDSTADTAAVIANR SDAYGL $R V V V L I S G S G S G N L Q A L I D S G A E L V G V I S N K E G V G G G L$ MKLAVVVLISGSGSN
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R V F F F G T D D F S L K $R I A V L I D S G S G S$ S L R A

20
NQA|I I D A CEE\| VG|VV
TLL Q A L N E N
 LLEASEDAEFPARVVAIGADRDADGL K V V L L A T K E A HC L V QA L I K
 $R L V \vee L I S G E G G \quad N L Q A I L D A C Q Q I A A V I S N Q E R A R S A A$
 R V L F F G T D N FA K S H

MRFAVVLGNESGLLIGG $\begin{array}{lll}R F A V V & L & G G S G G S \\ N V N V V & L & 1 \\ K & G R G S\end{array}$ $\begin{array}{llll}M K N V V & L & D \\ M K G R G S \\ M & A & M V & S G G\end{array}$

 $M K$ AI FA S G S G S $\qquad$ G D
NA

 $M K C A L V G S R Y F G A L V F E T L R E E G G E F T S V V V A P S E D D R L D A$

 $N$ NVVLISSGNGS NLQAI LEACEDS MPNARVAAVFS $M S S V L I G G S G V L A R C G E \square L V A K G H R I A A V V T S \quad D A T A R$


 $\square$ AVVLS NK S A A A $R \vee A \vee L I D G T G$
$T N L Q A L M E S S A E T V L V I D S N P G D E G L K$
 $R I L V L D S G S G S \quad N L Q A M L D G C A Q V V A V I D N K A D A Y M A G$



 | $R$ | $G$ | $G$ | $F$ | $A$ |
| :--- | :--- | :--- | :--- | :--- |
| $N$ | $V$ | $G$ | $K$ | $A$ |
| $L$ | $I$ | $S$ | $G$ | $C$ |
| $R$ | $L$ | $C$ | $N$ |  |
| $R$ | $A$ | $F$ | $A$ | $S$ |
| $K$ | $S$ | $G$ | $S$ | $N$ |


 $R$ LIATVVSKE DHCL LE LLWWDLDAE IS MVISNHPDMKVEP $M N W G V L S A G P F G A L W W K G L V D L G M P P E W V L T K P P R P A G R G$

 R $1 . V V$ F G S N M L $R L A V F V S G G G S \quad N F R S I H Q A C V E G V V V L V S N K Q A C G G A$ $R V A V L G S G T D M A A M L E A D D E A G A Q \square V C V V S N D K T A G \square L E$


$R V V V L I S G N G S \quad N L Q A I D D A H V E L V T V M S N R \quad K D A Y G L$ $L R V V \vee C V S G \quad G G T N L Q A M I D N N A G I V R V I S N N \quad R D A Y A L$

 V LVVSGRGSNF QAVAAD KI KK E N LDP I I AVVI S DSPEAYALL


```
\(R \square V I F A S G R G S \quad N A E A \square H E A N G E V V G V I C D H A G A \quad Q V L\) \(R G A D I A B V I A S N K A D A P G I A\) \(R \square A V F A S G S N A A A L Y E A \square K Q G E \square N A E V V V V L S D H A A P V L\)
```

$R \square A D F V S K E D H C L M E L L L D A D \square A M V V S N H P D M K D M V E S$
 $R 1$ AVFASGEG TNFQSLVDAGASVEVLICDKPGAPAVAA GGSNFENLALKK A EAGFEIVKILIADSP DAYAV





 QA HPR LKKPSPVNRYA EMCGGTQYQWDKQYDV AVLASSFGH
 $\square$ A K Q A GI S A F IVVENNPADRI HE ILVVQHKVHLLI CLLA GFMR

A A GF NVVPF H CI R D E H D A L V G D K I A E Y A P D M G L A K Y M R


 GVAESSNLLNDYHPPQAKTLQDWHVPSDDAYDVGVVVSFGY VDAF VF DPKAYPDKATEEREVVAELQKREVELVVL AGYMR ERARAA GDPGEVVRASYDRAL AEVI DRHEPGLVILAAGMMR E $\square$ A GA H SI A T QVVRE A H D A A I H EALLS GMKAEIVCLAGYMR A WARGKGLAHMRDLS DLDRHLAGA GFDWLLS DANLR ERAA QHQI PHFSFKEA YEKALLHLLLQEQKDDFVI LA GYGR
 AFAAEHGI QTADSREAFDTAMASLI DSYQPDLVVLAGFMR ERAKKAGI PYFENRAEFNEALLQILLKDAEPDLIVLAGCLV
 ERA QNA G 1 DKARAANVPILIVDFHDYANVIDTALQARQDELVLLAAGYMR QAARAAGVPLHVMEN_PRFVPGEADAEGTDVILAAHTHA VD A H S VNPK NY GS REEFDHELMDQIDAYQPDLIVLAGYMR QR GQRFEDP CFSDKK S Y E A A L L DVV K R Y DVELVVLAA GMR


 ERARKHHLPTVVI RHEDFETVVRVFKSADVELVVMAGFMR

 S F AL Q S QL P L Y E WP D
 $L G \square E A R F \square P F$ GADRARFEREATA QLTAA G $\square D L V L L A A G F M R$


 TARRYDIIPAYA DRAAMEAALIDRALDEMAPDVVVLAB GYMR ERAAKHGUKTKVSRDEFNEAFYELLVKENP

TRAREAGDETRVVDHPFEHELIRALDDAGVELVCLAGFMR ERARKAGIPTVVLPHGNYRALIAAADRHGADAVAMAAFMR TRARNAGCATEVLDAAHFADLGDLVAEYRPDVIVMAGFMR
$F G$ GPFYHVPVTANTKEFAFKKQLE V
 AYAVNMNI PI HTLDKSFDYALAAVI DYYQPDVVVLAGYMR


 K AR A A HI P A F HI R E E Q E A KI C EVVL E D Y A A DLVLLI DGYMR
 QV AWARSPKDFADRAAFDTAL GDALAGFAPDWVV CAGYMR HGIPF H HVVPVNPDNRQAAYDEIRRIVEEKGDTMVLARYMQ K Y AVVEK KLLKVMCDWP TRATNAGDPTSKTREEYDAALVAEI QKLNPDLIVLAGWMH K RAEENHI PDYADREAFHKALLEAVREAEPDLIVLABGLV QAAVAHNI P VLQPPEKLSGSPELAAQAIDALAPDLIVVTAA Y GQ

 VRRAA E K M G
 FADREAFDAELI RRIDAHAPDLVVLAGFMR ERARRRWNVPSTVVIKAAFNDALLLEAAVSYKPDLI CLLA GYMR
 ARAKEWGVPNVVVERKFEKAMLDAIAAPYEPEAIVLAGYMR
 R A Q K A G I A C H T F R E D Y E R A K R A E K L N IDP H I I D D R S K Y T A V V T E A V $R$ VT R R H G ID F H Y VR GPAFEQVRKDVDVHDPHAVVLARFMQ SFCNSKGI P LLKASHVNNPEVIQSI KDAQLDWLFI DGWS Q

 VESVLLDNHR YKSRE DLDDRRIVQTVLRQYDVEFVI MA GWMR


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ETGATVHFVIDENVIDAGP\|। $\left.\frac{140}{L} Q E P / V / F V / D Q N D T P E T L A Q K V \right\rvert\, H$ NTGVSIMSIPRHFDDGPLLQQRQI ALPSRPTFSTLRDTLA
 QTGASIVVVDEGADAGP:IAQERVPVLPDDTESSLHDRIK I GATAHFVTDELDEGPII MQQVTPVTHADSALSMAKKGR VIGATAHYVTADLDEGPIIEQDVERISHADTPDDVVRKGR
EHGTSVHFVTEQLDGGPVILQAKVPVEGDTEADIKARVQ VHGTTVHFVTAELDCGPVVVQAAVEVRCGDDEAALAARVL ITGVTLMK1KDIFDVGE:YSQRKVPVSKNDKLPELTKQLS IITGVTVHMVDAGLDTGPII AQTPVEVLEDDTAESLSARIH VHGCSVHFVDPELDAGPLIVQAEVPVWPDDTPETLARRVQ VHGCTVHFVTPEMDDGPI AQAAVPVLISDTEETLGERVL RYGVTWHLI EGGDDEGDILAQQMFDI AEDDTAFSLNSKCY EHGCSVHFVTEELDGGPLVVQATVPVQSDDTPETLAQRVH
 ESGATVHFVDEGTDTGPI ILQKAVYVRDDDTPESLQRRIVM IIGATAHFVTNNLDEGPIIAQATIPVDHTHNAASMAQAGR ETGVTVHYVDEGMDTGP:VAQETVSIDYNETRETMTKKGQ EHGASIHFVTAELDGGPVIVQARVPVLPDDDPDTLAARVL ETGVTVHY|DAG1DTGQIVAQRVVPVAPDDTLASLATRLH DAGGSVYHLADGWDAGAVAAQDWCFVEKGESARELWERLA ETGVTIHYVDSGVDTGPII AQGKVQVAKEDSGADLERKI H FSGCTVHWVTLAVDSGPIVQQAVVPVLPDDTEESLQARIQ EHGTSVHFVTEELDGGPVILQAKVPVFEDDNASVLAARVQ EYGTTWHRMAEMVDGGEVLARVPVAI EPEDTALSLGLKCD VTGVTVHYVDEGMDTGPII AQKALEVGQDGATVEETAQEVH

 VAGCTVHFVDEKMDHGVI LAQKAITVEDSDTPDTLSARIVL VSGVTVMQVKPKRFDGP: K KQEAVPVPPQCTAKELETVLS ETGVTVHYVDCGLDSGPVVAQRHVP:YDEDTVDELEERVH


FGVTLHHVNAATDAGETAFQKETPVSWSDTGGT LYHKAL EHGCSVHFVTEELDGGPVADQACLKIEPNESDDKLTDRVH VTGVTIHYVDAGMDTGPIIAQEAVTVSEDDTRESLQKKIQ IHGCTVHFVTDRMDEGPII AQAAIALVPGDTPETVAERLL ESGATVHFVDEGTDTGPILLQKAVYI RPDDTAKTLQQRIM FSGCTVHFVEEEVDAGPIIAQAVVPVLPSDRAEDLAKRIL DAGCSVHFVDEGMDSGPIIIQAAVPAFPTDNGETLGARIL EHGASVHFVTEELDGGPVVLQARVP REDDSEEEVAARVQ HHGCSVHEVTAALDDGPVLGQARMPVGPGDTPETLAARLL ITGATAHFVTEELDGGPLVEDDRQRVSHRDNVDDLKRIGR ETGVTLFRLVEEMDAGPVLMQRRSPVDESDDMGTLMAKLA MIGATAHYVTADLDEGPIIHQDVEAVTHSDTPEELVRKGR IAGCTVHFVTEGMDDGPIVAQAAVPIDPGDTPETLAARVL


 AHGASVHFVVPELDAGTVLAQARVPVDASDTPETMAQRVL YTGVTVMKVPKHEDTGEELGQKKVAVPEKVTYPYLHDVLA EHGCTVHEVTAALDDGPVLGQARVR|APDDTPESLARKVL STGVMVHKVTAVVDHGEVICQKAVP:DPADTLADLQERMH ETGVTIIEMVKKMDAGDMFAQAKLPL ETGVTVAFTVLKMDAGPMLTQTKYKMNGSEKAHEMDDVLF EHGTSVHFVTDEDDGGPVILQAKVPVFANDSEDDVTARVQ
 EHGCSVHFVTEELDGGPLVVQAAI PVQSDDTPESLAARVH VAGCTVHFVGTGLDDGPVITQTAVPVYDDDTEDTLSAR1

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| :---: | :---: |
| UniRef90-UPI00035A0AD6 | F E G GKMI I E L L REL P E AVI GEAS Q S E G $\square$ T Y A H K $\square$ T |
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| UniRef90-A0A023Y6I9 | AVEHPLL $\mathrm{I}^{\text {A S L Q WLLVS GRV }}$ |
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MK VVLVSGNGS RI AVLASGGGS RVLVMVSKDSH

 $\square R M A V F V S R E G H C E W$ SGT
LMASGTGS MTNVLMASGT GS $R V V L V S R Q D H$
$\square K$
AVFASGRGS NLQEFI DAD DAMVISNHDDMREYVEQ NLQEFLDANARVSAVLSNKADAYGLD NLQALLDHAADVVLVLANRADAGALD GODTVRYGADVCCVIGNYD BPGLR

 IYFMGTGRVGGA


RVAVLGSNMAALLYASRAADAAYDVVLVGSNNPDAEGLK VLGNESLLVACADMLLARGHSI AAVVT KDAEIR GKLAVFVSGGGSGTNKAVHAACDDVVAVVSDVPSCGGVN DYPAEITLVLSNRP DAKGL
 K $\prod$ A TFASG AGSNAKK $\prod E H Q \square S V G L V C N K P E A G V L D$ RVAILISGRGS NMTALIEAPAEIALVLSNRADAGGLA

 $K V A I F A S G N I A Q R V Q D G R L D N E I T A L Y V D H D D A F A V$ RIAVFASGSGS NFQALAEAGGEVALIVCDKPGA RVL LKLVVLVSG GGTNLQAIIDPNTEIKAVISNNKNA YAL
KVGVLVSGRGS NLQALLDACAEIVLVISNVPGV पAL LKI AVFVSG GGTNLQSLIDANGEIVLVVSNRKKA YGL R\|VAVGSDQPGCRALARAQDAGVDTFVVVMTTLDPRGS mntGVFASGSGS MKIAVFASGSGS RLGVLVSGSGS


MK VGVLISGTG TNपQATIESHAEVVIVISNKSGVEGLK MKKLVILTSGRGS NMEAIVRACARVAAVIANRPDAAGLA LR LVCGSDAFSTTSGRALUEYSDDVVAKTDKRTMAPVIK MRTVLMVSKEGHCLNLLFRWKSGLLPCAVISNRADASGLDD VVLLVSKDSHCLTLLARAERGEFPARISAVVGNHRDLE
 RLVVLISG S SGTNLQALDDAGCEVVAVGSDRPG IKGL
RVAVLVSGRGS NMAALDEAPAE $\square$ A LVVSNRPDAGA $\square K$
$K$ VFDGRGSNLKAVLQRMKVGKDRGVGSALICDNPAKAL MKIAVFASGSGS NFQALILDAKAKIKLLVCDQKNAAYAG
 LRVAVLVSG GGTNLQALIDRNTELAVVISNNPGVGAD
$K \prod A V L V S G \quad G G T D \square Q S T L D A D C E V S Y \prod V A D R N C A L D R$ KIVVLVTKEYHCLG DTLLRNYFNTLGVACVIGNHETLR LRILFCGSDEFSCASTKALHEHRHNKNLVEMVLPPRRMGR
 ${ }^{R}$ I AI LISGRGS NMKSLLDRGDFKVSVVIDNNPTAAGU MKVAVFASLQDHCLVLHRWKDGQMEIMNLVCDQPGAPVIGE MRTLVMASKSGHCLNLLFRQRSGTLPIEVPAIVSNHTDLA RIAVFASGTGS NEAALVQAQREIELLVSDKPEAPVAQ LRVGVLVSG GGTNLQALLDANAEISVVISNNPGAVAL
MRDA

MRVAI LAS GNG

| $\square K$ | $A V C V S G$ |
| :---: | :--- | :--- |
| $K$ | LYMGRDEF |
| L |  | KI LYMGRDEFSGTNQAIDGNTEIEVVISNNKNA YAL SCSVFKHLHDAKD $\quad$ VWQEDHDATHPD LKVAVLVSG GGTNLQAILDANAEVSVVISNNRDAYAD RVAILVSREDH CLLQDLVWRDADVVLVASNHEDHRADV MKI A IVFASG SGTNFQA V V DAPARVALEVCDKPGA KVI $L N A V M D S G S G S \quad N L Q A L I D Q \square H N I A L V L S N K E G V \quad Y G L$ LRLAVLVSGGGGGGTNLQALLDANAEVVSVVISNNDERAKKKE LKLGVLASGSGS NFEAI ANANAQI QVLI YNQPQAYAAV



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UniRef90 C8WSE1 UniRef90-C8WSE1
UniRef90-D6TQR2 UniRef90-M1ZCQ2 UniRef90-R7L891 UniRef90-K1LTY3 UniRef90-UPI0002EA29E1 UniRef90_D9S192 UniRef90-E3DMC2 UniRef90-UPIO00382448F UniRef90-UPIO00370F07C UniRef90-UPI000365D557 UniRef90-M2SG85 UniRef90-V9WNK3 UniRef90-D8UCK9 UniRef90_UPI0003B3FF3C UniRef90_U7FJL4 UniRef90-S2ZWW3 UniRef90_Q2N8X8
UniRef90-D7E5 55 UniRef90-D7E5X5 UniRef90_UPI0004766D6A UniRef90-UPI000377247B UniRef90-FOSE38 UniRef90-K6GJG3 UniRef90_UPI0002ED9253 UniRef90_C9SD99 UniRef90_U7PDT7 UniRef90-M9M4R5 UniRef90-R6BRW5 UniRef90_UPIO0046ABE51 UniRef90-S9S916 UniRef90_E7G858 UniRef90-D7GCF2 UniRef90-D9QUG7 UniRef90-E6TWM1 UniRef90-W1SU63 UniRef90-Q08ZV3 UniRef90-Q76BG4 UniRef90-D5ELD9 UniRef90_Q76BB4
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UniRef90_BOY778 UniRef90-Q8GDX6 UniRef90-R9WJV6 UniRef90-R5YJ84 UniRef90_D8QE04
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LAAAE GVAVWAHDHRGMSRDTNALLEADPELIIVCAYGQ LAAAE GVAVWAHDHRGMSRITNALLEANADYVALAGYMR QWAADKGLTVLEDARDF DGSVDWLLSIANLE Y AREHGI PTVTYP IVKKGEFLGQKTAHQADFVLLAGYL K
 K R A E A A GII E DY A DP LTTA D MVI A T ELLKRK GVD YVVVMA GYMR L A E A E GIIP T F A S R E E H D Q A M D A A V V R S S G A E Y I A L A A G M R $\square A A K A H \quad \square P V L I V D K E Q F F R Y V D E L K H S G D D F I V L A G F D W$ R A A E A GI A T AVI D H K F D A A M D E R L R A ENIDDVVCLA GF MR
 HHDPVTKANKREQEERRIWSLQETGTDDVVLARYMA G $\square$ G F K H L P V T K D T K A E Q E Q K I L D L
 Q R A K D H NIILK D F A D R A A F N Q A L L E E K ERAEKAGVAT TVIPHRDYPSMDLVLARAAGIEIVGLAGFMR ERAKNAGIQAECIKDDQL LIQRLKEEGVELIVLAAGLA

 A ENHGVPVFTSKEAYETEVLRQLQAYNVELIVLAGYMR ERANEAGI PAFVSKA DYEVVEI TVSLLKSNKVDLIVLAAGYMR | $E R A$ | $R$ |
| ---: | :--- |
| $A$ | $A$ |
| $A$ | $G$ |
| $S$ | $A$ |
| $G$ | $V$ |
| $P$ | $A$ |

 F A A S H GI A T AVVVD H R Q FP DLA K E I D S F A P D L V V L A G F M R

 QLAAS YNVVFHHI PVTAATKEQAEI EAEGAELVVLARYMQ SMT TRFGVPFHYVKDEAFGEVRRDVDGYDPDAVVLARFMQ

 TA ALEA GLDDVIE A SHVDDEVCERIA QYQPNVGAVVAYGA

T A A DAG $\square E T A \square I D H D F E A A V A E R \square E A A D \square T L I C L A G F M R$

 E RAK A A QI P Q F V F K E E Y E N E I V H E L K K Y G VE Fiv LiA G Y M R E
F
E
L




GLTEKF DI PFHFI DHYFEETLMQTLSN
GFKTLREVPCKLLAENLRLNIHQRKTT TGWDLPEGTNFGL
 QTASEYGIEVKVCKSEKE I L E TVLHNKKVALI CLAAGFMR A RAA GVPMEDYAARANWDEAL ALAAVGEHDPDLVVCAAGFMR K ARQRNVPVTVIIRQHYEAA V VALLAPDQQLDYILLGGGYMR R F L K R H GII P Y H Y L P T T K A N K RED DI L E S GTD F L V L A R Y M Q GMAEFYGI PFHHIPVTPNQALLELVAEHDDELVVLARYMQ R AEEAGIPAFAGREQYEAALVAELQRRNIGLVVLAGYMR E R A R K H GI R A VC I R D A F N Q A F L A K I D E Y D L D L I I V L A G F L V A VA T E L S L P IDHE I D T F K GWAV E Y S P R R L V A V S F GL
$R$ A A R L G I P A E S F K Q E Y E E K L L G V L K K Y Q D D F I A A A G Y LR
 E HVGRRGGIPHAKPEKTWDVNAPTSQAAPSSHMLLTASTGR RARKHNTEAVCVSPKDYPDRFLKKLDSYAVDLVVLABGEV E A A P F H H V PV PAGGKPEAEERL LELLLRGRCDLVVLAR YMQ E R A E R E RII P TAFVG K A E F E Q A IL L A E L R K H E I E FI A L A G Y M R

 RAANWNNHRDYNSREDLDRQIVVQTLRRQNVEFVVMAGWMR FDVPFHFISHHK TRQEHDAEUAQT IQSYNPDYIVLAKKYMR


UniRef90 UPI000476F998 UniRef90－B6EJU4 UniRef90－WORJB9
UniRef90 B2GM47 UniRef90＿UPI00047D6A09 UniRef90－F4C5A8
UniRef90 C8WSE1 UniRef90－C8WSE1
UniRef90＿D6TQR2 UniRef90－M1ZCQ2 UniRef90－R7L891 UniRef90＿K1LTY3 UniRef90－UPI0002EA29E1 UniRef90－D9SI92 UniRef90－E3DMC2 UniRef90＿UPI000382448F UniRef90－UPIO00370F07C UniRef90－UPI000365D557 UniRef90－M2SG85 UniRef90－V9WNK3 UniRef90－D8UCK9 UniRef90＿UPI0003B3FF3C UniRef90＿U7FJL4 UniRef90－S2ZWW3 UniRef90＿Q2N8X8
UniRef90－D7E5 55 UniRef90－D7E5X5 UniRef90＿UPI0004766D6A UniRef90－UPI000377247B UniRef90－FOSE38 UniRef90－K6GJG3 UniRef90＿UPI0002ED9253 UniRef90＿C9SD99
UniRef90＿U7PDT7 UniRef90－U7PDT7
UniRef90＿M9M4R5 UniRef90－R6BRW5 UniRef90＿UPI00046ABE51 UniRef90＿S9S916 UniRef90＿E7G858 UniRef90－D7GCF2
UniRef90－D9QJG7 UniRef90－E6TWM1 UniRef90－W1SU63 UniRef90－Q08ZV3 UniRef90＿Q76BG4 UniRef90－Q76BB4 UniRef90－B2T615 UniRef90＿W9XXG8 UniRet90＿Q39UKO UniRef90＿UPI0002D4F4EB UniRef90＿F1YLL9 UniRef90－H2BTM5
UniRef90 R7SHL1 UniRef90－S2VPU1 UniRef90－D4YPG6 UniRef90－X1AG54 UniRef90＿UPI00037747A3 UniRef90＿E1L779 UniRef90＿D8F815 UniRef90－13E3P8 UniRef90＿UPIO00476CB02 UniRef90＿－12FBY2
UniRef90 R5JUC5 UniRef90－GOMSJ4 UniRef90－F7QQP3 UniRef90－l3D7E0 UniRef90－W0EYC1 UniRef90－S0E7U2 UniRef90－UP1000363DA8E UniRef90－×5H3X0 UniRef90＿UPI00047C1C9D UniRef90－G6CDD7 UniRef90－D8RPX9 UniRef90－W4D061 UniRef90－R6KJ02
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UniRef90－R7JNH5 UniRef90＿UPI000372B865 UniRef90＿UPIO0042119BF UniRef90＿V6L4X7
 I L S A DFVLRYQGKMLNIHPSLLPKYTGLDTHQRAIDAGDE




LL G N K F V V R Y Y K H R I L N N
LLSDSFVEAWRDRMINIHPALLP


VLSPRLCEAMSGRIIAN：H
LVTPVLLEAYEGRILNI HPALLP
VIPEIMVVAYPNKIIN：HPSLIPR
LLS GGVAGWQGAMLN：HP
 LLGEPFMRRFAGRVINTHPAMLPAFPGAHAVRDALTAGAT LIGSTLLSAFEHRTVNIHPSLLPAFPGLDAMGQAFDAKVK LI GPTLLKEYEGRIVNIHPSLLPAFPGKDAIGQALAAKAN LLSADFLAGFPGRVLNLHPSLLPAFPGLDAQRQALERGVK LRKPFIDAFGGRVINLHPSLLPSFKGANGDQQAYDFGVK IVSGPFVKKWNGKLLNLHPSLLPSFKGVNAHKQVLQAGVQ VLTAGFVDHYAGRMLNVHPSLLPSFPGLKTHQQALDAGVR 1 VTPVLI GAFPHAGMNIHPALLP


UniRef90_UPI000476F998 UniRef90_B6EJU4 UniRef90_W0RJB9 UniRef90-UPI00047D6A09 UniRef90_F4C5A8 UniRef90_C8WSE1 UniRef90_D6TQR2 UniRef90_M1ZCQ2 UniRef90_R7L891 UniRef90_K1LTY3 UniRef90 UPI0002EA29E1 UniRef90_D9SI92 UniRef90_E3DMC2 UniRef90_UPI000382448F UniRef90-UPI000370F07C UniRef90_UPI000365D557 UniRef90_M2SG85 UniRef90-V9WNK3 UniRef90_D8UCK9 UniRef90_UPI0003B3FF3C UniRef90 U7FJL4 UniRef90_S2ZWW3 UniRef90_Q2N8X8
UniRef90-D7E5X5 UniRef90_UPI0004766D6A UniRef90_UPI000377247B UniRef90_F0SE38 UniRef90_K6GJG3 UniRef90_UPI0002ED9253 UniRef90_C9SD99 UniRef90_U7PDT7 UniRef90_M9M4R5 UniRef90_R6BRW5 UniRef90_UPI00046ABE51 UniRef90_S9S916 UniRef90_E7G858 UniRef90-D7GCF2
UniRef90-D9QJG7 UniRef90-E6TWM1 UniRef90_W1SU63 UniRef90_Q08ZV3
UniRef90_Q76BG4 UniRef90-D5ELD9 UniRef90_Q76BB4 UniRef90-B2T6I5 UniRef90-Q39UK0 UniRef90_J2WBI2 UniRef90_UPIO002D4F4EB UniRef90_F1YLI9 UniRef90_H2BTM5 UniRef90_R7SHL1 UniRef90_S2VPU1 UniRef90_D4YPG6
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UniRef90_W4D061 UniRef90_R6KJ02 UniRef90_B0Y778 UniRef90_R9WJV6 UniRef90_R5YJ84 UniRef90_D8QE04 UniRef90_UPI0003B3D00F UniRef90-C5D4I3 UniRef90_A8MLI8 UniRef90_H8MVZ4
UniRef90-R7JNH5 UniRef90_UPI000372B865 UniRef90_UPI00042119BF UniRef90_V6L4X7
UniRef90_R5IYA5
$\square \mathrm{I}$ GATAHYVTEELDGGP ITEQDVQRVSHSDDVDDLKRDGR





 V T G S T V H Y V VP EVVDA G P PI CR R EVVPI EA G D TED T L Q ER I K | 1 | $G$ | $V$ | $T$ | $V$ | $H$ | $F$ | $V$ | $D$ | $E$ | $G T$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $K$ | $C$ | $G$ | $C$ | $T$ | $V$ | $H$ | $P$ | $V$ | $S$ | $D$ |



## 

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1
$$ <br> \section*{$\stackrel{L}{V}$} <br> \section*{$\stackrel{L}{V}$}

## I

W

| 1 | $T$ | $G$ | $C$ | $T$ | $V$ | $H$ | $F$ | $V$ | $D$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $I$ | $A$ | $G$ | $T$ | $D$ | $T$ | $G$ | $P$ |  |  |
| $T$ | $G$ | $C$ | $T$ | $V$ | $H$ | $F$ | $V$ | $S$ | $E$ |

## I

$V$ T G C T V $\operatorname{H}$ F V A E E V D

V S G C T V

L I G A T A H Y V T A A D L D E G G L I GAT C H Y V T A D L D A G P I I E Q D V A S R I N HE Y S A A D M V R Q G R
 T T GLTVVFQLDRGMDTGPVLDQREYPLPKKD








 $E T$ GVTV H Y I D E G V D S G P M I V Q A K V P L L P G D S L A A L E Q R V H

 VT G A T V H Y V D G G M D T G P I I L Q K A V E V E E G D T P E I L Q R R V M






 | $I$ | $A$ | $Q$ | $A$ | $A$ | $V$ | $P$ | $V$ | $L$ | $P$ | $E$ | $D$ | $D$ | $E$ | $A$ | $S$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $L$ | $S$ | $A$ | $R$ | $I$ | $L$ |  |  |  |  |  |  |  |  |  |  |
|  | $L$ | $Q$ | $K$ | $A$ | $V$ | $E$ | $V$ | $H$ | $E$ | $G$ | $D$ | $T$ | $P$ | $K$ | $A$ |
| $L$ | $Q$ | $Q$ | $R$ | $V$ | $M$ |  |  |  |  |  |  |  |  |  |  |






## UniRefi90 G5F269

 UniRef90-C6PYU9 UniRef90-K5YK48 UniRef90-D4YQY7 UniRef90_Q8BMR9 UniRef90-E1Z1Y0UniRef90-W0J087 UniRef90-D4H766 UniRef90_D4YKD0 UniRef90_V4JTY6 UniRef90-B4S310
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UniRef90-Z9JIQ2
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UniRef90-E5V1N7
UniRef90 F9GKQ5
UniRef90-A9A4N2
UniRef90_UPI000470FC6C
UniRef90_V9EUK5
UniRef90-F0E519
UniRef90_UPI000474CED7
$K \prod G V L V S G G G T D L Q S \| I D A N C S \prod E A V V S D R D G V$ YA $G$ I LI SGRGSNMVSLVKAAQAPEFE\|VLVLSNKPEAAGLE $N V V A V G S D L P D A P V L Q R A E Q A G V D$ RVLFLGTDHFARETLRALHAAKLEVVTVPSLSPKGLPVK



| $R V V L L A S K Q$ |
| :--- |
| $K L A V F G S G T N F Q A C D S D$ |
| $K$ |

## L

$\square R T \ M V S K \square G H C L N L L F R A K S G Q L P D D \square P L I V S N H N E F Q$
 $M R V V V L G S G R G S \quad N A E A L L N A Q A R V V Q I F A D R P D A G P R F$
 GSNMAALLYAAKAQDCPYAIVLVASN DPDAPGL $K \square A V F A S G S G T N F Q A \square I D A D A D \| R L L V S D R P G A Y C L$

MRTAIF


KVLTMVSK FEHCLQDLLDLPTEVVGVASNHPDHRVEW

 KIAVLVSG GGTDLQSIIDANVKI EMVIGSRDN DYAL MKVLI SGSGTNMAALLYASRAEDFEIVLVASN DPAAKGL ILI SGRGSNMNATLRAI KKQNIPIPVVVISNKDSARGL RVVILVTKEAHCLG DLLMKANYE: AAVIGNHE YAHLLR ILISGRGTNMQA IVRACTAEAWPVAAVISNRPDAAGLG KLVVFGNKETTKNMVDY円HHHLHPVDLIKSGDSGYSDLQ KVLIMVSKFGHCLNFRARIELPVVVVAVVSNHRDHQVEW LII LATKENHCLGDLLLLNAHIUAVIANHNDLEALVRR
MKVLIMVSK $\square$ GH
KTAVLVSGSGS
RLVVVVSGSG VLVYNNPD

RLVVVISGRGGGT RVLVMVSRYGH

CLINDLLQLNVEVV V
(CLNDLLDLPIDVVGVVSNHRDHEALV



## VD V VGVSNHDDMRSFV

$\square N T A V L I S G G G S N D Q S \prod D S G Y K V K V I S N K D G A Y G L$ MKVVI MVSRS DHCLN DLLVRHR DDITAVVSNHPDMAP L RLVI F GSGTNAENIVNYFRKNNQAETVLILSNKQDAKVL $L N I L V C V S G \quad G G T N L Q A I I D R N A K I V R V I D N N K D A Y E R A$




$R \square A L V L S N N P D A P G L E T A R A A G L D A V A \square D H R L$ $R V L F F G T D D V S L A T L K A L H A N H I D V V C P S D R P D E P V P V K$


ERAKNNNDNAYVIERK DYKDEILKKLYGKVDLIVCAGWLS (1)ARGLGVPFGKDREAHERADDAQLRARDVQQICDAGGYMR AFSVDFSSYADRAEWNRALADAVASYQPDWIVSAGLMR QYA IQQSQLPVYEWPD EYARQHGGPTLTYPAPKDSPVQQLTLEYGVDIVVLAGYGK LLGARFGVPAAFDDPAPFRRYIAAIREQRADLVVLAGGFMR AFARENGLKQFESREDYDRELVRULKEKGTELVCLAGFMR

$H \mathrm{G}$
$\mathrm{S} F$
 G LA GNYGIDFHHTKTQQEEE\|LRLVK E WA A DAGLAVRAPETPPV SMAT WYGVPFYHTKPQQEAQMLKVMEDVPCDWLFSIANLD GVAA QFLDPAPKLEGEAEARYIAAVRGCQPDIVVLAGFMR GLSDKFNVPFHCVSHEGLNRVEHELAGYSVDYIVLAKYMR EAAAAERGIPTEVVVREAHEARVVEALSAMCDVDVVCLDGYMR QLAQAEGVATFARPHDHDAVMDAAVRAAGADYVALAGYMR L NQYQPDYVVLAGYMR DGDPFHY LPVGVDGKAAQEARDWQLDESGTELVVLARYMQ ERANKFALPTVVFKASYEKLLLDELSKFQVDFIVLAGYMR

 V AEAAGLPFGKDREAHEREIDAALQASGAMLVVLAGYMR YGDGFHHDP $\square$ SKDTKPRAEAALLELDDQGAELVVLARYMQ EVARAAGLPFGKDREAHERKVDAAIRASGAQIVCLAGYMR
 TRARNHNVPTRVSREAFDEEMVRADRESGVNETGMAGFMR
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 A DAWNLNHRKYTQRELLDEKIVETLQNYDVNLVVMAGWMR KVVVNHDDPF HCDRVTPANKQMRVVRESGADLIVMARYMQ EKAKQNGTPAFVFDPKQYRNKQMFLQEEKDDWI ILAGYMR YQTKTDFEAEDAKQLREVKVDWIVLA GYMR
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 PFGKDRAAHE

EWSPYHH
EWS PYHHLPTKPDKAAQE
ERAKKHNI KA VEKNEDE A E WHGLP HHFKA
 KNAGIDGI CVYENRDKFNEAFLAKVKEAKPDLIVLAGFLV DRAKNHNI PSVVFSKSQLNFVLEKLHQFQPDLIVLAGFLL
 PAAEKDGVPVFKFPRWRAPDVVAKYQALGAELNVLPFCSQ
 RF AREANIDAVLIDRKEYRKIDEELKKYNDDLIVLAGYLS

 ELVERFNVPFHLVSHEHDKLLAEK DDEYTPDYIVLAKYMR

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TTGCTVHVVTEEVDAGPTVTQEPVPVYEDDDHDQLKRRVR LIGATSHFVTPELDAGPIIEQMVERVSHRDTDHSFVVKSE ESGCTVHYVTEMVDGGDI IMQNKIDVLEDDTPEGLQKRVL IIGATAHYVTRDLDEGPDIEQDVARVDHSMTAHDLVRIGS ETGGSIHYVNEELDGGEVIAQKSLEVKDGETDKEVTARIH IIGATAHFINNELDQGPIIIQNVINVDHTYSAEAMMRAGR FSGCTVHFVDAGMDTGPVIIQSIVKVKENDTEKSLSKRGL EHGCTVHLVTDGVDEGPLLAQARVKVLESDTERSLASRVL



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R L V V L V/S G
SGTNLQALMDAGCEVVAVVGDRAGTYGC $M K N I V I L I S G R G S N M Q A I V R R C A R V A A V V A N R S D A A G L A$ MSVAVLASHNGS NLRALHSASLDPVGLVDSNNSGSPAL

$\square L I S G S G S N M A A \square V R A A Q Q E Q W E \square A D V S N R P D A K G L$ LD HA GDD YRVVGLI A DRDCPAII MRTAVFASGSGS NFEALAHAFPEQVKLVFSDKEKSYVL
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$R \square A \square F G S G S N A Q K \square M E H F K H S D A E V V I V L T N N P$ EAYVL KV LFLGRDEFSCLVLEQLHAARDEISVVTQPDMKTGRRK
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RLVILISGRGS NMQALVQACAEVAAVI ASRPDAAGLD

MKN【VIGSGSNMAA IVKTAQREGWQVAAVISNKASAAGLV $\square R \square L F C G S D A F S C E S G R A \square H R E H \square E S \square D V M V L P P R R T P C K$

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MK $\square \mathrm{L}$ F S G T GS N $\square E N \square 1$ QK $\square H K K T \square L V V K A \square T N N P \quad H A K G \square$
G $\square \mathrm{K}$ ПA A V I S NRDTARREG MSS LIGNETLLAECGRLLLDRGHRIAAVVAAPMSPAADW LN $\square V F F G T D E F S \square P \square L H K L A S C A Q R \| H M V S A G G K R P R G R D$
$\prod A V L I S G S G S \quad N L Q A L L D A N A E T V L V V S D R A D A Y G L Q$ LRILFCGSDEFS ITASLNALDKSSIDVVCVGRGLKK\LPI K $R V V G V V S D R P G U R A L D A A D A G V P T A V V S L K D F P D R A A W$ $M R F A F A G F D D W C G V F D A F V A Q G W Q P L A V D N Q H D F N E Q V V$ VVICGK
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$\square R I L F C G S D E F S C A A L N A L A A E K L D V V V R P G K L T G R G M K Q$

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