## QUERY

UniRet90_S8BYv4
UniRefi90-K32516
UniReti90 S88M79
UniRei90 IIKYG UniRefe90-UP100028334B5 UniRe ei90-UPIoooz366EB47 Unirefio- WiNWG Unireti90 Dopsfo UniRei90-I10.JVo UniRef90_M0TDK1 UniRef90-I3T0T6 UniRef90-Q0IN52 UniRef90_A0A022QM21 UniRef90_B3GAU9 UniRef90-V7B9E5 UniRef90-A0A059BGX2 UniRef90-K3YEW8 UniRef90-M5VYP1 UniRef90-U5G6C6 UniRef90-E7CEY3 UniRef90-V7CIA0 UniRef90_Q39658 UniRef90-A9SY13 UniRef90-W5DMS7 UniRef90-V7B3Q5 UniRef90-J9ZY92 UniRefofo-MOSDB1 UniRef90-ROFAT4 UniRef90_K7MUG9 UniRef90_W9SZV2 UniRef90-J9ZYH2 UniRef90-V4NCW1 UniRef90-H9BP00 UniRef90_111G17 UniRef90-M1A3V9 UniRef90-A0A059DGX6 UniRef90-K4A5N4 UniRef90-K4BST4 UniRef90_V4UA12 UniRef90-MOSMO9 UniRef90-Q9C5T3 UniRet90_Q84ZK2 SAS GERTSDDGYNWRKYGQKLVKGSEFPRSYYKC TVAAERVSDDGYNWRKYGQKHVKGSEFPRSYYKC S S CNVDRP
 EDGFNWRKYGQKQVKGSEFPRSYYKC S D GYNWRKYGQKNVKASECPRSYYKC
DT P A E D GYNWRKY GQK QVKN S E H P R S Y Y K C $T L V V D K P A D D G Y N W R K Y G Q K Q V K G G E Y P R S Y Y K C$ AR IA FMTKSEVDHLEDGYRWRKYGQKAVKNSPFPRSYYRC AKI I VQT TSEVDLLD

Q THSQRRSSD
 D GYNWRKYGQKHVK GNEF DRSYYKC RPPVSS FA DDK PADDGYNWRKYGQKQVKGSEFPRSYYKC TSTPAEDGYSWRKYGQKQVKHSEYPRSYFKC D D GF NWRKY GQKQVKGSENPRSYYKC

K VC $\square$ T S S $\square$ R E K V S ED GYKWRKYGQKQVKGSENPRSYYKC
$K \ I V Q T R S E V D L L$ $\square$ D GYRWRKY GQKVVKGNPNPRSYYKC

Q S VRE Q K R S E D G F YYK VPDUA $\operatorname{V}$ VVSHATGAVRTSEDGYNWRKYGQKQVKGSEYPRSYYKC VA Q D G Y N WR K Y G Q K L V
 RVLVQSTTEAEDLEDGFRWRKYGQKVVKGNPYPRSYYRC
 RFAFLTKSEIDDLEDGYRWRKYGQKAVKNSAFPRSYYRC DGYSWRKY GQK QLLKDAESPR SYYKC
P D
VSE
 VIFQTMS DVDVLDD GYKWRKYGQKVVKNTHHPRSYYRC
 S RVREK PLEDGYNWRKYGQKLVRGNDYVRSYYRC RFAFMTK SDVVDHLDD GYRWRKYGQKAVKNNPYPRSYYRC $R$ VVVQTTSSDI DILD D GYRWRKYGQKHLLSSSNCRSYYKC $R V I V Q T V S E V D D L D D G Y R W R K Y G Q K L V R G N P N P R S Y Y K C$ R Y A FRTKSEVEVLDDDGYRWRKYGKKMVKNSPNPRNYYRC $R \prod E F H T R S D D D V L D D G Y R W R K Y G Q K S V K N N G H P R S Y Y R C$ $R V V V Q T \| S D D D V L D D G F R W R K Y G Q K V V K G N T N P R S Y Y K$

$\square$ V Q TE $\square \mathrm{DVR}$ HL N DGY $R \vee C V R \vee R C$ C $V$ R ED GYNWRKYGQKSMKGSEHTRSYYKC KV LQVA SE IDD L LED GYRWRKYGQKVVKGNPNPRSYYKC

 RVVIQTTSEVDILDDGYRWRKYGQKVVKGNPNIRSYYKC

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

 S DLD DGFR

KYAFQTRS
SNVDRPSDGYNWRKYGG
 $V P A D S D K V A D \| P S D N Y S W R K Y G Q K P M K N S Q N P R N Y Y H C$ S KVAA FRFRSELLEVLDD GFKWRKYGKKMVKNNPNPRNYYKC RIA F R T K S GIIDIMD D GY Y WR K Y G K K A V K N S R N P R N Y F K C
ARVSVRARCQAATMNDGCQWRKYGQKDAKGNPCPRAYYRC
 RIGGFRTRSEVEI LDD GFKWRKYGKKAVKNSANPRNYYRC T RVPADSSKMADI PPDDYSWRKYGQKPIKGSPHPRGYYKC
 RFCF Q T R S DVVDVLD D GYK WR KY G Q K VV K N S L H CR S Y Y R C
 P D GYNWRKYGQK QVVKSPK GSRSYYR C $R \| I V Q T T S E \square D L L D D G Y R W R K Y G Q K V V K G N P H P R S Y Y K C$ $R Y A L Q T R S D V D I M D D G F R W R K Y G Q K A V K N S P H P R S Y Y R C$


UniRef90_K7UNB8 UniRef90_-J9ZY82 UniRef90-A8ITC4 UniRef90-UPI00042B3E8E UniRef90-D7TOE7 UniRef90-O9S763
UniRef90 K7PFQ7 UniRef90-K7PFQ7
UniRef90 C5XP8 UniRef90-A3BFX0 UniRef90-Q9ZUU0 UniRef90-M0TC40 UniRef90-E1ZGV1 UniRef90-V4NIM6 UniRef90-V7C811 UniRef90-W5D319 UniRef90-A9RF14 UniRef90-Q1KRL7 UniRef90-MOS2G3
UniRef90-AOAO59CKZO UniRef90-M4EPX7 UniRef90-V910J8 UniRee90-UPI00032A949C UniRef90_W9SLK0 UniRef90-K4DHA8 UniRef90-A0A022RJV8 UniRef90-G3FFC7 UniRef90-V4N290 UniRef90-B2KZJ7 UniRef90-UPIO0042B2870 UniRef90-M5XO14 UniRef90_V7BHT9 UniRef90-A0A059B9V8 UniRef90-UP10003EAA4FA UniRef90-G3FF79 UniRef90-J3L5R1 UniRef90-I1JY76 UniRef90_M4F251 UniRef90-K3YGX0 UniRef90-111256 UniRef90_K3YCS5 UniRef90-A0AO59C203 UniRef90-B9SUX2 UniRef90-B9IL58 UniRef90-M4EFB8 UniRef90-S8DHXO UniRef90-O554C5 UniRef90-B9HBN2 UniRef90-A0AO22PUP8 UniRef90-I1QNY5 UniRef90-ROHGK7 UniRef90-A9RYG9 UniRef90-V9MHD3
UniRef90
B4XKD2 UniRef90-K7V426 UniRef90-W5FON5 UniRef90-V7BDR4 UniRef90-UP10002C346EC UniRef90-Q9SSX8 UniRef90-MOSHM4 UniRef90 W1 NPD3 UniRet90-Q6EPZO UniRef90-MOTLXO UniRef90 D3BE88
UniRef90 MOV616

VKTKSAKETDDGYNWRKYGEKQVKGSPFPRSYYKC
 A RVVVRVKCDTPTVRDRIQWRKYGQKIDKGNPCPRAYYRC RYAI QTRSEVDVLEDGYKWRKYGQKAVKNSTHPRSYYRC DAA F RT K T E L L E L L D D G Y K WR K Y G K K K V V K S N T N P R N Y Y K C $R V P A D S S R N A D I P P D E Y S W R K Y G Q K P I I K G S P Y P R G Y Y K C$ K FVVVHAA G DVGI SA D GYRWRKYGQK MV K GNP YPRNYYRC

VII QMESE ENNLDD GYSWKKYGQRLI MGNQNTRSYYKC
 $R$ VP A RIIAF HTRSDDDVLDDGYRWRKYGQKTVKNNPHPR
$S R V Y L R T S G S S$
EGPTM RVVVGEGQEK


G S K Y P R GYYKC AK HPRSYYR C | $S$ | $S$ |
| :--- | :--- |
| $E$ | $G$ |
| $E$ | $G$ |
| $E$ | $L$ |
| $G$ | $D$ |
|  | $D$ |

$R \mathrm{~V} R A P$ TPD $\mathrm{V} R \mathrm{M} \stackrel{R}{\mathrm{~S}} \mathrm{~S} \mathrm{M}_{\mathrm{V}}$ DGFS
$D G F S$
EGPD DGYC
MP
Q WRK Y G

V
IT F R T R S QLE VM D D GY K
SRVYYKTEASDTTLKDGY TWRKY GK


VRDS S ENG

$S W$
$S W$
$T W$
$N W$
MS D Y K WRK Y GRKLVK G S K NLR S Y Y R C
R S K G E V Y
PPD N WS WR K Y G Q K P I K G S P Y P R GYY R C
 $R$ VA A P Q M G NLDIP E D GYT WRKYGQKEI LGGTYYPRSYYRC SRVCRRPS DT SLLVVKD GYQWRKYGQKVTRDNPSPRAYFRC

AFRTKSEK DALD DGYKWRKYGKKPIT GTPYPRHYHKC $R Y A D K T R T D V D V L D D G F K W R K Y G Q K A V K N S P H P R N Y Y R C$ SRVVVHTTDSDTGIVNDGYQWRKYGQKDTRDNPSPRAYYKC

$R M Q V R V G S V Q D N L E D G F S W R K Y G Q K D I I G S M H P R A Y F R C$
 $K M V C H L T A E N D S$ S S DLDAWRKYGQQKPIKGSPHPRNYYRC TKVSVVSMRTEAIVKD GYQWRKYGQKDTRDNPSPRAYFRC
$H G P V D D G Y S W R K Y G Q K D I L G S K H P R G Y Y R C$
RPR GEGAP PS D S WA WR KY GQK P I K G S P Y P R GYY YR C
S MAETVK D GYQWRKYGQKVTRDNPYPRAYFRC
$K$ L V DE T T S MVVDH LDD DGF NWR K Y G Q K A V $V$ K G S P Y P K S Y F K C SRHVVTKVRSCGGTPMDGYRWRKYGQKFIKNNPHPRSYYKC GLDDGFAWRKYGQKG LGAKHPRGYYRC

S KVLVKTEASNNSLMDGYQWRKYGQKVTRDNPSPRAYFKC

$\square D E D A D$
$\square$

VS K V K K N E GLLP S D F W S WR K Y G Q K P $\quad$ I R G S P Y P R G Y Y K Y $D G Y Q W R K Y G Q K V T K D N P C P R A Y F R C$
$R V S V A A E S G C E S L G D R Y T W R K Y G Q K D I L D G K Y P R G Y Y R C$
VVVQHVK K D G L S S D M WA WR K Y G Q K P $T Q V R V S N A Q D A T Y L D D G F D W R K Y G Q K D I L G A K H P R G Y Y R C$

SKIHFQTSDMS LVVKD GCCWWRKYGQK VTRDN PCPRAYFKC $K V K V C T E T N E G Q L D D G Y$ G WR K Y G Q K D D L S QLIVVRTESTSSIVVRDGYQWRKYGQQVVTKDNPSPRACYRC K RVVE QVIK E E NMP GD GYA WRKYGQK F I L K DR K NR S Y F K C S ATNSNPAEDGYNWRKYGQKQVKSSEHPRSYYKC $T Q V R V S S L Q D I E G H D D G F S W R K Y G Q K D I L G S R N Y Y R C T H B$



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| :---: | :---: |
| UniRef90＿M0Y4T7 | QVQPTDDD |
|  | SSKGCSRKQVERSRTDPNMLVITYTSEHNHPWP |
| UniRef90－M1AF | SSSKCPAKKQVERCHHDPNVLIITYSSDHNHPDPAA |
| UniRef90 M M Y | THKYCAAQRQVQRCDDDEGMFRVTY |
| UniRef90－K3ZE24 | TYHGCTARRQVQRWEADPSIVFLITYFGDHTCDEPPA |
| UniRef90＿W5AIR6 |  |
| UniRef90－M0ZO11 | VHKHCQATKQVQRSDSDTQLF |
| UniRef90－M8B808 | TVETCPVRKQVQRCAEDMSULISTYEGAHNHPL |
| UniRet90＿Q6AV73 |  |
|  | H |
| UniRef90－831X | R N |
| UniRef90－B9RIR6 | SSSKGCARKQVERSNIDPNMFIVSYTGDHTHPRP |
| eef90－B91067 |  |
|  | YGCDAKKKVQRLDD |
| UniRef90－A0A059AJI7 | AHAPSCVKKKVQRSAEDQSVIVATYEGEHNHPSPA |
| UniRef90 M1 | STKHCEAKKQIEKSPKDENWFLVSYSGEHNHDPP |
| UniRef90－UPI00042B60B3 | DRGYYRCKQVERSRMDPSMLVITYSCEHNHPWPAS |
| UniRef90－Q20Z10 | ASKQVQR HDDGLLFDVTYFGEHTCDQPQA |
| UniRef90－A0AO22QU07 | STSKGCARKQVERNRSD |
| UniRef90－111PG0 | THRKCAATKQVQRSDEDPTLFDVIYHGDHTC |
| UniRet90＿A3FBG2 | A |
| UniRet90－UPIO0046DE | THKFCQATKHVQQL LDD |
| UniRef90＿AOA059 | SSSKGCARKQ ERNRSDPGIFV |
| UniRe990－UP10002 | KYCQATKQVQQTQDNPKMYETTYUGQHTC |
| UniRef90 UPI00032AC329 | VQRVDE |
| UniRef90－112AO11 | DQCULVATY |
| iRef90＿K3Y3N3 |  |
| UniRet90－K4A | ERNRS |
| UniRef90 ROH499 | THQNCWATKQVQRSDGDATVFEVTYRGTHTCTPPPA |
| UniRe90－KYY |  |
| Uni | KGCPVKKQ冋RRGYGQVVISSYEGVHNHPPPQ |
| UniRef90－G71R29 | K $V$ R |
| UniRef90＿MOTXJ2 | DAKKMVQRSDDDPYTFQVTYCGSHT |
| UniRet90 J31 B． 8 | KCPARKQVERSRSDPN |
| UniRef90－K7UC15 | KHCAAQRQVQRRDDDPDAYTVTYUGA |
| UniRef90－F8WP17 |  |
| UniRef90 M0XG04 | RQVQQSEDDPSLLYVITYFGD |
| UniRef90＿C5X5M4 | THQRCMATRQVQASDANPSEFISYYGQHTCQDP |
| UniRet90＿W9RLF3 |  |
| UniRef90－UP | SHKHCSAKKQVQKLDDD |
| UniRef90－K7M257 UniRef90 M1AU56 | THKNCQA】KQVQR】QDNPPLYRTTYYSHHTCKSP |
| UniRef90 Q6IEN3 |  |
| UniRef90－G7LH | NDCLAKKLVEKIJNTGEDTYEVT |
| UniRef90－A0A022Q | HVCMAMKEVRMSSYEPNATDITYRGKH |
| iRet90＿L8GS | TDKQCPVKKQVDALLVG LVVTYEGAHTHAP |
| Q9C5 | Q N C |
| UniRef90＿M7Z | KQVERSRTDPN |
| UniRet90－K3ZN48 | VQCRDEDSTLFDVTYHGTH |
| UniRef90＿R0FXJ8 | THQHCLAVKQVQKSDTDPSVFQVKYVGDHTCN |
| ef90－09FH83 | FTHGCKATKQVQRSETDSNMLALTYLSEHNHPRP |
| Ref90＿K3ZZ30 | THRNCNATKQVQRTDGDPNLEAVRYYGEHTCD |
| UniRef90＿A2ZGQ4 | THKGCMATKEVQRDDGDPLMFDIVYHGEHSCAQ |
| UniRef90－11GL34 | RCNARKFVERSSDS |
|  | SMPGCPVKKKVQRRADDSSUVAAYEGVHTHPLP |
| UniRef90－A5AJI3 | KHVERDTDD |
| 㖪90－8978 | THRHSQGCKQVQRSDENPSDFEVTYRRKHTC |
| ef90－K3ZUW4 |  |
| Ref90－G3F－87 | CPVRKa |
| UniRef90 A7UGD3 | CQASKQVQKIQDNPQRFRTTYYGH |
| UniRef90 V5RF | AYRNCNAKKREQQIQDSPSVYRTTYVGKHIDCDV |
| UniRef90 W5AIN7 | TVARCGVKKLVERSQQDP |
| UniRef90－K4CYD1 | RNCLATKQ |
| UniRet90－16NNR4 | AMPCCPVRKQVQRSAQDPS M |
| UniRef90 UPI0003a | SSKSCPARKQVERNHVDPTV |
| UniRef90 M8A8XO － | QGCNVKKQVQRLSRDEGVVVTTYEGSHTHPQRAG |
| UniRee90－84 | SHHGCQATKQVQRTDED |
| Ref90－V7ASP9 | TYRNUQGCKQVQKSDEDPMVNEVTYUGRHTCTQ |
| UniRet90－C5YkM | THQNCPATKQVQRADDHPALFDVVYHGEHTCRPP |
| iRef90＿B6SQR1 | NSQCKQVQRADDHPALFDVVYHGEHTCR |
| UniRet90－V4MJJ2 | THYNCPAKKQVQRLNDDPFTFRVTYRGSHTCH |
| UniRef90 K7M255 | HKYCLATKQVQRIQEDPPLYHTTYYG |
| UniRef90－83C | CDDDPDTFRVTYTGAHTCRDPAA |
| UniRef90－R0EUJ3 | KFCKATKQVQRSDTDPNMFTITYLSEHNHPS |
| UniRef90－V7BA12 |  |
| UniRef90－A0AO59AY08 UniRef90 A0A022QU55 | SKGCSKKQVERCKTDAS |
| UniRef90 ${ }^{\circ} \mathrm{C1MHM4}$ | ENS SMQKHVEQSADNPK |
| UniRef90－E7 | NVKKKVERDRED |
|  |  |
| UniRet90－B2KKQ8 | SHKPCQATRQVQESDSSPSEYLISYYGQHTCKDP |
| UniRef90－M0VCG1 | CPARKHVERATDDPAMHLVTYEGDHRHDWPPA |
|  | QVQRADHD |

UniRef90_MOSEY5
UniRef90-M7Z5D4 UniRef90-A0AO22QPJ6 UniRef90-C5XNA1 UniRet90 K4COS1 UniRef90-V4SN49
UniRef90 MOTKHO UniRef90 UPIOO042B0B27 UniRef90-11R250 UniRef90_UPI00032A79C5 UniRef90-A7LHJO UniRef90-K7M7W8 UniRef90-K7UWT7
UniRef90-ROFCL8
UniRef90-B8AXLO UniRef90-G7K643 UniRef90-B3GAV4 UniRef90-F4KBS5 UniRef90-M0S810 UniRef90-W5FII9 UniRef90-K4EPO4 UniRef90-16Q1F9 UniRef90-M1BUF3 UniRef90-K7VBJ3 UniRef90-UPI0002C359C6 UniRef90-M1DN19 UniRef90-S8D2A8 UniRef90-G71QG1 UniRef90-AOAO22PZHO UniRef90-W5H7Q9 UniRef90-F4PLI3 UniRef90-W5C9U5 UniRef90-A9RIL7 UniRet90_C5X9Q6 UniRef90_M4CK52 UniRef90-J3LT08
UniRef90 W5D4L5 UniRef90-K7LDJ8 UniRef90-B6U600 UniRef90-B9HDJ4
UniRet90
F6KW33 UniRef90-M7YD70 UniRef90-J3L5A9 UniRef90-UPI0003DECBAE UniRet90 - 11 HSW2 UniRef90-A1COL7 UniRef90-A0A022RPV3 UniRef90-BOLUS2 UniRef90 G7IXC7 UniRef90 ${ }^{-}$K3XIZO UniRef90-W5ET14 UniRef90 Q9M8M6 UniRef90 -11NST0 UniRef90-A0A022PZ11 UniRef90_11 HPK5 UniRef90-J3MA57 UniRet90-W9QU51 UniRef90-M4CSO1 UniRef90 Rolif1 UniRef90-Q9SZ67 UniRef90_M4E360 UniRef90-M1D7L1 UniRef90-UPIO0032A9D35 UniRet90-R7W879 UniRef90_K7MNC2 UniRef90 M1DFA7 UniRef90-A4S4Z2
UniRef90
I1O2 UniRef90_B3GBY3 UniRef90-s8BX63 UniRef90-C5Y3H4 UniRef90- Q2QYK2 UniRef90-M1BJ77 UniRef90-M4CDZO UniRef90 UPIO002B48F58 UniRef90_C6LZL2 UniRef90-MOVMN8

TKYAVMDKSCGGVAE D G WRKYGQKT KNNPNPRSYYRC KII L QTPSEVD L LD D GYRWRKYGQKVVKGNPRPRSY IS RVVTVA DA DGDVVPADSWAWRKYGQKP KGGSPNPRGYYRC
 AA GLSS
VT R K E $\square$ T


$S R \nabla Q \square R T E A T S W$


D GHQWRK YWTK D
V N $\begin{array}{r}V K \\ V \\ \text { A } \\ \hline\end{array}$ D GYQWRKYGQKNVKGTQFPRSYYKC D D GYNWRKY GQK AVVKG GKYPK S Y YK C DGCHWRKYGQKMAKGNPCPRAYYRC DDGYSWTKYGQKN ILGAKHYYRCAHW EDKYAWRKYGQKEILNSKFPRSYFRC $K \amalg I L Q T T S E V D L L D D G Y R W R K Y G Q K V V K G N P R P R S Y Y K C$ AHREVHADTTADGFVWRKYGQKDI NGSNHPRLYYRC $K M V C H V T A Q N L S S D L W A W R K Y G Q K P I K G S P Y P R N Y Y R C$

VKRTESNS L L S GFNWRFGQKTIHDSNFRRDYYRC
VK R TEVT P S PYK D GF LDWR KY GQK N I Q D S N Y L R L Y Y K C
MNDGCHWRKYGQKMAKGNPCPRAYYRC

ESEAPIDDGHQWRKYGQKEILSAKFPRNYYRC D D GYN WK KYEEKVVAKGSENQRSYYKC
S D P WA WR KY G Q K P $I K G G S P Y P R G Y Y K C$
DGF $\square W R K Y G Q K T I K T S P H Q R W Y Y R C$
VP RK RLL L A S P Y D D GY QWRKY GQK K N N T N F PR S Y Y R C




SPTPRPNDGFTWRKYGQKNIKTSPYQRCYYRC
RHESPNPIYHDGF LDWRKYGQKQIIKESDHQRSYYKC
E EVPPE DGLNWRKYGQK LI LGAKYPREYFQC

SKTLM
D GYRWRKYGQKNIKGGSSFPRSYYRC
TRKEVVRVA A S GPAPDDSWAWRKY GQK P I K GSSPYPRCGYYRC

MKACTVNGP D D Q W A WR K Y G QK P I K G S $P$ Y P R G Y Y K C ED G Y Q WR K Y GEKKI Q G T H F T R S Y FRC

D P YY NGYNWGKYGQK LVVKGTEFPRSYYKY
D D GYQWRKYGQKRITTKTQFPRCYYRC
 RIGGKEEEDTAE PYK D G Y K WK K Y G Q K N I K N R K FA R L S SEAVVPS DLW A WR K Y G Q K P $\quad$ K G S P Y P S Y Y R C S RVAFRTKSELEVMDDGRYWRKYGGKKSVMNSPNPRNYYY




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| :---: | :---: |
| UniRef90_M0SEY5 | S S C K C P A R K Q V\|E C S R LD P T K L TVIT Y S F D H N H L C |
| UniRef90-M7Z5D4 |  |
| UniRef90-A0A022QPJ6 | S F P N C PVKKKKVQRSCDDPSLLVATYEGQHH |
| UniRef90-C5XNA1 | S R D R R CEAKKKVQQQ D DPPMFEVT Y VNEHTC |
| UniRef90_K4C0S1 |  |
| UniRef90-V4SN49 | THKYCRATKQVQRRDDDPQMYDTTY |
| UniRef90-MOTKH0 | S S SKCPARKQVERSRVVDPDA IVVTYSFDHNHPWP |
| UniRef90_UPI00042B0B27 |  |
| UniRef90-I1R250 | A HKMCKARKKVQHTDGDPGMVDVVYEGVHS C |
| UniRef90_UPI00032A79C5 | S $\square$ P S CPAKKKVQ K C $\square$ H D R S I I VATY D GEHNHVSP |
| UniRef90-A7LHJ0 | T N A G C |
| UniRef90-K7M7W8 | GY K Y CK A N K Q VQR DQE N P N M Y R $\dagger$ T Y $\square$ G $\square$ H T C N A T P |
| UniRef90-K7UWT7 | T Y K D CEARRQVQQRSDT DPAAY LIT Y F GEHTC |
| UniRef90_R0FCL8 |  |
| UniRef90-B8AXL0 | S S Y R CPA R K QVD K C R N D A SLL I IT Y T S D H N H D N Y A |
| UniRef90-G7K643 | S HKDCSATK QVQMTHDNP DMYQTTY |
| UniRef90_B3GAV4 | S T DKCEARKMVERCRDDPNSFILLTYTGEHSHPAPA |
| UniRef90_F4KBS5 |  |
| UniRef90-M0S810 | T NPRCSAKRQVERSKEDPNMLTIT Y E GLLHL |
| UniRef90 |  |
| UniRef90-K4EP04 | S S S K C P A R K Q VER S R K D P TVVVIT Y A C E H N |
| UniRef90_K7V1H5 | THRHSQGCKHVQRADGDPLLHDVVYHGAHTC |
| UniRef90-I6QIF9 | S S SKCMARRQVEQSCTDS SiY ILTY TAEHNHPQP |
| UniRef90-M1BUF3 | THKYCRATK QVQ I I QENPKMYHTTYFGNHTCNS |
| UniRef90-K7VBJ3 | R D R R CEAKKKVQQQDDDDPPMFEVTY L NEHTCH |
| UniRef90_UPI0002C359C6 | T Y Q G CMA TKHVQR V S DEPVLYRTTYRGNHTCRP |
| UniRef90-M1DN19 | STSSCKATK■I EKSPKNENYFLVSYSDEHNHDPP |
| UniRef90_S8D2A8 | CSKACSAKKQVERSPNDPSRFLVSYTGEHTHQRPA |
| UniRef90_G7IQG1 | S MTSCPVRKQVQRRCFKDESVFITTYEGNHNHQLPPA |
| UniRef90_K7MJ24 |  |
| UniRef90-A0A022PZH0 | S F P T C PVKK KV QR S l E D Q SiVVA T Y E G |
| UniRef90-W5H7Q9 | TNSSCLAKKKVEECCP D G R V I EII Y R G A H S HEPP |
| UniRef90-F4PLI3 | TVPGCTVKKQVEKSETDETKNRVVYKGTHNHDSP |
| UniRef90-W5C9U5 | TLN CPVVRKNVEHSA D GRII KII Y R GQHCHEPP |
| UniRef90-A9RIL7 |  |
| UniRef90-C5X9Q6 |  |
| UniRef90-M4CK52 | THKPCKATKLVQKQEQDPSLF Q $\square$ T Y $\square$ GH H T CNV |
| UniRef90-J3LT08 | TADGCNVRKQIERASAD |
| UniRef90-W5D4L5 | AFRGEGCTRRVQRSQEEPAAFVIAYYGEHTCPQPP |
| UniRef90_K7LDJ8 | S S CKGCARKQVERSTSEPNTFIVTYTGDHKHAKP |
| UniRef90-B6U600 | S S K G C P A R K HVERAAD D P AVLVVTYE |
| UniRef90-B9HDJ4 | T HQ HCQATKQVQR\VEDEPPLYRTTYHG |
| UniRef90-F6KW33 |  |
| UniRef90-M7YD70 | A HYRSHKCKHMQRTDADPLLFQVVYRHEHTC |
| UniRef90-J3L5A9 | T F R R C A AK K QVQQQK D DEPPMFLVTY LGEHTCQ |
| UniRef90_UPI0003DECBAE | TASPSCL V Q R CAEEMS L I TTY Y GTHNHPLPP |
| UniRef90-11HSW2 | A Y R GEGCTRRVVQRSRDEPAAYAVAYYGEHTCGQ |
| UniRef90-A1C0L7 | TYRNCAATRQVQRSDADLAVVDVTYQGAHTC |
| UniRef90-A0A022RPV3 | THKFCQASKQVQK I Q E D PPLYRTTYHGQHS C |
| UniRef90_B0LUS2 | T HKFCQATK QVQRVQQEEP ILYKTTYYGLHTC |
| UniRef90-G7IXC7 | T WP NCFVKKKVVERT@ D G EVI E T L Y K G THNHWKP T S |
| UniRef90-K3XIZ0 | S S M K G CMR KLVVERSPAKP GVLIVVYMADHCHPVP |
| UniRef90-W5ET14 | R DKRCGAKKKVEWQPGDPN L RVVYDGAHQHGSPSS |
| UniRef90_Q9M8M6 |  |
| UniRef90-I1NST0 | S Y HRCPA QKHVQQRDDGDPALHVVVYTHEHTC |
| UniRef90-A0A022PZ11 |  |
| UniRef90_11HPK5 |  |
| UniRef90-J3MA57 |  |
| UniRef90_W9QU51 |  |
| UniRef90-M4CSQ1 | THKFCKATK QVQKLEEPESKMFNITY G N H T C N |
| UniRef90_W5CPZ5 | CYHRERSCPATQHSDGDQTMYTVTYVHEHTCH |
| UniRef90-R018F1 |  |
| UniRef90_Q9SZ67 | T Y LGCPSKRKVERSL D G QVAEIVYK |
| UniRef90_M4E360 | A Y Q K CEAKK QVQMILQ N NPPLYSTTYFGRHTCQLLHQA |
| UniRef90-M1D7L1 | VCRHCDATKMVQRI Q TEPLTTEEVTYGESHSCGQ |
| UniRef90_UPI00032A9D35 | TYQRCQATK QV HRIQQENPPLLYKTTYYGHHTCH |
| UniRef90-R7W879 | THQGCKAKRHVHVSESNPSEYTIDYYGQHTCRDP |
| UniRef90-K7MNC2 | S F APS CPVKWVQRSLEDPT LVTTTYEGEHNH |
| UniRef90-M1DFA7 | E AKKTIEKS PK GENLTLLVSYS GEHNHDLP |
| UniRef90-A4S4Z2 | TERGCPARKKTERASEDGEMTVVCYEGEHTHAKPS G |
| UniRef90-I1Q2J1 | S SNKNCARKQVERCRLDDPSFLLLTYYTGAHSHDVP |
| UniRef90-B3GBY3 | S S SKCPARKQVERSSQADPDTVLI TYS Y E H NHSSTAA |
| UniRef90_S8BX63 |  |
| UniRef90-C5Y3H4 | TYKDCLATKHVQQRDDDLPMFHVTYNNDHTCNRAKA |
| UniRef90-M8BXV2 |  |
| UniRef90-Q2QYK2 |  |
| UniRef90_M1BJ77 | TYPNCEVKKTFERSP D G Q T T I V Y K GFHDHP K P |
| UniRef90-M4CDZ0 |  |
| UniRef90_K3XJP8 | SFHRERNCRATQCSGGDPPQYLVMYFNDHTCDTAAS |
| UniRef90_UPI0002B48F58 | S SP GCPVKKKKVQR S LE NK S MVIV T Y D G |
| UniRef90_C6LZL2 | SVPGCQAKRYV TET D N RVLVTEYDGEHNH |
| UniRef90_M0VMN8 | M H S HCWAKK QLQQ EDS SPPLYKVVTYLNDHTCHQ |
| UniRef90-A7LHF9 | TFRKCFATKQVQRSEEDHTIFDITYRGSHTC |
| UniRef90-M0TX11 | S SKGCSARKQVERSRTDPNILVITYTSEHNHPWP |
| UniRef90-A0MAV0 | T Y QKCAA TKQVQRADEDPALFDVIYHGEHTC |
| UniRef90_I1IV04 | TYGQEQGCKATAVYE D D Q VMFAVVYYGQHTCKPPSS |
| UniRef90_G3FFB5 | S S G G C SVK K RVERDRED |
| UniRef90_UPI00046DC4F6 | T Y P Y CKRKKKVGRS L D G Q $\square$ T QVAYK GTHNHE |
| UniRef90_I1IV02 | TYKERNCTKTVQEQDHNRSSFTVVYYGHHTCN |
| UniRef90-M0X3Y9 |  |
| UniRef90-C5XNA3 | A HKDCNAT RRVQQTQDQPAA YEI A Y Y G D H T C |
|  |  |

UniRef90 T1LAC5 UniRef90-G7LAR2 UniRef90-M5WX87
UniRef90 UniRef90 Doov60 UniRef90-O2QYJ6 UniRef90-MOYJN3 UniRef90_U5GS19 UniRef90- J3M550 UniRef90_UPIooo32A99C2 UniRef90-MOX7Z2 UniRef90 M7ZG87 UniRef90-A2YZE9 UniRef90_B9GXX9 UniRef90 UPI0002C32F6C UniRef90-I1NST2 UniRef90-T1LAC7 UniRef90 U5FJZ7 UniRef90- M1BIZ3 UniRef90-K7QT20 UniRef90-M8BC02 UniRef90 J3N518 UniRef90 M8CUB7 UniRef90-C5XNAO UniRef90_Q61EN5 UniRef90 J3M3S7 UniRef90-M0SWT7 UniRef90-K7U6F7 UniRef90-U5GBR2 UniRef90 CoIMS2 UniRef90_B8BBM
UniRef90 In
USS UniRef90 ${ }^{-}$C8CP45 UniRef90- G7JXZ9 UniRef90-B9FZ15 UniRet90_K3ZMQ6 UniRef90 Q5JNH8 UniRef90-K8EQA4 UniRef90-M8A7D8 UniRef90 UPIO00350FC51 UniRef90 I1QTGO UniRef90-W5DNA8 UniRef90_E6Y3E2 UniRef90 K3ZLA4 UniRef90-W5AJ23 UniRef90-M1DX32 UniRef90 K3Y972 UniRef90-D7MS09 UniRef90-I1R3H1 UniRef90_COIMR7 UniRef90 11 R2M 7 UniRef90-COIMR6 UniRef90_Q013H7 UniRef90 B9GBD1 UniRef90-11PWM5 UniRef90_K7UI29 UniRe990 S8BTA2 UniRef90 B9G2L3 UniRef90-O6H4S7 UniRef90_K3ZNM2 UniRef90 S8C2K8 UniRef90-J3KX17 UniRef90_J3LA80 UniRet90_M8CPD6 UniRef90 M8A227 UniRef90-G3FF77 UniRet90_W5FCM9 UniRef90_MYYLJ9 UniRef90-A4S1F: UniRef90_111V01 UniRet90 MOV3N3 UniRef90 -11KVM2 UniRe990-K8F355 UniRet90_W5A075 UniRef90 W5DW06 UniRet90-A5BGQ7 UniRef90-W5D4Q9 UniRef90-A9s22 UniRef90-K8FDL4 UniRef90_G7K8M1 UniRef90 MOZOO7 UniRef90-A0A022RS34 UniRef90-T1M8.J4 UniRef90 W5HM99 UniRef90-M1A130 UniRef90-COIMN8 UniRef90_V4TW52

1
RSR 10 VPDGH 20
20
30
40 RLLVLTEVSERPTDDGHEWRKYGQKTILNSKYSRDYYRC RVVVQTTSDIDLLDDEYWKKYGMKVVKGNPNSSNYKC RVMVRTGNTELPPDDGYTWRKYGQKDILGSRYPRSYYKC DGHQWRKYGQKHINNSKHPRSYYRC
DDGFDWTKYGQKDIRGSGHPRHYFRC SRRYTNSTSQVT PVPDGHQWRKYGQKNLNNSKHQRSYYRC RKVDTFAPHNDGHQWRKYGKKETFGFKYPRSYYKC DDGF $R L V V H T \square S D \square D \square N \square D G F R W R K Y G Q K V V K G N P N P R S Y Y K C$
 DGFDWRKYGQKEI NGCKHPRDYYRC DGHHWRKYGQKNINGRENARSYYRC VPSDLWAWKKYGQKH
REYVHARSEEVPPEDGYSWRKYGQKNILGAKYPREYYRC ARVGMRTDYTYAPYHDGFQWRKYGQKVI RGNAFPRCYYRC TDTETPENDGFHWRKYGEKK LDNAVFPRSYYRC RFAFHTRSEND LLDDGYRWRKYGQKAVKNSSNPRYGSS DGHDWRKYGQKKIKDAEYPRDYFRC TTDTYAPYDDGHQWRKYGEKKLSNSNFPRCTYKN ARVSVRARSEAPMDSDGCQWRKYGQKMAKGNPCPRAYYRC DDGHSWRKYGQKD\NSAKYPRSYYRC TKFVVHAAGDVGISGDGYRWRKYGQKMVKGNPHPRCYHMT WRKYGQKPI K GSPHPRGYYRC FQS $\square \mathrm{D}$ THPHEYDGYNWRMCGQKVVQGGCHQKFYYEC DGHLWRKYGQKNI KDSAFPRDYYRC
T R V VMTATTE DKYGWRKYGQKVILN
ARVSVRARSEAHMDNDGCQWRKYGQKMAKGNPCPRAYYR LADD GYHWRMCGQNTDQGEPCQTFYYQC RSRSLVTHVPDGHQWRKYGQKNINGRQHPRNYYRC SDGYSWRKYGEKELKSGSSTKSYYRC ARVSVRARCDTPTMNDGCQWRKYGQKVSKGNPCPRAYYRC D GHDWRKY GEKKIKNSSFPRGYYRC ARVSVRARCDTPTMNDGCQWRKYGQKISKGNPCPRAYYRC D GYQWRKYGQKWI SKAKHSRSYYRC RHE 【LYEEFGKAEQWRWDMNKTSTTGKNYYLCSEF DGRQWRKYGQKHINKAKHPRSYYRC DDGYNWQKYGQKQVKGSEFPRSYYKC DGYQWRKYGQKQI EGAMYPRSYYRC

WRKYGQK SVKNRPNPRNYYRC
ND GHQWRKYGQKWISRAKHSRSYYRC WRKYGQKSTRNNPHPRSYYKC
NDGFRWRKYGCKLIA GNMTERSYYRC DGYSWRKYGQKQVKGSEFPRSYYKC
TETVF DT T T PE R\|GFRTRSEVEDLD NDGFHWRKYGEKKI LNSEFRKLYYRC GFKRKYGKAVSSPNPRSYYRC
R L VVHT LIS D $\square \mathrm{D} \| \mathrm{LD}$ A GFRWRKYGQKVVK GNPNPRSYYKC D GYEWRKYGQK SI SKTKHSRSYYRC D GHQWRK Y GQK QIN GAKYPRSYYRC
RFCFKTMSDVDVLDDGYKWRKYGQKVVKNTQHPRYYR $S K L Y V H A S D L S L V V K D G Y Q W R K Y G Q K V T K D N P C P R A Y F R C$ WS YFRC
$\square A D D G Y K W R K Y G Q K A \square K N S P N P R S Y Y R C$ DDSYNWRKYGQKQVK GSEFPRSYYKC
VVKDGYQWRKYGQKVTKDNPLSRAYYR
T R T L VT T VP D F
D DA HRWRKYGHKKIISNDLSERSYYRC YGQK D I LGA TYPRAYFRC SRVYVRTESTSLIVKDGYQWRKYGQKVTRDNPYPRAYFKC D GFKWRKYGRKNDKS SQVTRSYYRC GQKE $\square$ QNSTHPRSYYRC MSMGYYRCS MMM $\square$ MHD $\begin{aligned} & \text { PHACRSYYK C } \\ & \square K G S P H P R G Y Y K C\end{aligned}$ GGYYRCSSDK
RVVVLT TDGKTSDEMRWRKYGQKFVKGSKYPRSYYKC DDGYNWKKYEEKVAKEGENQRSYYKY T QVRVS S LDQDEGHDDGFS WRKYGQKD\|LGSRYPRSAV

MPED GYQWK K Y G QK F $\square \mathrm{KN} \square$ Q K $\square \mathrm{R}$ S Y F R C LDDGQA WRKYGQKEIHNSKHSRAYFRC

UniRef90 T1LAC5 UniRef90_G7LAR2 UniRef90-M5WX87 UniRef90_D0QY60 UniRef90 J3M5Z6 UniRef90_Q2QYJ6 UniRef90-MOYJN3 UniRef90_U5GSI9 UniRef90- J3M550 UniRef90_UPI00032A99C2 UniRef90_M0X7Z2 UniRef90 M7ZG87 UniRef90-A2YZE9
UniRef90 B9GXX9 UniRef90 UPI0002C32F6C UniRef90-I1NST2 UniRef90-T1LAC7 UniRef90_U5FJZ7 UniRef90 M1BIZ3 UniRef90-K7QT20 UniRef90_M8BC02 UniRef90_J3N518 UniRef90 M8CUB7 UniRef90-C5XNA0 UniRef90_Q6IEN5 UniRef90 J3M3S7 UniRef90-M0SWT7 UniRef90-K7U6F7 UniRef90_U5GBR2 UniRef90 C0IMS2 UniRef90-B8BBM7
UniRef90 I1NSS8 UniRef90-C8CP45 UniRef90- G7JXZ9 UniRef90_B9FZ15 UniRef90_K3ZMQ6 UniRef90 Q5JNH8 UniRef90-K8EQA4 UniRef90-M8A7D8 UniRef90 UPI000350FC51 UniRef90-।1QTG0 UniRef90-W5DNA8 UniRef90-E6Y3E2 UniRef90 K3ZLA4 UniRef90-W5AJ23 UniRef90-M1DX32 UniRef90-K3Y972 UniRef90-D7MS09 UniRef90-I1R3H1 UniRef90_COIMR7 UniRef90 I1R2M7 UniRef90-COIMRE UniRef90-M8A312 UniRef90 B9GBD1 UniRef90-I1PWM5 UniRef90_K7UI29 UniRef90 S8BTA2 UniRef90_B9G2L3 UniRef90_Q6H4S7 UniRef90-K3ZNM2 UniRef90_S8C2K8 UniRef90_J3KX17 UniRef90_J3LA80 UniRef90_M8CPD6 UniRef90-M8A227 UniRef90_G3FF77 UniRef90_W5FCM9 UniRef90_M7YLJ9 UniRef90-A4S1F5 UniRef90-IIIV01 UniRef90 M0V3N3 UniRef90-I1KVM2 UniRef90-K8F355 UniRef90-W5A075 UniRef90 W5DW06 UniRef90-A5BGQ7 UniRef90-W5D4Q9 UniRef90_A9S229 UniRef90-K8FDL4 UniRef90_G7K8M1 UniRef90 MOZ007 UniRef90-A0A022RS34 UniRef90-T1M8J4 UniRef90 W5HM99 UniRef90 M1Al30 UniRef90-COIMN8 UniRef90_V4TW52

A Y Q NCPATKTIIRQQDHNVT IY 1 VVVYGHHTC THQRCKATKQVQRDQEKPPLYKTTYYDHHTCNK AFVGCPMRKWVERASHDLRVVIKT

THKNYYGKKKVQRLDDDPFTYETTSAAEHDHP TYRQEEKCKATKTVQDHPVMYTVVYYGQHTCCKGPA CPARRQVQRSEEEEEDDPYLYVI TYFGDHTC QKRNCMAKKRAEWS NPENLRIVYEGSHSH TYKHEQNCKATKTVQQET $\square M Y T V V Y Y G Q H T C$ NDMKCRAKKQVQRHGVHPNIFEVQYVGGHSC TYMNCPATKQI QQKDHDPPLYQVTYYNEHSCNS A YTGCPARRQVQRSEHDPPLYVLTYFADHTC TTVGCPVRKHVERALHDTRAVITTYAG
QKQNCVAKKRVEWS NPDYIRIWYEGSHNHAS
A HGDGCWAKAIVPTPDDPTIRNITYVGRHTC
AFQGCLATRRVQQSQDDPAAFVIAYYGEHTC
A Y TERNCTKTVQQQDQNGSMYNVVYYGHHTC
ARNNCAATKMVQRSETEESLFEVSYGENHSCGQ
$T Y H C S A S K H V E Q H N S S D P P L E R V V Y T N D H T C$
$G Y H R C P A K K V V Q Q Q N N D P P V M$
$G$
$G Y H R C P A K K V V Q Q Q N N D P P V F M V$
$T$
SYRQCLASKLLQQKNDDPPLYEVTYTYEHTCGAPP
DMKCPATKQVQQKDTNDPPLLFSVTYFNHHTCNSSP
TMSQCPVRKQGLW
】HRKCPATKTVQQEDGDPPQF VAYSMQHTC
SSKGCSARKQVERSRNDPNMLVITYTSEHNHPWP
MLLGWF DYMLNLDNDPT\LI RHFHGQH
NSVRCPARKHVERSLDDPSMLIVTYDGEHN
SQANCGAEKSVTRSA DGQIKKTVCKGSHNHPR
SYQCLAASKVQQENDDDPPLYRVTYTYEHTCNTTP
THKYCRATKHVQRMEDSE $\square$ MYKITY Y $\square$ CDHTC
TM
A QANCMVQKSVARSA DGQTTQTFSMGVHNHPQPP
A Y RERNCTKTVEQQEQNAGTYTVVYYGDHTC
S S SKCPARKQVERSRADPTVLLVTY
ARLDCPAKKTI E RGMTVYTY AEHTHDKPKA
$T V T G C P V R K Q A D R D E T N$
TYKHCMATKTVQQQEHNTTMYTVVYYAHHTC
SYRNCMATKVVQQENDDPPDYRVTY $\square$ HPHTCPSPPA
T 1 A TGC
T NAGCSVRKHVERASHDPKAVITTYEGKHS
ANQGCLATKTVQQKETDGSLFDVDYYGQH DC
GYHKCPAKKYVQQQNSDPPMFLVTLINDHTCD
KKK CPAKRHVEQSSTDPTKVIVTYKGEHNHPPP
TYRQCKATKTVQQQDDHPVMYTVVYHGQHTC
TNPGCPVKKKVERSLDGQVTEII Y
TNSTNQGCLAKKTVQRNGGGYTVAYDSEHTC
SDSNCDVKKTVERDARDKGIVITTYEGKHT
ANQGCPATKTVQQMDSSGKLFNVDYYGQHTC
AGASCPVKKQVQRSAEDPTIVVTTYPGEHT
SVRGCPARKHVERCVDDPSMLIVTYEGEHNHTRMP
KHFGCPARKRVEV EKVTGATRTVYEFEHTC
THPTCPVKRKVEMTP DGRIAETVY
GYRKCQAKKYVQQNNKHPPEFRVTLTNEHTCN
TWN
TTPKCPVKKRDERSFQDPS IVITTYEGQHNHQVPA
TTVGCPVR
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TYGKEQGCKATKTVQDHSIMYKAIIYYGRHTCN
TSTS C GVKK RVERCSDDPSVVVT TYEGTH $\square$ HPCP
TH L H
SFPACPVKKKVQRSAEDNT\|LVAT
THSNCRVKKRVERDSTDCRMVITTYEGRHTHPP
TNPRCNAKKQ
THPSCPVKKKVERSLD
TNSKCTVKKRVERSSEDPSVVITTYEGQHCHHQ
SFPSCQVKKKVQRSAEDKTVLVAT
SFEGCPARKRVGWCPETGHT RVWYEFEHTCGQ
TNQGCPAKRTVQRNEDDGSKYTVVYISAHTC
THRHCRATKQVQRAHADPLLFDVLYLGAHTCAQAAA
S F A P S CPVVKK
TRPNCPARKQV DENG LVKYENAHNHERP
THHTCNVKKQVQRDAKDTSIVVTTYEGVHNHP
THQGCNAKRQAQ CCETHP KKYDITYYGEHTCKPP
SSKGCPARKQVERSRVDPTVLIVTYACDHNHPDPP
TSARCSAKKHVEKSTDDPEMLVVTYEGSHDHGP
SSMRGCARKHVERSLEDSSMLIITYEGEHNH
DCPARKHVERCRGDAGMLIVTYENDHNHAQP
T $\square$ SNMN $\square$ QKHVEEVDDNGK LIVT
S S K GCPARKQVERSRVDPTMLVLTYTSQHNHTSPPS
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THKYCAAQRQVQRCDDDEGMFR
SSKGCSAKKQVERCSKDASLFVITYTSSHNHPGP
AMPGCPVKKQIQRCAQNPTVVTTTYPG
TSKGCSAKKQVERCRTDASMLI ITYTSSHNHPCP

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