


## QUERY

 UniRef90_D6SDP8 UniRef90_Q6GCH1 UniRef90_G7ZR50 UniRef90_R9D652 UniRef90-R9D652 UniRef90_V6XR16 UniRef90_V8B5I0 UniRef90_C4WB07 UniRef90_A0A018HND0 UniRef90_X9ZAP3 UniRef90_X9ZAP3UniRef90 H1SWF9 UniRef90_R9YKS5 UniRef90_C5QZM0 UniRef90_J0F5C6 UniRef90_C5QZM1 UniRef90_C2QE66 UniRef90-F9JM12
UniRef90-H3WKE2 UniRef90-Q8NYE4 UniRef90_H3WZT3 UniRef90_E6JPR5
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UniRef90 K0AXY3 UniRef90_M5R2Q0 UniRef90_K8NX02 UniRef90-K2MERO UniRef90_UPI000374CF33 UniRef90_B4ADL6 UniRef90_LOBK50
UniRef90_B7JLP2 UniRef90_A7Z280 UniRef90_UPI0004695642 UniRef90-A0A020HE76 UniRef90_X9YH81 UniRef90_W7CW41 UniRef90-I4VDQ6

I S DFRKDY EAF GEPWMSF

 F K N L R N N L F K E E GLLE P WT S C E F D F T K E G E L K K V S F D Y I N S E F




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












| QUERY ${ }_{\text {UniRef90_D6SDP8 }} \quad$ F LE P L |  |
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| UniRef90_Q6GCH1 |  |
| UniRef90_Y7FTW9 |  |
| UniRef90-G7ZR50 |  |
| UniRef90-R9D652 |  |
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| UniRef90-V6XR16 |  |
| UniRef90_V8B5I0 |  |
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| UniRef90-F9JM12 |  |
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| UniRef90-U4PKC3 |  |
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| UniRef90-A5IPG7 |  |
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| UniRef90_UPI00047EC7A0 | F |
| UniRef90-J8XQL9 |  |
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| UniRef90_UPI0003450845 <br> UniRef90-UPI00026C6049 |  |
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| UniRef90-D3QE97 | TME |
| UniRef90-S3AAV1 |  |
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| UniRef90-K8NX02 |  |
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| UniRef90-14VDQ6UniRef90_N5SL62 |  |
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UniRef90-UPI00047A536A
UniRef90-JOZ8T4
UniRef90-S7LX49
UniRef90 E7GVIO
UniRef90_UPIO00382D93B
UniRef90-Q5WBD3
UniRef90-T1XPS5
UniRef90-C9MWK5
UniRef90_U5F8G9
UniRef90-A0A018HRF6
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UniRef90-R7L722
UniRef90-S7LV92
UniRef90-R6NMD2
UniRef90_R6YS84
UniRef90-Z1TGV4
UniRef90 ${ }^{-}$Z7UCH1
UniRef90-R7FFW0
UniRef90-R6BZM9
UniRef90-H1TLP1
UniRef90-X5EK07
UniRef90-B0G8Y8
UniRef90-R5QAR6
UniRef90-N6S7A8
UniRef90-R7F3F4
UniRef90 ZOQ5S0
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UniRef90-J6AJF1
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UniRef90-R6CP25
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UniRef90-Z6KR67
UniRef90 ${ }^{\text {D4UAM8 }}$
UniRef90_A0A019Z6M6
UniRef90_R7J085
UniRef90_W7J7D4

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F
 EKKVK SI YREIIDQLNTMI PDEWSTVYVNAEI YNDGGTV
 F LE K QNELLIRAUAQQVSN TI K F
DEKVGHMYQQIARTVIDMIDEEWDKVY $F E \square E L N E L Y K E V A Q Q V N D M I P T E W D N F Y F N G E V K E G E G G V$ MEKQMNEKIIEIVHQANDMI PVEWDDLYINFEVDKTSGGV


 MEEKLNEFYKGI AFQVTKMI PEEWDEVKIYGEVNPSAKT

$\stackrel{F}{F}$
E
E K K K Y Y Y
 PVEWDKVWMYAEIVDDSSEV

MARK
MEETI Y Q H I
KME S I Y Q K I A E L I H DN I LENQLSQLFNDIANNVNRII



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 FFERQNEEISSALT QQINDTIPDEWKEFYFHADINDDFSGG QKMDR $\quad$ Y G E I A N K L VA M I P E E WK K

 MEK Q I NEKMTEIVYKVNDMI PVVEDDLYI NFEVDRTESGG


 K K M E Q $\square$ Y Q Q $V$ A N T L V N $\quad$ I I P E Q W K K

MELKKND DYQKVADNTKE!IQEDWREDY LYAEVGEDSQTT FEENLNKKYQEI ANKI NEMI PAEWEQVYTKAYI DDEGGEV MENEMNQDYRN【AETVNEMUPEEWNQLYFYAQUSETGGGT

K N M E N $\square$ Y Q Q $\square$ A N C LT D M $\square$ P E K WK K L L Y A E V R D S Y R K
FEEKLNKMYQE V V H $\$ N GMMP TK WE LVVYTMAY $\square D E E G S E V$
 MEAKMEQ $\square Y$ QQ $\square$ AD T LVN $\square V P E E W K Q \square L L Y A E Y$ REGYKK MAY IDEESGEV FFKKLNS I DK DMAYQLEYGDSDEWEKMYFRADMDDNFGGK MEK QL A E I Y N K I A S K I A S M I P V E WK K F Y Y L G EVEND K L S S


 K K I K D I Y E E I Q K K I F N V V P E K W D E L Y L Y A S I I D R L G E V

KK KKEMYEDTQRHTFYMDPEK WEKMYLYASTDKRQTGE ET T K D LY S E IR K CLLFYMIPEKWES $\square Y$ YYASVGEETGEM
 NI T DLYYERI RKELFYMIPEKWERIY LYASVVQRGGEM F E E K L S E M Y N K

FEEKDSK $\square$ Y NE DANEDSNMDPVEWEKVYTMAY DDDGGGEV FEEKLSQMYNEI ANEI SGMI PVEWEQVFTDAYVTDQAGEV KKI K E D Y E DI Q K KII F Y MI P EK WD ELYYLYA SVI ERF GSII MQDEVVRY Y Y K D




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| UniRe |  |
| UniRef90-C5 |  |
| UniRef9-UP10004788EAC | YFYYYPVNNDLPVQSHSIPKIYEVEEEEYERLWEQLLHN |
| UniRef90-E6JPR7 | YFFYQ SNKTNEIYYSDEI PDLYYISEETFDELDFKLYET |
| UP | T FHYDTDSGNNPINMHELPELFELDENKDDELRYKLNDY |
| UniRet90-UP | VFFYFYPNDSSEPI Y SLEVSKIYNLDKNQYMEKLFKLNDY |
| UniRet90-UP | VYFFFNTEKDKKLNYSHDU EKY N NEDYDEKYDKL |
| UniRef90-F5 | FFFYY PDASKEPVYSLDIPELYEVDEEKFDQLKDQLYEH |
| UniRef90-XORPT1 | FFFFTPNGEEQHVFSHFIPKLYSVDKRA |
| UniRef90-K1A0E9 | N |
|  |  |
|  | ALFYFTVPNKEEYFYSHNI PDQYQVSEDDYDSLLINLQRK |
| UniRef90-W7BP47 | YFF FKEVGKD |
| UniRef90-A0A009B | VFFNYTKPGSDDLNYYTD\|PKEYN |
| UniRef90-W7D6J4 | YLVEGKDP Y S Lid EDMEH:DMDEVQNGLSNL |
| UniRet90-U6ST | GVNEPI Y S Q I P |
| UniRef90-UPIOOO4 | CNPGNEE |
| UniRef90-Joxs | QGIFFYSHN:PGKFNVSKQVYKDLLNELYEC |
| UniRet90-J1B | VFFFY L LKNYDGVFYSLN PDDFN\|SEKKYNDLENELYEK |
| UniReego-AORDIS | VFFYFYPKGSNLPVYSLDIVDQYIVD |
| UniRef90-R4G086 | VYFYYYPLERAEPVYSLDIPDIT QVDKRFYKELKRELYEC |
| UniRef90-M7NUJO | YFFYY PAEGTGPV ${ }^{\text {L }}$ SHDIPERFDMDSDDFEMKEYELGET |
| UniRei90-W8QWF3 | $\square$ FYFRKKGDKEFIYGHNIPKLFNTSRSTYMDFL |
| UniRet90-W7B2 |  |
| UniRef90_Dobl | K |
|  |  |
|  | PKKDGFIYSNAPKVYDVDEEYDDLIFEDYDA |
| UniRef90- UPIOOO4207E | NSSEEEEKYKYSHDI PEEYNI SFSEYMNGFNELMST |
| UniRef90-M7N9 | ESSEKP L |
|  | DATPIYSHNIVELFNVSEEEYFKKWHCLLGC |
| UniRef90-NoC1L5 | YYFFFNEEGENEY |
|  | VFFYYNMKES |
| UniRef90-UPIO0026260 | VYFYYYPLNSVEPVYSLDIDEVFDIDSSEFNMDQNLDDC |
| UniRef90-UP100036329 | VYFFF KHQDKVSYSLEIPAEYRIDRKVFKKLNRELYDL |
| UniRet90-W7Z1U6 | VFFYYYPKGREEPDYSLDI SDRFLLDEDEYESNEYELYKM |
|  |  |
| UniRef90 K8MQLO | I NFFFYKYDGEYHYFFYIPRDFGVSKSEFFDEHDKLFGK |
| UniRef90_UP1000 | SVFYYYP QSKQPVYSLK EENY |
| UniRef90-A0А038 | TVPQKDELYYSQHIPKDFGVSKKEYVDSFFRLCDL |
| UniRef90-M7NDJ9 | VYFYYDPVSNTQPILNLDI PDLFSVDPDDFILQKRQLRRT |
|  | , |
| UniRef90-F2C | EEVKSDYIYNLY' PKKYELPNSEFRENERRTFKL |
| UniRef90 UPIOOO262 | FYYYPENGNNPVYSLDITD |
| UniRef90-W7IVT4 | NYTKPGSD |
| UniRef90 D5DHE9 | YFFYY PKGSDEPIUSHDI A ELIE EVSEQSYLVLLDKQLEC |
|  |  |
| UniRef90_UPI00047B927F |  |
|  |  |
| UniRef90-UPIOOO47A536A | VYFYYYSFTNKEPVYSLE: PITKFDVEDERFKRLENDLYDL |
| UniRef90 JoZ8T4 | FNYTKPGSNDLYYYTA PEDYSVSKKIFDELEDESYES |
|  | E |
| UniRef90_UPIO0038 | VFYYYTEPGSNELYYYTSVLNKYDISESEFMDSAYELYKQ |
|  | LFFYYYPETRDKPVYSLDITDLFHMNEDKYHELENKLYHC |
|  |  |
|  | VNFYFNTTENKEYKCCTEIPKMYN |
| UniRef90-U5F | NVPNETYKELLDEL E L L |
| UniRef90-AOAO1818 | SDELNYYSD:PKDCNVSKDIFKNSWFKVYRM |
|  | SPEK |
|  |  |
| UniRet90_57LV92 | DELHYYTAI PKEHNVSKKLFKELLDELYEN |
|  | KPVNVYEIPSKFNI DEEEY位LVKALYQK |
| UniRef90-R6YS | KNYYYYYPDRYG |
| Ref90- $\mathrm{Z7UCH} 1$ | MP |
| UniRef90-R7FFW0 |  |
| UniRef90-R6BZM9 | KRNPINVYQIPQKFNLNEEEYIKLTDELYNY |
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| UniRef90-B0G | C |
|  | ( ${ }^{\text {a }}$ |
| UniRef90-R7F3F4 |  |
| UniRef90 ZoQ5S0 | MPKDCNVSKDTFKNSWFKVYRM |
| UniRef90_13FHU1 | D |
| UniRef90-J6A | NYTKPGSDELNYYTYIPREYNVSEKVFYDLWTDLYRL |
| $\begin{aligned} & f 90 \\ & \mathrm{f} 90 \end{aligned}$ |  |
|  | E |
| UniRef90-B0G7J9 |  |
| UniRef90-U1SH45 | FFYFNTPHSEDFIYSHNIPEHYHVSEEDYEELLFDLQD\L |
|  |  |
|  | SDELFYYTSVIKKYNLLKSSFMDSVYELHDQ |
| UniRef90_A0A019Z6M6 |  |
|  |  |

## UniRef90_W4CCI5 <br> UniRef90_C5QZL9 UniRef90_UPIO004788EAC UniRef90-E6JPR7

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UniRef90_C9MW83 UniRef90_G2TK06 UniRef90_UPIO002626C67 UniRef90-UPIO003632967 UniRef90_W7Z1U6 UniRef90-A0A024DHJ1 UniRef90-K8MQL0 wise UniRef90-F2JHQ5

FRM, 90
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FVELNAESLKSSPEPWTNLTMYLDQSGKFNIDYSYDEVLF FESLRELFI ENNQEPWTSCEFDFTKEGKLNVSFDYDNSDF




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UniRef90 W4CC15
UniRef90 C50ZL9
UniRef90－UPIOOO4788EAC UniRef90－E6JPR7
UniRef90 UPIO0047C00AC UniRef90－Q6HGDO UniRef90－UP10003F50A1A UniRef90＿D4UAK6 UniRef90－F5SAJ8 UniRef90－X0RPT1 UniRef90－K1A0E9 UniRef90－M7P467 UniRef90－A0A059N8S1 UniRef90＿W7BP47 UniRef90－A0A009BGN4 UniRef90 W7D6J4 UniRef90－U6STF9 UniRef90－UPI0004217372 UniRef90－JoXSQ9 UniRef90－J1B7A8 UniRef90－AORD15 UniRef90－UPI000378E3C5 UniRef90＿R4G086 UniRef90－M7NUJO UniRef90－W8QWF3 UniRef90 W7B2D8 UniRef90－DOBL36 UniRef90－E9DM96 UniRef90－F9PFP1
UniRef90 J7W1V0 UniRef90－UPIOO04207B65 UniRef90－M7N9R7 UniRef90－G2RSX6 UniRef90 NoC1L5 UniRef90－C9MW83 UniRef90＿G2TK06 UniRef90 UPIO002626C67 UniRef90－UPIO003632967 UniRef90＿W7Z1U6 UniRef90＿A0A024DHJ1 UniRef90 K8MQLO UniRef90－UPIO00365C92F UniRef90－F2JHQ5 UniRef90 A0A038HUM0 UniRef90－M7NDJ9 UniRef90－F2FOGG UniRef90＿F2CCB6 UniRef90－U5UL90 UniRef90－UPIO002626C66 UniRef90－W7IVT4 UniRef90－D5DHE9 UniRef90－S7LW35 UniRef90＿UPI00047B927F UniRef90 Q2FJW9

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保 GPDAREYYYEYKKFG $\backslash P E K E Y A K K V E Q Y I K E Q E K E$ NDHERVIIWKHKYLNLWPSEDDKKFLEEYLKSNNE DDYERSIIWEHKYLGELPSNEEEKKKLDYDK
DDYERHVIWKYKKLNTLPDEFDKEDI EKYKKER
TPTPRMNYFKYKYLGKIPKDKEEEKLEKEMEEYQ
DYYERSDAWEYNYLGLVPKDSYKKVLDEYLKKKEE
GPSDRDEYFEYKYVGQNKQQUNGLELIKKMLKKFEEQ GPTDRIEFFEYKYLGKQPANEKEFELLFKAMEDFQQEHN DPIEKQDRWETKH
DNUQR DAVWEYETFGF DPDEEDKEAVLNY DKNKDDN GSGARRVYFEKKYLGKEPDAEY
DQLGRENYYMYKKFGVLPEMEYEKE DDQY $\square K E Q D E A E$ DYIERVKI WKYEKLGILPNDKD
DPTKTRII WAYQHFGLVPTSQYKDLLDEY LGNNQ
DGDQRIAVWEYETFGFLPDEEDKEAVLIYYKNKEDN
ThGTRIDYFKYKYFGELPE
TLGTRIDYFKYKYFGELPE
NHYERLIIWKYKKLG\｜SPDEKREKLIREY $\square$ NTQ
DPTTKRERWEEKYL
SPDEKQEKWENEYLN
DPGEQREAWKAKY
DGDQRIAVWEYETFGFLPEEEDKEAVLDYGKNKEENNK DYVDRVA $\downarrow$ WEYEKLNMLPKSTDVELI ENYKKK
TSNQRLSFFKYKYLGEEPENNDLLQLFKEMEEYQNK
GPTDRINFFRYKFLGFEPRNEKELLEQFKAMEAFQQEHN GPSALLKYFKYKYLGFEPR DEKELEQF
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TSNQRLKYFQYTHLGK\PQNEDEMKLFEEMEEFQKKNN DPGEQREAWKAKY
 SSGQQMDFFEYKYLGKQPVNEKELEQFKAMEAFQQEYN GHNEMDDYFEYKYLGKVPGDKEEEELFKKMEEYQ DPVEK $\overline{\text { DeQweATYL }}$
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GPSSRDDFVEYKYFDKKPSNDKEAKLLEEMEAFQAASK SPVDKRSF
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GPSARTSFFQYKYLGKQPANEKELEQFKAMEAFQREHN
俭
SPSEKFDYYRYKKFG\｜LPKFQYEHA DPGEKREAWKAKY
SLDEKQDKWEAEYL
TSGQQMNFFEYKHLGKQPANE KEDEQF GQYDRFNYYRYKKFGLLPEKN
DPVEKQEKWEAEY号
GPSGKENYYMYKKFGVLPEMEYEREVEKYVKEQE DPYEQ

GQVGRQNYYKYRKFG\｜LPETEYEKE DEQY $\square K E Q D E A E$ DPVEKQEKWEATYL
GHLDRVFYHQYKKSG $I$ LPEKEYAKKVEQF $\square K E Q E K E$
GPTDRपYYFMYQY पKYSPDSDEEKEKFSQMKKFQEQFND DQLGRQNYYMYKKFGVIPEMEYEKEDEQYDKEQDEAEQ SPVEKQEKWEAEY
DQLGRENYYMYKKFGVIPEMEYEKQTEQYTKEQEE SPYDSEYFFKYKYDGEMPKTENQEKLFKEIEKYQK GQUKRQTVWAYETFQFMPKEYSRKILNKY DSESNK

S P
SNSDRH $\square$ WVYEN $\square$ NKP $\square E S F N K S E \square S K Y \square L E N H N E K K D \square$
NSYERHTIWRYKY LGVGPEKKDKD！LNRYL
EYYDHHIFWRKKYLNIEPHGKKEKIIEQYVANRQTSRKKD
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DQLGRQNYYMYKKFGVIPEMEYEKEI EQY KEQEEAEQ
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SNYDRHLVFRYKYपGLNAYSKREKMVLDYTDKEENSNRD【 GPSGKENYYMYKKFG\｜LPDMEYEMEVEKYVKEQE

DSYQRH！ITWRSKYПNEKVKEDKEILKKYYNGQ
TDEQRRI I WCYKYLHTPLESLNKKEQELVTHYREETN
GEKQRLEDWKKQYTGE
GQTERETDWAYETFGWKPEN

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 $\square S$ A $\square$ Y HR $\square$ G Q S $L$ ID A VP T D Q C G $\square \mathrm{W} \square \mathrm{NFE} \mathrm{\square IKNVWS} \mathrm{G}$

MENELNA LYRS $\square$ AETVNEM $\square$ PEPWEKF $\square$ FYAQVSETGGGT
ENVESTYQKVVMQLNSTIPEPWEKVMVYSEVDEYSDST

 MEKQDKEK $\square R E \| A Q S V N E T I P V V W D N L Y I G I N A S D G G G V$

LIEDELEKHYNKVAQNTYK LTPPLSWSRAK LYYEDNDSNPFVV


NKVFQDTFDTLQPVLPKEWKK LIFLFDGYTEGSYTM DKLFQR FD FLEPVLPGHWKRLVFFAGYDEGSYTM
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YFYYFFRKDSPEFLPDAEMHYILDLDDPTDYHEQTDKI NH L


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A $K^{M}$
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MD DP N L F K MDQQE

YDANEYELYK
 K Y ASPDKDRNYFVPS YEQNETHAELA NDSDL K YYTCNDSGVY $\square D C F S Q K E \square N A Q L \square R \square F M N \prod N K \| V S P Q$

 EFDTY $\square$ T PTNELKKVLDENDVTFENG ETERKRHPRSVDKK





[^0]UniRef90_R5NEN0 UniRef90- W1TYI7 UniRef90-HOAGH2 UniRef90_GOIIK7 UniRef90 M7NEC0 UniRef90-V6Y160 UniRef90-S6FCX5 UniRef90 E7MHD1 UniRef90-T5KQG5 UniRef90-S7LVV7 UniRef90-JOUMH7 UniRef90 HOATKO UniRef90-H8XGM3
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S F S DQM I TWKRKY LGEEAEEKD $\square$ A LVAK Y DSEFPN SFNDQMVIWKYKYLNEKPQK
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D S S $\square \mathrm{Y}$ QQNYEQ $\square \mathrm{NF}$


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