## QUERY

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 R P WVVVMHPS
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| UniRef90-Dokz |  |
| UniRet90_KONKU9 | AVDGTVFPPHF AKAAANELT NAKL |
| UniRef90 LOHJI3 | GVVFDPFHFAEMPF FDAASA |
| UniRef90- B2JHH3 | P |
|  | HDRAA |
| A | T |
| 99NaA |  |


|  | SSNGAFEPPQ |
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|  | DADSGEPEKHT |
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| Unifeti9-DB84CC1 |  |
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| UniRef90_A1R4L9 UniRef90_B9NQAA |  |

UniRef90 UPIO00360DEFF UniRef90-M5F0D9 UniRef90-UPIOOO3B4BDEC UniRef90-E1SNK5 UniRef90-A0A015L1W4 UniRef90_UP100037587C8 UniRef90-P81186 UniRef90_UPIo003F876B6 UniRef90-D5MM28 UniRef90 WOE998
UniRef90 V9GBK7 UniRef90-H6N8W0 UniRet90-V2IGR4 UniRef90-G7WDH6 UniRef90-K6EE13
UniRef90-O1K214 UniRef90-UPI00037D58C9 UniRef90 H0F7F7 UniRef90-UPIO004654A13 UniRef90-W7 QJB9 UniRef90-W9G2Q9 UniRef90 W9G6U3 UniRef90_UPIO004672676 UniRef90-UPI000408AD5F UniRef90_D6SN13 UniRef90-M5Р3К4 Unii effo-TOIWZ6 UniRef90-V4L778 UniRef90-U1HJS5 UniRef90_UPIOOO464E7E5 UniRef90-A8ZSV9 UniRef90 C9RAQ1 UniRef90_UPIOOO41496CE UniRet90_D7CNB2 UniRef90-FOJ365 UniRef90-V7ZBW5 UniRef90-UPIo0036E6EB6 UniRef90_A1UK50 UniRef90-MOM8V5 UniReffo-JgYZW7 UniRef90 AзК3Z7 UniRef90-U5E5A7 UniRef90-UPIOOO371AB40 UniRet90 X1VZC6 UniRef90-A4YQX2 UniRef90_UPIo003F63F17 UniRef90-A8IPR5 UniRef90_K9DLQ2
UniRef9O_A1WQU6 UniRef90-R1GFA5 UniRef90-Dolz87 UniRef90-G4HWG3 UniRef90-D6EBP9 UniRef90_J7LFF3 UniRef90-K6CFI9
UniRef90 C5ERN UniRef90-Q9HL15 UniRe990_U5WTE2
UniRet90_UPIOOO366641B UniRef90-A4GAA9 UniRef90-C5T7×5 UniRef90-I3DWK4
UniRef90-G4QMZ8 UniRef90_E4PMNO UniRef90 AOAO28VJ18 UniRef90_MONNX9
UniRet90_W1S5X3 UniRef90-F8ADR7 UniRef90_G9QPP1
UniRef90_OAYY62 UniRef90-UPI00036C7C46 UniRef90_B1Y2Y3 UniRef90_D8P4J7
UniRef90D D3FYD3 UniRef90-UPIOOO3F764B1 UniRef90 D9TEZ9 9 UniRef90 A9HZT8 UniRef90-A4J476 UniRef90-A8LLN3 UniRef90-UPIO004033EOC UniRef90-EOMOOO UniRef90-D3RY48
UniRef90_A6F4H6 UniRef90_UPIO00465822C UniRef90-_OHN96 UniRef90-X1LE83
${ }^{2}$

1
WQP
WQPPPTEDFPFLLTTGRRLLGFFNTGVQSEDYHHPHR SPDYPVILNTGRVRDHWHTMTRTGKSPRMSQHDA WRESADDEYPVWFTTGRVVSQYLSGSQTRRIGGPLVDQFP
WEGGDDPDYPFQVAVYHTKGRAHSEHSHKV WEGGDDPDYPFQVAVYHTKGRAHSSFHSHKV VYGLREAD SEAYPLQLTTGRVLTHYDTGVQTRRSHSLAARQF PDKDFPMILTTGRQLEHWHTGAMTRRASNLDADEP ESPDEEFDLWLSTGRVLEHWHSGSMTRRVPELYRSYP PDRNFPFLLNTGRVLYHWHGGTLTRRVKGLLELAP GRGEQYPLILTGGRFASFHSEHRQVASC REIVP
PDLASEYPRYLTTGRVLSHYLTGVQTRRSPSLAAREK
$\stackrel{P}{\mathrm{G}}$
GS ALIS

DPRY
WRPTAS
RDPALA
PD DA K DSHYP
EFGGA KPGQ DPRYP V VVIS

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PDAEYPDLYL

## ERT

PE
ELTRRD
ATA
DA
PDK
PDKDYPFLLDTG
GVARFDLWLCTGRVLEHWHTGSMTRRVPELHRAVP
 EPTSARFPMRLLTGRLRDQWHGMSRSGRVPAAFAHSP RGEAPLYYVTGRLLQHYQSGAQTRRVAELAEAEP PSAPAGYPFQLGNRRHRHSMNS WLND

PDDDFPMILTTGRLLEHWHTGSMTRRATVLDHIEP PDANYDLWFSTGRVLEHWHSGTMTRRVPELHRAVP PDETFPMVLTTGRQLEHWHTGSMTRRATVLDAVEP PDTEFPFAL JTGRTLYHFHTRTKTARAAQLDAAAP SPERPFVLNTGRDRDQWHTMTRTGRSARLSAHLA
EPEDPEFPYVLTTYRLTEHHDSGVMSRWLDPWLAELQP
PSD ED EY回PPPDEDHPYVLSSAKNGFYCHSQHRSGGPSLRKRAP PRDARHPFSLNTGRLRDQWHGMTRTGQLGRLFAHAP GLDDEAELVI GGRQTRSMNSMLHNGVPALMRGRE WDTDPKKEYPFICUNGRSYEFFHS ENRQQATMREFHP KEKYPLYLIGRRHVRSNNSWMHN YHRLVKGKP KEKYPFYLCTGRMPYADHSRVHET PWLRSGRP DQEFDLHLNNGRILEHFHEGNETYRSPGLKEKVP EPTTADFPFALDTGRTLYHFHTRTKTARAPQLQGAAP
PTTQAFP ILNTGRVRDQWHTMTRTAKTAKLMAHKD EVQSGDTAKYPGNAVTGRPMAMYHSW DSQNAWLRQTHT

EPRESRYPFSLTGGRLRDQWHGMTRTGTLGRLFGHVA Y回GSEDRRFPLLLTTGRILSQYNVGAQTRRTANQSWHQ GGKFPLLTTG SRYSLTLNTGRLROYNVGQTRRTNSQWHS KADEYPLMFMQKHSRFRDHSQYEMLNW VIVRTNP पQEK KADEYPLMFMQKHSRFRILHSQYEMLNW VAGRENNP SENYPLYLTTGRVLPHYNTGSMTRRVEALAEALIP

## EALGN <br> PE

PD A



GTSEDFPLYLTTG

##  <br> 

VRLNTGRVRDQWHTMTRTGKAPRGGAHMA

| ERTGP R R P |  |  |  |
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KAKDYPLYLITFKRMYRNQSGYCNVNPDLNQVSH
EPAPCPPADFPFLLANRRHRHSMNSWLNDADPGLHPSGK
RTPDDAKDYPLILITGRFLPQFHSEQRQLGMGM REQHP
GKASEFYVASTYRLEHFHWTKHVLNADTQ

UniRef90_UPI000360DEFF UniRef90_M5F0D9 UniRef90-UPIO003B4BDEC UniRef90_E1SNK5 UniRef90_R5PKY9 UniRef90_A0A015L1W4 UniRef90_UPI00037587C8 UniRef90_P81186 UniRef90_UPI0003F876B6 UniRef90_D5MM28 UniRef90_W0E998 UniRef90_V9GBK7 UniRef90-H6N8W0
UniRef90-V2IGR4 UniRef90-V2IGR4
UniRef90-G7WDH6 UniRef90-K6E513
UniRef90-Q1K214 UniRef90_Q1K214
UniRef90_UPI0003 UniRef90_H0F7F7 UniRef90-UPI0004654A13 UniRef90_W7QJB9 UniRef90_W9G2Q9 UniRef90_W9G6U3 UniRef90_UPI0004672676 UniRef90_UPI000408AD5F UniRef90_D6SNI3 UniRef90_M5P3K4 UniRef90-TOIWZ6 UniRef90_G6YFW1 UniRef90_V4L778 UniRef90_U1HJS5 UniRef90_UPIO00464E7E5 UniRef90_A8ZSV9 UniRef90_C9RAQ1 UniRef90_UPIO0041496CE UniRef90-D7CNB2 UniRef90_F0J365 UniRef90 - V7ZBW5 UniRef90_UPIO0036E6EB6 UniRef90_A1UK50 UniRef90_M0M8V5 UniRef90-J9YZW7 UniRef90-A3K3Z7 UniRef90_U5E5A7 UniRef90_UPI000371AB40 UniRef90_X1VZC6 UniRef90_A4YQX2
UniRef90_D1CAE5 UniRef90_UPI0003F63F17 UniRef90_A8IPR5 UniRef90_K9DLQ2 UniRef90-A1WQJ6 UniRef90_R1GFA5 UniRef90_D0IZ87 UniRef90_G4HWG3 UniRef90_D6EBP9 UniRef90-K6CFI9 UniRef90_C5ERN7 UniRef90_Q9HL15 UniRef90_U5WTE2 UniRef90_UPI000366641B UniRef90_A4GAA9 UniRef90_C5T7X5 UniRef90_I3DWK4 UniRef90-G4QMZ8 UniRef90_E4PMN0 UniRef90-A0A028VJ18
UniRef90-M0NNX9 UniRef90_MONNX9
UniRef90_W1S5X3 UniRef90_W1S5X3 UniRef90_G9QPP1
UniRef90_Q0AY62 UniRef90_UPI00036C7C46 UniRef90_B1Y2Y3 UniRef90_D8P4J7
UniRef90_D3FYD3 UniRef90_UPI0003F764B1 UniRef90_D9TEZ9
UniRef90_A9HZT8 UniRef90_W7YZQ2 UniRef90_A4J476 UniRef90_A8LLN3 UniRef90_UPIO004033E0C UniRef90_E0M000 UniRef90_D3RY48
UniRef90_A6F4H6 UniRef90_A6F4H6
UniRef90_UPI000465822C UniRef90-IOHN96 UniRef90_X1LE83
UniRef90_W6MA
$\qquad$ 5
 EPFVVEI HPADAQRFGIGDADIVRISTVHGQALLRALVTAR
 VP E T W L E S Y

 E P L L L Q $\operatorname{H} P$ P E D A Q E R G L









## E

 N A L V


 NMFVEDSEELARRLKGI KNGDKVIVSTTRGDIMAVAFVTKR LP F V QI N P A DVKKLLGVTNGDVVMI HNDQGNETFAVYETDA



 A AVLWMHPEDARERGLQRNDLVWLESRRGKVQIRVETT EANCSLHPSTLLRELGVEPGGLVRLDTRRGSVEVMARADRA QVWVE MS E D DA D R L T I G E G DL L E V Q T R R G A VRABARDS G

 DV W W V E L S V H D A A E R E I G D G D L V

 E V W L E V







## E




 | E | $P$ | $Q$ | $L$ | $D$ | $H$ | $P$ | $K$ | $D$ | $A$ | $K$ | $A$ | $R$ | $G$ | $D$ | $D$ | $G$ | $E$ | $Y$ | $V$ | $R$ | $V$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $Q$ | $P$ | $Y$ | $V$ | $D$ | $R$ | $G$ | $E$ | $M$ | $V$ | $V$ | $K$ | $A$ | $K$ | $Y$ | $N$ | $D$ | $A$ |  |  |  |  |







 EPYLE $\quad$ HP GDAA AA G L






| UniRef90_UPI000360DEFF |  |
| :---: | :---: |
| UniRef90-M5F0D9 | DA 1 S GQPASKNGAARMER |
| UniRef90-UPI0003B4BDEC |  |
| UniRef90-E1SNK5 | SPLAK GCTGGTLLRVKI E R A |
| UniRef90-R5PKY9 | NDMVGTYT L R GFQVQI SKADGAP |
| UniRef90-A0A015L1W4 | DPTCKMPGFKVCAVQVRP |
| UniRef90_UPI00037587C8 | DPFGK $\square$ P EFKYCAARIE |
| UniRef90-P81186 | D PVVREPEYK $\square$ C A A RVRKA |
| UniRef90-UPI0003F876B6 | DPLSKETDFKKCAVRMVKA |
| UniRef90_D5MM28 | DPSAK ${ }^{\text {PPE Y K V CAVA I E R }}$ |
| UniRef90-W0E998 | GKLGF GAPYK S I CKV Y K A E D |
| UniRef90_V9GBK7 | D LGGGA T F F S TVVVEV |
| UniRef90_H6N8W0 | $D P V C R M P G F K \mathrm{~V}$ C AV RVVE |
| UniRef90_V2IGR4 | D M GRAPVFYDCLVQVEAAA Q AV |
| UniRef90-G7WDH6 | $\square \mathrm{K}$ K S HS GAYNS CLVQI EK WN GE |
| UniRef90-K6E513 | DANSQDPEYKAFL CDI R R A |
| UniRef90_Q1K214 | GK LGGF GCPMKQMICKASRLDD |
| UniRef90_UPI00037D58C9 | DPNTG $\mathrm{P}^{\text {P P E K A F MVVNVRKA }}$ |
| UniRef90-H0F7F7 | D P IS R QPELKKFSAARAEPA |
| UniRef90-UPI0004654A13 | D L G N S A S FY D CLVEVA PMAKSA EVS A |
| UniRef90-W7QJB9 | DPI S GQPELKKHAAVAI EAYQA D |
| UniRef90_W9G2Q9 | D P IS G S S PLR A S VCDI T P LD A VP |
| UniRef90_W9G6U3 | D P TSRMPEFKACAVRLE |
| UniRef90-UPI0004672676 | D PTS GQPENKYTPVQVQPWYEQAEALLVSRTP |
| UniRef90_UPI000408AD5F | S GLS QATSANTCDANLK R C D A A S VNRAYEPPV |
| UniRef90_D6SNI3 | DPNTF $\mathrm{D}_{\text {P E T K T F MVNI R K }}$ |
| UniRef90-M5P3K4 | D P T CQMPGFKVICVRIS P F |
| UniRef90-TOIWZ6 | DKTTK T Y E Y K V C AVKV EKLN |
| UniRef90-G6YFW1 | D PV S G S T P L S F L C DIE E |
| UniRef90_V4L778 | DPIS GFPAFKS LL CDVVPARPDA |
| UniRef90_U1HJS5 | D PLSGQPESKHTPVVMADPYAPKWHAF |
| UniRef90_UPI000464E7E5 | D PV L L P EMKYSAVATKRV VT P Q A G P |
| UniRef90_A8ZSV9 | CPVTA S VP $\square$ K S L L CRL E K |
| UniRef90-C9RAQ1 | D PRAK T P A F K GVAVRI EK A |
| UniRef90_UPI00041496CE |  |
| UniRef90-D7CNB2 | DPNSMDPEYKAWLCDVRRA |
| UniRef90-F0J365 | D P M S T N P WY K G T RVGI R K L S G G L A S VT S F R P |
| UniRef90-V7ZBW5 | D ARS Q Q P L LKHAAVRVEK A |
| UniRef90_UPI00036E6EB6 | D P I S R M P EFKVVCAVEL T A E A LP L A G WS |
| UniRef90_A1UK50 | D PLS QTS T L S EA WV GV Q K V |
| UniRef90-M0M8V5 | D PVA K IP E YKHSAVTVER A |
| UniRef90-J9YZW7 | DPYGKI P EFKFSAANVERLN |
| UniRef90-L0DVG7 | CPDSK ES D Y K K C AVKV Y K V |
| UniRef90_A3K3Z7 |  |
| UniRef90_U5E5A7 | D P A S K Q P LFK T A A A CVVRKLA GPA P A P TV |
| UniRef90_UPI000371AB40 | DPVS GQPASKAAPAALRRFDAA |
| UniRef90-X1VZC6 |  |
| UniRef90-A4YQX2 | DPFSGQPEAKATPAS |
| UniRef90-D1CAE5 | D P NVS $\mathrm{V}^{\text {P E A K A F VCNV E K A }}$ |
| UniRef90_UPI0003F63F17 | DPASKQP |
| UniRef90-A8IPR5 | D P V S G Q P DLK A T P ARLA PVDAPARGV |
| UniRef90-K9DLQ2 | DANTQTPEFKSFLVNI ERA |
| UniRef90-A1WQJ6 | D PVIS S VPPHRSFLCDI ER |
| UniRef90-R1GFA5 | DPVSK Q PLLFK T A A A A L R R |
| UniRef90-D0IZ87 | PRSKQPELKHVAVKLLKAE |
| UniRef90-G4HWG3 | DVLS GTAAFNGVKVQ\\|RPLVEAAPA |
| UniRef90-D6EBP9 |  |
| UniRef90_J7LFF3 | DPTSRMPEFKVSAVRLE |
| UniRef90-K6CFI9 | DVLS G N A A L N GVP V Q V |
| UniRef90-C5ERN7 | D PYTGFPGYK GMRCNIS K |
| UniRef90-Q9HL15 |  |
| UniRef90_U5WTE2 | D P V S K Q P $\square$ Y K T |
| UniRef90_UPI000366641B | D PLS GQPESKHSPVKワEKWHG |
| UniRef90_A4GAA9 | D PVT GQA G WY DVRVRI Y P A GADEPKQT W P P P A |
| UniRef90-C5T7X5 | P T S K Q P ELKHAAVKVLK A ELDP T L L A M A WLP A E G A |
| UniRef90_I3DWK4 | D P A CKMPGFKVSAVRILK |
| UniRef90_G4QMZ8 | PEYKVTAVQVEKVSSP |
| UniRef90-E4PMN0 | D WA T NCPEYKVTAVQVEKVS QP |
| UniRef90-A0A028VJ18 | D P L K Q P L K HAGVEVDRVE |
| UniRef90-M0NNX9 |  |
| UniRef90-W1S5X3 | D PLS GQPESKHAQVSLLE |
| UniRef90-F8ADR7 | D TEVVHTPEYKVASARIEK |
| UniRef90_G9QPP1 | D PVCKMP GFKVCAVKI R P |
| UniRef90-Q0AY62 | DPI T G T GEYKVCAVKL E K |
| UniRef90_UPI00036C7C46 | DANIETPEYKAFLVNIEPTSAPA |
| UniRef90-B1Y2Y3 | D I GAAPCFY DVLVEVE |
| UniRef90_D8P4J7 | D R MVVHS P E Y K VVAVRII EKLA A |
| UniRef90-D3FYD3 | D P T CRMPGFKVSAVRI R S V T |
| UniRef90_UPI0003F764B1 | DANSQTPEFKAFLVVNIEKV |
| UniRef90_D9TEZ9 | DPVS GMPEFK $\square$ C AVRVER A |
| UniRef90-A9HZT8 | DPVSRQPELKHAAVAVAPA |
| UniRef90_W7YZQ2 | D M GEGATFFSATVQVRR |
| UniRef90_A4J476 | D MGQGTPYYDCLCRI EPHQ |
| UniRef90_A8LLN3 | D PVS G Q P A S K GT AVALE QVA A |
| UniRef90_UPI0004033E0C | P EYKVT A V Q V R R V N |
| UniRef90_E0M000 | S FS GQPALLKQTPVRIRPLA |
| UniRef90-D3RY48 | D MVS GMNS F NDTKVRI Y K A |
| UniRef90_A6F4H6 | D PVVSGQPEAKHGRADITPFRA |
| UniRef90-UPI000465822C | D PLSSQTA A L N S S YVAVA RV |
| UniRef90-IOHN96 | D G NTNTPEFKTFLVKVEKV |
| UniRef90-X1LE83 |  |
| UniRef90_W6MAU7 | DANSQTPEFKTFLVNIEKA |



## UniRef90 K1ZA66 UniRef90-JOR7K3 UniRef90_W9V5R0 UniRef90-UPIo0026C6EBF

 UniRef90-N6Y4D9 UniRef90-UP100036FDCB8 UniRef90_10JWE2 UniRef90-A0A059DP53 UniRef90-BOUCB6 UniRef90-UP1000474E4EC UniRef90-D6EBG3 UniRef90-JЗJEK3 UniRef90_-Q314×8 UniRefoo - 3DOUU UniRef90-M4HWR6 UniRef90OUPIOOO374366C UniRef90_C4XMA9 UniRef90-M9T4C2 UniRef90-D6EAK1 UniRef90-R4KN25UniRef90 -X1GF17 UniRef90-A0Ао24K425 UniRef90-A6VXLT UniRef90-F7V8S9 UniRef90-HOJIH3 UniRef90-C6EOP4 UniRef90-F8AEI9 UniRef90-F6DQY9 UniRef90-DoZ331
UniRef90_K1KFC UniRef90-UPIO0034CE6D5 UniRef90_C0QMC0 UniRef90-L7U2X6 UniRef90-W7P8N3 UniRef90-UP100037AD92D UniRef90-B5JDM3 UniRef90-G2FYC4 UniRef90-x1K7K6
UniRef90 $14 N 1 V 0$ UniRef90-A4TV12 UniRef90-F7UYF7 UniReffo-QOVQL1 UniRef90-B9XJ67 UniRef90-UPIOOO37C8400 UniRef90-S6CGO3 UniRef90-W8AVMO UniRef90-D3SMG9
UniRef90-WOHXP8 UniRef90-W9T3N6 UniRet90-X2H3U1 UniRef90 Q997C62 UniRef90-UPIO002D931DD UniRef90_B8FUW8 UniRef90_UPIOOO37121C2 UniRef90_C9KL25 UniRef90-J6LDW2 UniRef90-UPIO004666D77 UniRef90_D6CKF7 UniRef90-D7NOE9
UniRef90- J3HOM6 UniRef90-A1SDK9 UniRef90-UPIO0035C7D51 UniRef90-A1TNZZ UniRef90-C8WMK5 UniRef90-J7QGF2
UniRef90_NoAF66 UniRef90-UP10003B621BD UniRef90-R9PNG1 UniRef90-A0A023WSI8 UniRef90-UPIOOO374E6DE UniRef90-А4XXM6 UniRef90-S7U0P9 UniRef90-UP100036388D1 UniRef90-A1TYC2 UniRef90-D7A321 UniRef90-UPIOOO3638AFO UniRef90-D6E9R0 UniRef90 B8FQMO UniRef90-B6BWC7
UniRef90-UPI0003B4AC8C UniRef90-В2ТТВВ7 UniRef90-A0Ао37ZKU3 UniRet90-KONHJ8 UniRef90-UP10003FA67F6 UniRef90-A9D4C2 UniRef90-E8NDP7 UniRef90-E8X411 UniRef90-14A318
 QFFVELSEELAAEKGVVKGDWVKVWNKRGEVYAKALVTKR EAVASLSPTELQKHGLQPGDDLVITTRRGQLTLKARVDPLD EHFVEDSEELAAEKGGRKGDVVTVRSNRGHIKAVAVVTKR

 ADVLQMHPDDAAVRGIDDGDTVVVSNARGEVTVEVEVTPA QLFVEDSEELARLRGIEGGEKVRVSSLRGQLECVAIVTKR
 EPVVEMHPVDAERRTIRHGDQVLVQNDRGSLQLTAVVTNR
 VPDCRINPRDAEKLG|EHGDWVRLWSRRGETRGRAYLTEG EAFAMISPQLAAKIGVKGGDEVWVETARNRVKCQPLMKALD KHTARVHPKDAASAGLMNGDRVRIVSASGEDETEVLVTDE RVLVRMNTVDAEARGKDGDLVRAFNDRGSVILCAQVGER AALLYMHPEDARAEGFRRGSEVKVASRRGDVNLRVETRGR EPPVTLNREDAAELGVGEGERVWVETPRGKALFAARLTSG
 EDALIMNPIDAKERQLVQGQLIHIYNDRGTIQVPVKITPR RAVLYMNPADAERRGI RRGDTATVTSRHGECK
EDRLETHPHDAEERGMKGDWVGISSRSGETVLRAKVADR DPMLHIHPDTAGTRGGKDGDWIKVTSPHGWLRVRAQLYPG RCTLMMHPEDAARLGLADGMDAVVTSRVGEVTVPVAVTGD EPYAQLNTADAARLGUVDEALVWVNSRKGRIDTRAKVSER

 EQFVEIGEVLAGEKGLQAGDRVRVSCKRGFVEAVAVVTKR
 EQFVEI GEKLAAKKGIKQGDTVKVSSNRGYIKAKAVVTKR

 DPVIEIAAALARQKGUAEQDWVRVTRLGSARFRARLRDS RHQLLMHPADMARALQDGQRVRVHSRVGVVEVEALASEE GTFVEVSPDLAKERGLETGDLVRITSEYGSILKVSVLVSDR
ren

## E

UniRef90_UPI0003789387

| UniRef90＿K1ZA66 |  |
| :---: | :---: |
| UniRef90－J0R7K3 | IRPLICDKSVHVIG\PLHWGFVGAAKKGFGPNSLTPFVG |
| UniRef90－W9V5R0 | MADGMVFVPF CYVEAAANLLT NAAL |
| UniRef90－UPI00026C6EBF | 1 RPDTVFMPFHY P PGE GSALLTTGSAT |
| UniRef90－N6Y4D9 | PEGRKVHTVG】 P P L H Y G K GETKPGY T NTLTPFVG |
| UniRef90－UPIO0036FDCB8 | $V A P G Q V F M P F H F A E T$ NSNLVTLGD Y |
| UniRef90－IOJWE2 |  |
| UniRef90－A0A059DP53 |  |
| UniRef90－B0UCB6 | RGRNKMPPGRVFVPF FDASQLINKATL DAT |
| UniRef90＿UPIO00474E4EC | VEPGTVWT WNA I AKAPGSWGKAPESQRADLVNH\VPDTMP |
| UniRef90－D6EBG3 | MDRRIVSCDHGWWFPEGDP EKFYDVFDLNINNTLPWIP |
| UniRef90－J3JE |  |
| UniRef90－Q314X8 |  |
| UniRef90－J3D0U1 | LRRGQLFVPMHWTRQFSGQANVDGLVAASCC |
| UniRef90－M4HWR6 | ETRGRNKVPKGLVYMPF F DANQLTNKLTL DAT |
| UniRef90－UPI000374366C | EGVVSIPSVWWKKKAKDGK N |
| UniRef90－C4XMA9 |  |
| UniRef90－M9T4C2 | VATGVVYTTFHHPTTQAND |
| UniRef90－D6EAK1 | VRPGVVMMERFYFPESFDETQKNPSWRQCNVNLMARDDVV |
| UniRef90＿R4KN25 | NINGKAVEMVGMPWHW GYQGLAS GATANDLTPSVG |
| UniRef90－X1GF17 | VQP G L D D T E WW |
| UniRef90－A0A024K425 | DEGTVAVPHGWGHRSAGWRRANDAGGP NINVLTEDADV |
| UniRef90＿A6VXL7 | MQPGVVYTTFHH PGSGANVIT TNNSDWATNC |
| UniRef90－F7V859 | $V Q P G T V H S Y E S S A E Y A P L G K P G C S A D R G G C V N D L P D R Y M ~$ |
| UniRef90－H0J1H3 | VKP P PRGLVYVPF F D A S Y L N KVTLL DAT |
| UniRef90＿C6E0P4 | RGCIDAAMGG GGPLGSEAWRQCNVNQLTDPRRY |
| UniRef90－F8AEI9 | PRGVVLLYKAFWPSLLGW |
| UniRef90－F6DQY9 |  |
| UniRef90＿D0Z331 | MPGVVALGEGAWYQPDSKG |
| UniRef90－K1k | VVETKVRNDMPRGMTWLAFFDDKVLCNSVVI DAM |
| UniRef90＿UPI00034CE6D5 | MQPGVVYTTFHF PGSGANVITTDNS |
| UniRef90＿C0QMC0 | 1 RPDTVMLLH GWWQGCQELK M A DYPLT DGGANVNIPEKAY |
| UniRef90－L7U | IMPGVVSLPHGYGHRREGTGQR】AAEHAGSHNDLTDEDAV |
| UniRef90－W7P8N3 | PNKGAI YMT Y HWW $\quad$ LGACNELVT ENL |
| UniRef90＿UPI00037AD92D | VRCGTVRVPWGW GEHDLRFNDNSLTDDAER |
| UniRef90＿B5JDM3 | VRPGQVFMPM |
| UniRef90－G2FYC4 | VPA GMVFMT F H Y D S P T ELT N G A Y |
| UniRef90－X1K7K6 | $V P P N T V F \\| P H$ G ${ }^{\text {V }}$ |
| UniRef90－14N1V0 | 1 R PQVNGQVVHHDG $\square$ P $\square$ H WGFT G VT R H G Y |
| UniRef90＿A4TV12 | VEPGTVWT WNA $\mathrm{V}^{\text {V GKASGAWGLDGDANEAKNGNHLIS E ELDP }}$ |
| UniRef90－F7UYF7 | TKPGVVFAPFFAEETLVNLAV |
| UniRef90－Q0VQL1 | QRPGTAFMPMHW |
| UniRef90＿B9XJ67 | GQ\F\PMH YAQTNQLT FPSF |
| UniRef90＿E7B932 |  |
| UniRef90＿UPI00037C8400 | VKP GVVYT T F H HPVS GANVIT T D NS D WAT NC |
| UniRef90－S6CG03 | IPRGVI NAEHMWWYPEMPAPEHGW RLSAVNQLVNNDID |
| UniRef90－W8AVM0 | MTEGSVA $\square$ P H GWGHRGGWQRANAAGGANVNVNDLMSTEVA |
| UniRef90－D3SMG9 | VPQGVLFSPFGYG $\square$ S ${ }^{\text {V }}$ |
| UniRef90－W0HXP8 | HPGVLVGEF GWWQDCVPLGQPGMPEGNSHYNGLVDGARR |
| UniRef90－W9T3N6 |  |
| UniRef90－X2H3U1 | TVDGKEVET $\square$ G\｜P $\\|$ VWGFTGQTKKGFLVNELTPHLG |
| UniRef90－Q97C62 | VSGKELYMPM NASGDSAVNLLTG RLM |
| UniRef90＿UPI0002D93 | VAASQAFDAMHWGPEVLGGRGQVGQEGQQGQNGLT T S S Y C |
| UniRef90＿B8FUW8 | TSPDVIVSYEA WYK S P F NVNYTVKADPADMGKLAT GMD |
| UniRef90＿UPI00037121C2 | $\square \mathrm{DKD}$ TVFVPFHWTEKQ NVNRLVS DQL |
| UniRef90－C9KL25 | AQPKVNGEETHMVWMPYSFGFKGLSTGP STNYLT NDAL |
| UniRef90－J6LDW2 | VPPGVVNMDHGY PGADANE |
| UniRef90＿UPI0004666D77 |  |
| UniRef90－D6CKF7 |  |
| UniRef90－D7N0E9 | VKPLLRIHRTVHQ |
| UniRef90－J3HQM6 | QMRGSVFVPMHW NDNFAAKARVDTLVAPL |
| UniRef90＿A1SDK9 | RPDTVFVP F W WV |
| UniRef90＿UPI00035C7D51 | QQMGSLFAP $\mathrm{L}^{\text {L }}$ W NDRYASHGCVDALVAAV T |
| UniRef90＿A1TNZ8 | MHWGGEMLLCGHAGAQDG】ADGTDAPPPALGVNAVTSPAFC |
| UniRef90－C8WMK5 | VLPGVVDVFHGW HQADINLLTTRDF |
| UniRef90－J7QGF2 | VAPGVVYTTFHH P T T Q A VVT T D N D WATNC |
| UniRef90－N0AF66 | MQPGVVYTTFHFPESGANVIT T D S S D Wa |
| UniRef90－UPI0003B621BL | QARGSIFVPMHW NDQFAAKARDDAVVAPDT |
| UniRef90－R9PNG1 |  |
| UniRef90－A0A023WSI8 | LRAGQAFLPMHW GDRFLKGLGSNVLTLASV |
| UniRef90＿UPI000374E6 | V NPDTIWTWNAWGLDPKAPESNKGFLLNHIISELLPPRA |
| UniRef90－A4XXM6 | VMA GVVSLPHGWGHRPGVQMADASEQPGASANDLTDERRLL |
| UniRef90＿S7U0P9 | LRRGVVEVYHGWEDHPA NTLTFGDVN |
| UniRef90＿UPI00036388D1 |  |
| UniRef90－A1TYC2 |  |
| UniRef90－D7A321 | QPRGTVFVP $\square$ H WSEATSSCGRLGALVAG |
| UniRef90＿UPI0003638AF0 | MRQGEVFVPMHW NDSFSGRARMGGL LSAHV |
| UniRef90－D6E9R0 |  |
| UniRef90－B8FQM0 | 1 RPGAI Y Q H GA RLDPIKAGEGDRGGANNLICVSNTV |
| UniRef90＿B6BWC7 | VQPGVVYTTFHHPFSGANVIT T D NS W W T N C |
| UniRef90＿UPI0003B4AC8C | MQRKSVFVPMHW SAANSSAARVDALIAPN T |
| UniRef90＿B2TBB7 | 1 KPGKKVQTVG G LPLHWGFKGVAKPGYLVNTLTPSVG |
| UniRef90－A0A037ZKU3 | VKPGAVFAPI H W T |
| UniRef90－K0NHJ8 | MEGFVYAPVGG GGPQGTDEWKKANVNILTDLEQF |
| UniRef90＿UPI0003FA67F6 | K P GKMVEQVGLPWHFGYA GLATGD S GNVLTP SVGC |
| UniRef90＿A9D4C2 | RRGV VIHEGLWPNSAFEGGEG INTLTGADAC |
| UniRef90－E8NDP7 | 1 RHDTVFLPFHYAGDE CANRLT EALVV |
| UniRef90－E8X411 | I NRGVVAARLD WAKLGQDLS GRG ANVNALTSERVT |
| UniRef90－14A318 | GS S Y V TS D FV |
| UniRef90－D2R303 |  |
| UniRef90－A6DBF | NKP PRGLVMVPWFDEK\｜LI NKVCL DAT |
|  |  |



|  | $1010{ }^{20}{ }^{20}{ }^{30}$ |
| :---: | :---: |
| UniRef90 M9R1A3 | FTLNTGRNRDQWHTMTRTGKSPRLGAHLA |
| UniRef90- UPIO00016A742D | 俍 |
| UniRef90-H8GSW7 | RQHAPNAEFDLHLNSGRMLEHFHEGNMTFKVEGIAEKAP |
| UniRef90-UPIO00465F3E9 | RLGTAD NYPYVATTYSLTEHFHFWTQHSLLNVI AQP |
| UniRef90-SOASX1 | SEEYPLHLNNGRMLEHFHEGNETFKTEGGKEKVP |
| UniRef90-Q1J2V5 | QETPDADYDLHLNNGRMLEHFHEGNMTFKSAGITEKVP |
|  | WRRQVPDGYPLRLDGMRETRSENSWMHNSPL LIMRGDR |
| UniRef90-W8WTZ4 | LLMTTGRILSQYNAGVQTRRTAN NAWHS |
| UniRef90-A0A023WS84 | P |
| UniRef90-C6XQY8 | NNS WLH N SHRLLK GPD |
| UniRef90-K2AVF0 | GRDRDQWHTMTRSAKSPRLSQHDA |
| UniRef90-X8AQ74 | TPHSKWS DHSEYQD NDHMLRLFRG |
| UniRet90-UPIO002E | DWTPPAGEEYDLHLNNGRLLEHFHEGNMTYRSEGLTHKVP |
| UniRef90-D5ZRBE9 | ALDERPLVLVGRRHLRSNS WMHN MPVLTGGSN |
| UniRer90-K58G34 |  |
| UniRef90-W0DEU8 | PYCATTYRLTEHFHFW TKHVYGASVLFQ |
| UniRef90-UPIO0030E31DA | ПHVNNGRVLEHFHEGNMTYKVPGLKYKMP |
| UniRef90-V611K4 | FLLIGRRHLLRNNSWMHN LPKLMTGKN |
| UniRef90-D6EBQ1 | PFLTTGRNYASFHAEHR Q PVLRELHP |
| UniRee990-G7CGC7 |  |
| UniRef90 X1UMW0 | LAADYPLTL AGTRCHFYHSQGGRQLESLRKKSP |
| UniRef90-UPIOOO36CBB94 | SDEYPIILIAGRFMPMYHSEQR QDEKARKKIP |
| UniRef90-K5B953 | LRLI GLRETRSENSWMHNSPL LMRGGR |
| UniRef90-D7BSI6 | LLVGRRHLRSNNSWMHN IPALVGGSN |
| P10004 | ITGRLVNMNGAGMENRASPYLSRLTP |
| UniRef90-D3DK | YPLYAFTQRPQWMYHSWTMSQNAWLRQISS |
| UniRef90-UPIOOOO39A | FPYVGTTYRVTEHWQTGLMTRYQGWLLEAEP |
| UniRef90-UPI00041C3 | WLHN VPELVRGSN |
|  | PYNALTQRPMAMYHSW DSQNAWL RQI HT |
| UniRef90 K7SDY7 | EQFPVLNTGRTVEQWHTRTKTREIGGLNDLAP |
|  | VAADFPFRFNTGRI RDQWHTMTRTGLSPRLSAHDA |
| A0Z69 | KFPLLLTTGRI |
| UniRef90-D5V5N2 | PriLt TGRTRDQWHSGTKTALLDNLKKFKA |
| UniRef90-UPIO00467E7E1 | REPRSENS WMHNAPL L M G |
| iRef90_W6EF |  |
|  | PPLLFTTGR1LSQYNVGAQTRRTEN NAWHP |
| UniRef90-W1SPN6 | GDAKDFPYVLTTYMVTEQFLLSGGVTRNTPQLNELMP |
| UniRef90- COAYE5 | KKYPLMAVQRKLARSVHSSHGMNEW \LEVQRN |
| UniRef90-UPI00041D1370 | $\square \mathrm{T}$ NYLTPHNKWSIHSMYFDSQPMLTLFRG |
| UniRef90-W7DNF9 | RYLTPHGKWNIHSM |
| UniRet90_UP100047E89C2 |  |
| iRef90-X1FN75 | SEQYPFTLISGRTIAYTHSRYRD TARLKKLAP |
| UniRef90-UPI00037C07AB | GMLMVGGRHLRSKNSWLDHN LSAMVTGPR |
| UniRef90-W4LB02 | sta |
| UniRef90-B9QZ23 | G |
| niRef90_M3 |  |
|  |  |
| UniRef90-D5C2 | Q |
| UniRef90-UPIO002F796FA | P |
| UniRef90 LoDJ79 | PALAARYPFQLLSPPRPQFLNSTFANDPRH RALAG |
| UniRef90 13 NLV5 |  |
| UniRef90 K0CIO8 |  |
| UniRef90-V4R1 | ADESHPLRLATSPARGFLNTTFNDTPTS RGREG |
|  |  |
| UniRet90 |  |
| UniRef90-UPI00037FDC52 |  |
| UniRef90-14A5Z9 | YTFNFVTRNA YRVHSTHSN NDWMNELQEG |
| niRef90-85 | Y P R |
| UniRef90_UPI00046F: | PIVLTSGRLVEYEGGGEETRSNPWLAELQQ |
| niRef90-E6SB5 | SGRTTY HFHTRTKTGRARQLQDAAP |
| UniRef90-UPIOOO3B4155F | QPFQLISRRRMKMMNSWIETSMDGMHSREMT |
| UniRef90-B9LN19 |  |
| UniRef90_UPI0003 | EYPLLMMTGRFQPYYASS |
| UniRef90_1017S6 | RRYPLVFSGRTNFDFRSO |
| UniRef90-Q1QJ71 | L NYITP PHGKWNIHSTYKD NHRML |
| UniRef90-F7V099 | QI ENDHYLRRSHTVFDNDPW LREAW |
| UniRet90-K7QUD9 |  |
| UniRef90 DgUPQ6 | RGPVPE MVLIGRRHLRSNNSWMHN VAPLVGGSN |
| UniRef90 F6EHB3 | D RLGGRRHLRSNS WLHNSVPTMVKGRD |
| UniRef90 - XovN23 | VLQTGRTNYTANTMQRDNS WRALKL P |
| UniRef90-A4GIG1 | SKNYPFILTSGRLVEYVGGGDNTRSNPWLAELQQ |
| UniRef90 O1YNX1 | SISPKPHAFDSQY GNAADKOKVQG |
| UniRef90 Koveht |  |
| Unil | YLTPHNKWSTHSMYFDAQQMLTMFRG |
|  |  |
|  |  |

## UniRef90 M9R1A3

 UniRef90_UPIo0037ABB99 UniRef90-UPIO0016A742D UniRef90-H8GSW7 UniRef90-UPI000465F3E9 UniRef90-SOASX1 UniRef90-Q1J2V5 UniRef90 LOIRL1 UniRef90-W8WTZ4 UniRef90-A0A023WS84 UniRet90_C6XQY8 UniRef90-K2AVF0 UniRef90-X8AQ74 UniRef90-UPIO002E1E94A UniRef90_D5ZRB9 UniRef90_K5BG34 UniRef90-WODEU8 UniRef90-UPIO0030E31DA UniRef90-V6IIK4 UniRef90-D6EBQ1UniRef90 G7CGC7 UniRef90 ${ }^{-}$X1UMW0 UniRef90-N9NJU2 UniRef90-UP100036CBB94 UniRef90-K5B953 UniRef90-D7BSI6 UniRef90-UPIo0046F6391 UniRef90_D3DK38 UniRef90-A6DB55 UniRef90-UPI00039AC6DD UniRef90-UPIO0041C33A3 UniRef90-A0L8L6 UniRef90-K7SDY7 UniRef90-X7F841 UniRef90_s9RX23 UniRef90_AOZ692 UniRef90-Q3A917
UniRef90-D5V5N2 UniRef90-UPI000467E7E1 UniRef90-W6EFPO UniRef90-15CB57 UniRef90-W1SPN6 UniRef90-UPI0002DBD1E4 UniRet90_COAYE5 UniRef90-UPI00041D1370 UniRef90_W7DNF9 UniRef90 UPIO0047E89C2 UniRef90 UPIOOO47CA910 UniRef90-X1FN75 UniRet90 UPIOOO37C07AB UniRef90 UPIO003B775FO UniR Refo W4LBO2 UniRef90-B9QZ23 UniRef90 M3JDS88 UniRef90-K1XSM3 UniRef90_UPI0004107283 UniRef90-UPIo002F796FA UniRef90-LODJ79 UniRef90-l3NLV5 UniRef90_K0CIO8 UniRef90-YOKK14 UniRef90-V4RW02
UniRef90-R71959 UniRef90-19PR10 UniRef90-C8PE72 UniRef90-UPIO0037FDC52 UniRef90_14A5Z9 UniRef90-B5HHA5 UniRef90-UP100046F3F75 UniRef90_E6SB50 UniRef90-F7RUL4 UniRef90-UPIO003B4155F UniRef90-B9LNI9 UniRef90_UPIO003777E80 UniRef90-1017S6
UniReftoo-a10J71 UniRef90-S9ZMT3 UniRef90-F7V099
UniRef9O-K7QUD9 UniRef90-DgUPQ6 UniRet90_-F6EHB3 UniRef90-UPIO00262CB56 UniReffo-XOVN23 UniRet90_A4GIG1 UniRef90 Q1YNX1 UniRef90 A4T110
UniRef90 KOVEH4 UniRef90-D4S4X1 UniRef90-AOAO22FQ50
Uniref90_W6EFL9

EPYVEVNPVDATDLGAAPGSLAVESTYGRTLLRALITPR EVYVEVHPDDAKGLGGRPNSKIKVVRRSTVEVTASVTPS ENHLFVNPRMARDAGVADGGWIYVESQWGKVRCRARYSEVV EQFI GENLAQQKG1 KDGDTVKVSSKRGYVKAKAVVTKR
 GTFVEVSPELAHARGLESGRLVRLVSRHGAVRVRVLVTDR EDVLETHPHDAEDRGVEGGDVAVESRAGETVLRATVTDR
 GPVI WMSPADAAALGVKDNDWI EAYNRNGVVACRAVVTHR HPWLDVSTELAKERGLEDGSLVRLTSPYGQVKVRVMVTDR
$R C T L H L H P E D A E R G G R D G E P V R V G A G G E V A P A E V T D A ~$ VQRALMHTDDAAARGI ADGDVIQVRSPYGQIVLPVRLTDD DVFVEVSPERAKDRG|CDGSQVRLDSPFGSVKLTALVTDR KAFVEISEELAKERGUKEGDKVRMVSDSGQTEAYVLPTI
 DPIIENNPEDAAQLGVADGEWVEVGNDYGGAKFKAEVTDE DPLAQDSPKTGTQLGAKSDWMWHETPDGKAKFKCEYSQD EGRLKINPEDASQFSGATGQRLRCVSEHGEDAVVVEVDEG SQRALMHVDDAATIGVHDGDLVRIVSPHGAI EVPVEVTEG RCTLQLHPEDAARLGVADGGLVRVKGDGGELEAPVEVTDA EMFCDMRPELAKKYGUKEGDM1 WI HSPEGK KVKARFTYA GATIETSQDTADERGIITGDYVKVWNKRGLIAAKAVVRPD QLFCELSEDLAKKENVANGETVHVSSGRGKLACVAVVRPD YNYLYMSPQVGRDNGFDDGDWVDVESMHGKI RCMARFTEA EAWVDINPADAEQLEVKSGDRLSISSPRGRVDNIVRVTQT QMFAE:NPNDAGAAG|EDGGWVWVATPEGRIRVKAMVTRR EDILEIHEADAELRGVADGDWIEVASRAGSTRMRAHISDD ENVLWINTRTAEKLG: KNGDLVVEVKSDYGKVTMKAKVTEAC GQHGLMNADDAAELE: GDGSELQVSSAYGTVTVMVTLTKD EDRDEIHPVDVEDRGVRDGDWVGUESRAGSTVLRAKITER HGALRMHPDDASALQVGAGDRVVCSSRRGDLEVVVELDDA QPNILIHPNDALARGIKDGEWAIAFNDRGEHRAIAVVTTH GPTVWLNKDDAAEDDVKDNDWDECFNRNGVVVARAVVSHR GPNVWLSDEDAEASGIKDNDWLEVYNRNGVVTARAVVSHR EDVLEI HAHDAEVRGI ADGDVVLLSSRKGTITLHAHVSDK SVKI EVSEDDALEKQLAEGDKVRIHNSRGELNGTVKI MKK QPLVEINPEPAEKGGADSEPVTVESPKGSITLKAKITPD RCTLQVNEEDAYRLGLRNGGALVTSAAGRLVASVIEITDE WLDMHPDDATARQLLEDGMWVRMWNELGEVVHEPARVTDA RNPLYVPTRIWEENGFSEGDWAKVTSPHGEIVVPVAHMAA GPTAEMNPALAKRYGПKQGDFПKAWSRYGYIVIKADVTG\| GLFVEMGTELAKEKGKNGDKV1VRSARGEVVAVAVVTAR GQTI WMSEEDAKQLNVQDNDWVEVYNRNGVVVARAVLTYR EPRLTLNPGDAP EPFLQINPADAENLGGADEELVRVTSRRGSVMTRALVTDR GPVVWLSESDAADLGVADNDWIELYNANGA】AARAVVSQR
 MVLVKSRRGAALLARAVVENT REPVMTNEDDAKDGTRHGEDVEVFNARRRLLAGAFVTKN GADIEVSPDDARERELTEGCYALVKNKRGQDAAKDRINPD EDLLEI HPHDAEERGI REGAFVKVASRAGDTTLRAKI TDR KARVWLNPTDADEKGIIREGDEVELYNARGILKAYAVLDPG GEYI ELCPEDAAAYGVRAGEEVRVSSRRGSVTAPVWIDTG EMFVEVNPKDANDLGFRDGDDVWVEGEKGRIKVKAMVTRR RPWVELAAADAEALGVVEGDVRVESARGHLEAPARLTGS GSTVEN RQQGETLHLEDGQKVTLEGAGGR KAGAMKKSDR


 ENPVYLNAQDASGLGI AAGDTVRITSPYGKVLRKATLTNR ENEVWIHREEAQKLGLKNGDYAYLDNQDGVKEGPVRVKAT RCTVLMHPADAATRNLTAGQRVDVTSPVGTITVPVEVSSD HNPLFVSSEDARQHAITDGDWVWVRSHHGRIKVQAVVMHA TNYVRMNTQDAESLQUSDGEAVKVVTDDSTVKVQAKVMHA RWQLLMHPDDLAEHKIDDESQVRIQSRVGEVKVMAMVTER GQRVFIHPADAAERGVAEGDVVRVENDRGSFQGPAAYSDEG GQCDWMSEDDAAKDGVKDNDWI CTNRNGVVNARAVVSHR EQFVEDGEKDAADKGIAHGDTVKITTKRGYITAKAVVTKR
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UniRef90_UPIO0037ABB99
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UniRefo_-LORL1
UniRef90-W8WTZ4
UniRef90-A0A023WS84
UniRef90_C6XQY8
UniRef90_K2AVF0
UniRef90-X8AQ74
$\quad$
$V A Q G Q L F A P M H W$
$V Y P G Q L F M P M H$
100
 $V E P G T V W T W N G A W N L G P D A N E S Q H D E D P G D T A R A P R D S N S$ VSGNEVYVPM

NSAKSENAVNHLTGQNR
TI N G QQVETVG $\quad$ P $\square \mathrm{PFGYA}$

VSGNE LYMPM
$V E G K Q L Y M P M$
1 VA GVVAVPHGWGHKGTGSWQVA 1 QPGVVYTTFHF
LRPQVDGRTVHDPECGSNVLTT DNT $V M R G V V G R T V H Q Q G\|P\| H W G F T G V A R K A H L T N T L T P F V G$ AAPGQLFAPMHW MPQGTVFMYHAMDRHDMTPKSEVSGWHGGGDNSLTRLVKP VKGNEI YLTM VRRGVVSLPHGWGHRPGTRMRHAAADDGVNVNRLTSSHAL IVTGTVAIPHGWGHDGTGGWRLANQAGGVNVNLLMSSDPA VRANELYLPM 1 KPGKKVYTVG $\frac{1}{K}$ P $\quad$ HWGFEGF VKGA LANLATPYVW
 VKKGVVQTDHGWWFPERQADD
MPEGVVYVYHVQERTDDVPDAETTGKRGGDHNSDTRLIKP VAPEVVQAEHGWWF PEDDSAES DFRSNVNADMGDDVSDC MRKGVVSLPHGYGLRYRGGEPDGPEENNTVNRLTSTQHC hHPGMADAQHSWWFPERSPELFGVFESNTNVLCPDAPEFC
IVAGVVAVPHGWGHNGRGRWRLANEAGGANVNLLMSSEVG $V R T G V V S L P H G W G H D R P G T R M S V A A A H A G N V N Q L N D G S V L$ VAEDMVFLPFHFTGDMQGVDMTGNFPKWGESANTVTNYGY TEPNSVWTWNADGKMKGTWGLKPEAEEGHEGFLLNHVVPH MRYGTI FTTFHYAE
lKPYKVHGQVHLVGDPWHYGWVTPKNGGDSAN LLTPSVG
 V EPGTVWTWNADGKSAGAWGDAYESKRGFLLNHVDSEEVP V GPGTVVFMPFHFAGMWMGEPEGAKPY A V V

## T GETA


SVARVDALVVAPVNT
VRRGDVFAPMHW
HPGAVFMVH

 MQPGVVYTTFHFPESGANVDTTDSSDWATNC


 LPKGTMFMYHAQ AHPKTINVDEGLWHKFG
ILPQVLSLQHGWEE
 VLPGVVSLPHGWGHDEPQARMTVAAERPGNVNLLTDDAD I VKAGVLYTPKGAWQATSASGQTV

NALLSADAR
LAPA A VRPGVVCSEKGLWWFRTSDNGQTVSA L NENTVWTWNALGKRKGAWGDAPEATKGFLLNHLI RWSNS VKDGV QMT YHYWEAT AERTYGKKDKKSCCNELTSN GW


V I K G
VKQ GMVMMYHAQERNVHVPGSE $\square$ TGTRGG $\square$ HNSVTRVCPP $V N P G I V V A T L G Y W R Q L N N$
$V R E G V A V S$ EGLWPNHAFEEGNG
$V$ I P GAVVLHHGAWFDPAVLDGKGDDVHGNLTGADQV I RQGVLSSQKGAWYDPEDVGVRNPRCNGGHVNTLTSDRPT VAPGVVYTTFHHPLTQANVVTTDYSDWATNC VGRKVAMFEQGWWSRY LKETSYNSLTYPFDKPTHEAYFVP L RPGLAFMTMHF VKPGLAFDPFHFGGKFEGEDEGTQPYVVGEAANTATTYGY R EGVVFAPFHYGYRDRLGDDAPEQAHPTAANELTLTAW $V K P G V T F M P Y H F A G V M H G E S E G T V P Y V I G E S A N T A L T Y G Y$
$V R S G V A V M E H G W G Y R T F N P G R G S S R H H G G N R N L L V S N A D V$





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I
 $V$ M R G V V S




UniRef90 M9R1A3 UniRef90-UPI00037ABB99
UniRef90-UPI00016A742D UniRef90-H8GSW7 UniRef90 UPI000465F3E9 UniRef90-SOASX1
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DELS GNAAFSGVPVSIRKF
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D PITGHLAWFDTKVKVYKAEDQTPE
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D PVSGQPESK
D WAT NCPEYKVTAVEDRP
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D MGGGATFFDNLVA $\square R P F$
T H M $\square$ G G Y A Q
D MGHSTTFSDNLVEV
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S S LIACGNVASTANVEVTKWVGP』PDIRAFTPPSAA
SSMT QAlSSANTA LVNI RK
DPLS G IPP LKMTMANIRK
P E YKVT AVQVSPSNGP
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UniRef90-G8A3W3 UniRef90-Q1GJN2 UniRef90-V8CVL1 UniRef90_-4GZA1
UniRef90_XOTKA1

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 EMFVEINPVDAADRGIRDGDDVKLKSPEGAVDMKAMVTER GPVVWI SEVDAKKAGI ADNDWI EAYNANGALTARAVVSQR GEN ELSPEDAAAYGVTHGEEVRVTSRRGSVTAPVWI DAG RCTLLMHPDDAERHGVRSGERVEVATTAGAVSVVAEVSDE QHRVWINPADAKARKIKNNDLVMVYNEFGESIMKAFVTSK RCTVQVHPADATRLGLDGGLASVTSRAGKLQVPVEVTDE EDLLEI HPHDAEDRGITDGDEVRLGNGRGEIRLHAKLVAG EMYAEINPKLANDHGIRHGDWMWIESPESRVKVKAKVTKR DMFVEI NPATANDRGARGDMVWVSTPTGRIVRVKALVTER QQFVEVGEQLAKEKGINAGDWVKVSSRRGFIKAKAVVTAR DSYLRMHEEVAAKLGVDDGETVRLVTEHAEVLVAARVTDD K E
 EPLISVHPTDADHYKLNNNQLVTVTSQYSKAIFRVRISTD

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 SMLMLHPEDAAALG|AEGDRVEAANGRGAVLLHARLFDG RCHAVIHPEDAHAAGVHDHDDIVVTSPWGQVRVPVRVSDD EWVLRMSVTDAAARGLRSGDVVRVHNAQASVICALDVSQLD EPTADMNQADCDRLGVKEGDWIEVSTARGATRVKVHPT DS EMFCEDSPELAAERGLTNEGWATLVSPRGAIEARVLVTDR TGRLEDHPDDAAHRGI QEGDAVDVFNDRGRDRLVAQI HTG EDILEVHAHDAEERGIRDGDLVSIASRDGATTLRARISDR DAFVELNPKAAADRGI RNGEYVIVSTPTGRIKVKALVTPR GPHVWVSEDEAKQAGLVDNDWVEVFNVNGTLTARVVVSQR GPCGEINQSTAAAYGVQDGDY1AVESRYGRIAVKVEVTPV GQTVWMS GEDCDEVGGKSDNEWAYAYNRNGKVKARAKRMNA DMFVEDNTGDAQRLGIKDGAWVWVHGDGGKAKVKALVTDR GQNI WMSPQDADAIGVADDEWVEAVNRNGVVVARAVVSHR EQFIEDGESHANEKGAAGDMVKVMSKRGFIKAKAVVTKR VPYTQVNRVVAKQKGI EDGDTTRVFNVLGEFYAMAKVSSS EDVLEIHPHDAAARGUVDGQAVTIASRTGNTVLRAKHSQR GESI WI SDADAKKDKAKDNDWLECFNANGVVMAKAVVSPR EQFVLI NA IDANNRGMKNGDKVRVYNDRGCFEGNAKISD RCTLMINTKDAENRSUKSGDTVRVTSNDDSGNGEAEVTDR YNHLFVNPQVGDSNGFKDGDWVWVESQHQRVRCQCRFSEA NEFLEVSPELAQERGLEDGTKVKLTSPYGHVFVRCLVTDR RCNLLMHPDDVAREGWSEGMQVTIKSRVGEITAELSSSTE GPVI WLSVEDANKAGMADNDWIEAVNRNGVVACRAVVSHR GAFVEVSRELAEERGLESGALVKLVSPFGEVVVRVLVIDR GPVLWMSTADAERIGARDNDWVETYNRNGVVVARAVVTHR GPAFWVSPADAAAIGVSDNDWVEAVNRNGVVVARAIVSHR GNPLLINTATARKEGIKDGDLVTLRSRSGQVRVRAKCTER RNRLY SRELAADEGLEDEDWVWVTSHHGKLKCQMQTMEG GPVAWMSPQDADKI GVKDGEWI ECVNTNGVFVGQAVVSOE GPIIWLCEADAKEIGADNDWVEVFNKNGALTARAVVSQR EAVASLSPGELYRLGVSPGEKLTVTTRRGTITRTARMDPK VNPLYLPTFWWERLALSDGDWVRVVSSHGEITVPAAHMAA GGMLWI SVEDAAELQADNDWVESYNRNGVVALRATVSQR
 VMIHPDDA DQVCVIHEDTAARLGRDGDRVRVRSPFGEADARAVVSPG RCYVEMHPQTARERGIKDGDRVRITADLGSIEAYVRLMPQ IRFVQIHPDTARRAGI RDGDDVRVESPRGSVTGTALLWEG EMYGELHPNDAGKLGUKDGEMMWVYTGEGKIRDKCKYSHR RCTAMVNPADAARLNLQEGHNVRVRSRVGEITLPVETSDD DFSLKINPADAERLGLKTGDRVRVFSRRKGVVTTVKVTNL GPVIWLSEDDAKRGG VDNDWVELFNANGAIAARAVVSQR DMFVEINPRDAND GU RDGSQVWVEGPGGVKVMAMVTER NPLWMNQADAQRLSLVDGDTVRVRNQYGEVTAMLVCDDT


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UniRef90 H2FTD6 UniRef90-SOFRD8 UniRef90-D3S2G1 UniRef90_V5C5J3 UniRefofo-A8ZZE8 8 UniRef90-A5Y21
UniRef90
A7BQ12 UniRef90-W8A815 UniRef90-H3NYE1 UniRef90-C7R434 UniRef90-D5WWY6 UniRef90-UPIOO04689112 UniRef90-UPI00037D1142 UniRef90-UPIO003802EE2 UniRef90-F3YY55 UniRef90-K2JYH6 UniRef90-K4KNT0 UniRef90-D2NRK6 UniRef90-J1GJU6 UniRef90-HolZ63 UniRef90_DoD9U7 UniRef90-HOE1A1 UniRef90-E3BAN9 UniRef90_U1 HM09 UniRef90-UP100046CB8AE UniRef90_UPIO004041839 UniRef90-UPI000360FEF4 UniRef90-D5V347 UniRef90_13NLU3 UniRef90-A6GNT6 UniRef90-E8T2Y1 UniRef90-G8A3W3 UniRef90-Q1GJN2 UniRef90_V8CVL1 UniRef90-F4GZA1 UniRef90_X0TKZ5
 CVKNTVWTWNADAKQSGAWGGANEAKDAFLMNHLDSELLP $A Q G N \square F \square P \square H H G$ MPKGSMYMYHAQDNEПYEP TST TTGNR VSVGETFMPYHFAGYPESGISTKPYRGGHNAPTIHVKP VSVGETFMPYHFAGYPESGGISTKPYVVGESANTALTYGY
$M K E G T A F M Y H A Q K I V N A P G S Q K G Q R G G D H N S V T R T M K P ~$ LRPGLAFMTLHF MMPGVVSLPHGWGHGVPGTRLDLANARPGNVNLLNPPDLI
 IARPGVVSIPHGWGHDVDGSRTRVARANPGNSNLVADETLL MPTGVVYTTFHYPVTGANVVTTDNSDWATNC VAPDAIYDPFHWGGMFDGPKGYVPYGDGESANTVTYNYGY VDRHTVFLPFHFSGHWQGPEGAAPVVRGEAVNTATTYGGY I YPGNLSMPHGYGLLWENQETGELEPHGVNVQEL LSAQHR VLPGVAVSQGLW VKPGVVVVMTQGWW MPAGTVYMYHAQERLVAVPKTE VRGKRIYIPM VDRDVAFMPFHFGGEFQGEDLR VKPRQVFTATHW VPMORTSSSSVCALIDEQC VQPMVINGKKYHWNWGFVGDDPDSGKDESYAANLVTENVG VKPGMAMMYHAQERTINTPASQDTQARGGVHNAVTRVVKP IKEGVISDPFGF PLPGVVV LEGTWWERWAPDGKG VGKGVAFMPFHFSGWFQGVDQRSKYPKGADPNVLTSTSYGY VKTGVLVA EGLWPNKSHLDGEG VSPDMVYLP FHWGGVLNGKDLSHKYPEMGESANTVMNYGY QLRGDVDLYHGYAE $\quad$ DKDTPFNDNTADVNELIGRQYL VAPDTLVVYEMW $\quad$ VKDTPFNDNTTLHADPSDMGKK VMPGVVSLPHGFGHDVEGTRLRVAREHAGNSNLLTDEAAV VPEGMVMMYHAQERLVNDPGSEITGQRGG\|HNSVTRVCPP VGKGVAWMPFGGWFGGNDPAGTDPIVLGESANTITTY GY VAVGAVGMTHGWGHDGLWQTATAAGGSSYNLLTPNSADHII I RDGVARGNESCAEDDLIKTSMGLVDRGGCLNLLTPGRKM LMAGVIDAVPHGWGHTGTGTWKLANRAGGSNVNRLTSSAPE VPEKLVNLFHGY
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VNAETAFTPFHGWWQGRDPEGAMPIVRGEAVNTATTYGY VPKGMCLMYHAQEK\|VNVPGAEVSGFRGG\|HNSVTRTDKP VPDKVMQMSFHYWE GHANELTS EGA VNGKTLWTWKGAWASAKAPETEKGFLLNH IDNELDPWSNS IPEGTVYMYHAQERVANTPLTERSGRRGGIHNSLTR\|LKP VGGGTVFMPFHFSGFWQGESLRGNYPPNTDP\|VLVTTYGY MPAGTVYMHHAQERTDAVPKAEATGMRGGDHNSLTRLIKP TDDGKRVDTDGD PCHWGFEGATRKGFLSNTLTPSVG
 MQPGVVYTTFHFPHSGANVITTDNSDWATNC MPPGKAFMYHAQERLINTPGTGDSGKRGGTHNSVTRDVKP VPKGMATMYHAPERTLYDPKSKKTGRRGGVHNSVTRTRKP VNPGLIIATDGYWRQLN VMPGVVSMPHGWGHRPGVADRVAAKNPGVSINDITDNKRI VEPGTVWTWNADGKAAGAWGDANESQQGFLLNHLDSEELS VKGKEVYRPM K K K VMPGVISLPHGYGHGLQGTRSEVANTHAGSCNDVTDEQFLD MPQGTAYMYHSKDRNUDVPKTETSGKRGGIHNSLTIMMKP VRGRELYMPM NTATEAAVNYVTGS HT LRHGTIFTTFHYAE ADGNELSNAEDT MPEGTVYMYHAKDRTVNVPKTEDTGARGGSHNSVTRDQKP MPTGTVFLYHAQERTVNVPRSETTGKRGGIHNSLTRQVKP IRPDCLGLHHGFGSSI GRVAVDGGGVSDNALIPDSGT VNRDTVWTWNGAWNAPDAPEATKGFLLNHADSELLPDRGS MPEGVCYVYHAQERMVSPKSEVTGKRGGDHSVTR LKP VPAGMTMMYHAQERDMNLPGSEITGQRGGUHNSVTRITKP IPDGMVFVPFAYAEAAAN
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VRRGVLIAES $\square H P N K S H \square G G R$
IRRDTVFVPYSY WAQGRAG
NRPDTITLPHGHWAQGRWAEAQSPFTAWRSINHVTNLEAR IRTDTVFVPNTFGPAQKTGDLFDDPRYEAANTMPDNVYY VDEKSVFLPQGVWQGERYPDKTAPYGSGESSNQVTSY GF 1 KPGATC
VMPSVVSTPHGWGHDKSGVRLQVAAAHAGSCNDLTDEQWL VRPGTYSHHFGHWQHGASPMLGGTKVCNGNWNRLTRRDPV VNPGMVLMYHAQEKIINTPGSEDTGTRGGDHNSVTRVV VGAGVAFMPFHFGGHFQGKDLRDKYPDGADPYVLAQTYGY LKVGVVAMTHGWGQSTARSDGBAHRHPGVNANQLTGTGAF MPAGVVFVHHAQERTDDVPKSEKTGRRGGUHNSVTREVKP
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UniRef90 UPI00036B73D! UniRef90-UPI0003B5D77C UniRef90_UPI0004698C34 UniRef90_E3C5D1 UniRef90 E1SNX1 UniRef90-A0A059ILN5 UniRef90_UPIO00363C67C UniRef90_A3PX84 UniRef90-Q24N20 UniRef90-17DDJ3 UniRef90_W6VVL2 UniRef90-W4L839 UniRef90_W4L839
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UniRet90 C7R434 UniRef90-D5WWY6
UniRef90-UPI0004689112 UniRef90-UPI00037D1142 UniRef90 UPI0003802EE2 UniRef90-F3YY55 UniRef90-K2JYH6 UniRef90 K4KNT0 UniRef90 D2NRK6 UniRef90-J1GJU6 UniRef90_HOIZ63 UniRef90 D0D9U7 UniRef90_H0E1A1 UniRef90-E3BAN9 UniRef90_U4WKQ1 UniRef90 U1HM09 UniRef90_UPIO0046CB8AE UniRef90_UPIOO04041839 UniRef90 UPI000360FEF4 UniRef90- D5V347 UniRef90-I3NLU3 UniRef90_A6GNT6 UniRef90 E8T2Y1 UniRef90-G8A3W3 UniRef90_Q1GJN2 UniRef90 V8CVL1 UniRef90-F4GZA
UniRef90-х

THLIGGHAQLS
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THMVGGYGQLSYA
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THMIGGYAQLS
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$D V P S N T Q V V N G V P C T V R T L A G P$
PHTVNALLTAGLVEI KRFGGEA
$D V P S G T S V L N G \| P V E V T P V$
APY GGAAFHDNKVWLRK
PEYKVTAVQV
ALDAHPVVREQEEPA
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DAVTMMQETKTTVCQI ERA
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D MGGGAVFFSGKVQVEK
D LLS NQSHLT G $\square$ NVEVTRRAHP
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GNGTAFHDNYVEVIKLD
D LGGGSTFHANPVEVAPL LGGFPD
DPVTGMHEGKVTLCQLQ
DRITQMQETKTGLCRIMKA
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D
DPYSGFPAYRSTRCAVRKAGG
$D P N V Q \square Q E S K V G S C D V$ VA GRRPQGRAL
$D P L S G Q P M F K Q G R V Q A R R W Q G$
D GGRGPTFYSTLVEVARA
PEYKVT AVQV
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DAlTRTPTYK AAVKFHK
$D P$ I GQAAWFD $\square R V R$ VEKAPAEQPQVDA QNNPVG
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SHLIGGYAQLS
DANSHTPEYKAFLVNDERA
DPVTQ DSEFNAGLCR\|EKAE
QYAYDGAVNFEKAN
PEYKVTAVQV
THMDGGYAQLS
LLMVGGYAQFS
MGNAPSFSDNLVQLE

DPVTGQAAWYDVSVRVYKADEPNQTSPQFKP
DKDTDTPAYKEISAKMEKGESPLPR $\square$
DQLSGNAA I N GVPVEL
SHFLGGYGQFTYA
DRVTHTPAYKE $\square \mathbf{Q V R M E V L E K S G P M P \square P \square H N P R F}$
DPLSGMNP LKMTUAA $\square R K$ K S E E
THLAGGHAQFTYA
THLVGGYGQLCFALN
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DPVTGQAAWYDRRVRIDK
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THMIGGYAQ
DPYGK $\mathrm{D}^{2} \mathrm{PF}$ KYAACRL
DPVTGQAAWFDLRVRLEKSAAPDQSQPVFGP
THFIGGYAQLS F
DRNTQ $\square Q E G K M G M C D \square R P G R R P$
D $\mathrm{DR}^{\mathrm{R}} \mathrm{T}$ Q TPAYKQTKVRLE
APV GGAAFHDNKVWI RKA


DQQTSCPETKCSLVRLERA
DEPSGNAAVNGVPV
EPDS G $\square$ PD FSSTRVK $\quad$ EKV
DSVT QMQETKATLCKI
DPLSNQSHLTGDNVEVSR
THLVGGYAQLS

UniRef90_B9MSx0
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GLGEKYP AAVQRKLNRSVHSTFASL TR EALSRD RDPEGGEEYPLEYI T EGDAVAEEGYPMHAITPQRPAMMYHSWGSMNAWE EYVPPLPKEYDLTLNNGRLLEQFHVGNMTNKSKGLRQUHG WKPPEDEVHKVTVNTGRVLEHFHVGNMTRRVEGLRRKVP
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 LVIIGRRDVRSNNSWMHN LPTLAKGPF WTEPKDEEYDDHVNNGRLLEHFHEGNLTYRSKGLSEKTP PTQDHPGRLVTSPSRSFLNSTFNQTPSVWTVKMEG GDYPFKLVDY KDRLNREGRSANTTWLHEFKG
 YNPPESPRFPYVLTTQRPMAMYHSW GTQNAWLRQLHG EYVPPMPEEFDLTLNNGRLLEQFHEGNLTNKSEGLAYKLP DRGEFPLHADTQRPAAMYHSWGSMNAW LRQUHT
 ASGHYPLI LLA GRHMDMNANNLM RNPEWNRGRR WLGYPRSKYKYWVVNGRYNEDWQTGYADPNSEVLIRRWP GSKEEYPGMLTTAARNGVRFSSFGPV DPERGEMEP EDEVYDLHVNNGRLLEHFHEGNMTYQTEMIKYKVP PDNEFPFIFGNYRIFQHEH CSTFNNYQLMKLRR PDEQHPYRLVTAPARNFLNTSFTATPSSLKREK DDYDLQLNNGRLLEQFHEGNDTDKSKGLDYKLP EFKEGRKAYDKFRLDTPHTKFGDHSQF VNLDWMKEYNK RRSWTSAEFPLVLDAGHRRSY TANTIIRDPVWRRRGG LNFLTPHGKWHDHSTYGDTERMTTLSRG
 RYLTPHQKWGПHTMF TETTNMSTLFRG FRLLTPHTKFGLHSQF VNLDWMHEYDK

LDKEKGE DTVP YCLV PTFRLPTLIHS YPCVFTTYRLTEHHTAGGMSRWLPY K S
 WPDAHGDVFPFVETARLTEHHTAGGMSRQLPYLAELP EYDLAINNGRMLEHFHEGNDTNKSLGI QAKVP KAKYRFWI NNGRTNEVWQTVYHDQYNDFVRTRDP EVVEE

QRKKYRFWI NNGRTNQIWQSAYHDQHVEFRRGRYP KTKEMSLHVNNGRVLEHFHEGNMTYQVPGLKYKLP SRFPFRLIIPPHADLLNSTFGERYPGRLGE FRLLTNHRDTLFSQHM

MDKEG YP Y IVVTHRLTEHFTA GGMSRWSPYLSELQQP
EAHGEVFPFVFTAARLTEHHTAGGMSRQLPYLSELQP
P MVGGDHP F K I T G GHPRVS $\square H S T H L T N S H L S R L H R G$

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 ENYVWINKKIAEEMEVEFGDEVEVSSPVGKVTMKAYPTVQ RCTVQVHPDDAARLELTDGGLARLLGOGGALEVPVEITEA
 TQAARLHPEDAAAMGVADGQPVRISTVHGAIELPALITED ENSLWI NDQKARELGI ENNDLVEVSSDGYVGSIKALVTPY AFFCEVGPELAAERGLSHGDWATVVTARNAVEARVMVTDR WQTVWLNEKDAASVGIKDNDWIEVYNRNGAVVARAVLTYR GARLQUHPATAAAHGURDGAAVELTSARGRAVARAEESTD EST:NMHPKDAEKLGAKEGDGVWLVSPYCDHKVRVRVTIL DDVLKMNPEDASKYGVSGDMVRVTSVNASFVVKAKLWEG
 EPGVRLNPDDAAELGVEGDVVKLSNDQGFVVMKAAVNAG STFLEVSPELASERGLEDGTLVRLTSPYGSAKVQTIVTDR SNPAWMNPETAAKLGVKTGDLVRVESAVGHLVTKAYVTEG HNMLWIHPKSALKQGLNDGDYAIVKSSVGEQKVKVHVTEY DMFVEINPRDANNGGVRDAAMVWVEGPGGKVKVKAMVTER EPWVDVNVEDAKKLGGKKGDLLWVKSRRGSIMARCKPTER SERLWMNRKRAEEMGLKDGDLVEVSSSEATSKIRIVKVDR AARVTVHPDTAEREGLTDGDEVDLYSRAGARRMTVRISDS NHHGLMNADDAAELGADGGQVLVTSPYGQDADPVSVTAD NTYGEVSPEDAKERGVATGALVRLDSPYGELKKLPVVVTDR
 HASVSDNQKDALQL GVEQGDLLALSSKVSASGLPVKI DDG GQVIWMSNKDAEKLGVKDNDWIEAYNRNGIVSARAIVSHR RPF SLHPDTAQRLGFVEGQEVHVESGQGTCQAPLRLDWK SVFLEVSPELAEERGLEDGTLVRLTSPYGNVKVKCVITDR RPTAMLHAQDAAALGVEEGDKIILSNHRGEVILHAAVGDR EDVAKINPRDAAELG| EDGDEIVVSSPVGEVIEVTAKLWEG KAYVELNAELATKLNIREGDPVIVESRRGKVEARVLKVLDV GPVIWLSVQDAARIEVADNDWIEAVNPNGVVVARA\|VSHR RNPLYVPTKLMQENGLQDGDWAKVSSPHGEITVPVMEMAA ELFCEISPQLAAEVGVVNGGWATIVTTRTAIEARVLVTER KVFVEVSPELAAERG1 QDGTLVRLESPYGRI K LHALVTDR
 EFFCEVSPELAAERGLENGGWATLGSPRSAVEARVLVTGR YAFVQTNSNDARREGVQSGDVVVVYSDNGSVPAIVWVTDM VPTIDIGKNDAEKYGVKDGETAEIVTVFGKQQFIVRI YVKVEISNSVAAEKGLKDQDYVRVWNDRGEDHGTVSILKA NAFVEISPELAEDRGI HEGAQVKLDSETGEATLTVHVTDR $T N T L I L N D Q D A A A L G I T P G D T V L L E S P W G S T T I K A E P T P D$
$R P T V L L H P E D A K N G G N Q D V V V R M N A Q G S L I M V D T F D G$
 EAY ELSEELAKNND:KDGDIVEVTSSNGETVVLAKVNDG DPYAEVSPELAELRGLQHGEWATLVSARTATEARVMVTDR DGALQUSKVDAAALGLSDGDPALLTTKGGSVVVTVEVGDD
 VPR FMHPTDAERDGLVDEEWVELQTAYGKVSAQLIVVPS
 EPFIYMHPKAAAGKGIADNDTVRVENKVGEQKARVKLTYN EFFCEVSPDLAAERGLEHGGWATIVSARTADEARVLVTER DNYVEISDADAKTRGVKTGNDVYVYNDYGCIGKLPALVSSR SMFCETSPELIAAERGLENGGWATIDSPRSADEARVLVTER DNAVWIHPDTAGLLSSUSSGDADRIVNDTGSEEGHALVTPG KNPAWI NPADAARREI RDGDRTKVSSVVGEIVTEAKVTPA GDFVEVSPELAKDRGVQDGSIVRLVSPFGALKLPALVTDR MAYVEMNPADAQQLGUGAGDVVEVFNDFGSTYAMAYPAPE RNFCEI SKELAEEHGUNGARVKVTSKVGTVEVNVQVTDR VLVHPDDAATWGVADGEKVLLRNHRGSSARIARVTAD


UniRef90 B9MSX0 UniRef90_Q11PA8
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UniRef90-A2SEZ2 UniRef90-HOE2X1 UniRef90-K1YAV8 UniRef90-UPI00034756E8 UniRef90 C3F5J8 UniRef90-UP10003653D51 UniRef90-K1JUJ3 UniRef90-J2PF47 UniRee90 UPI0003B3D786 UniRef90-Q3IMT4 UniRef90-D9Y8R0 UniRef90-D6E8G8 UniRef90-D6YZW9 UniRef90-UPIO00416F7FO UniRef90-Q47CU6 UniRef90-F8E8N1 UniRet90-A3KAW8 UniRef90-D2C1X1 UniRef90-13NLW9 UniRef90 M1ZJK9 UniRef90-B4RFL8 UniRef90-UPIOO04756914 UniRef90_l4BGX9 UniRef90_C8WXX5 UniRef90-G5NOF1 UniRef90-C9NS94 UniRef90-F4ANS3 UniRef90-L1MLEO
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UniRef90-UP100041B9BEB
UniRef90-G2NAFO
UniRef90_l4BED1
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VRPGTITKCYGQGHWAYGEDYHNAKPKGFNNNELMPAD Y
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VAPDHAFAPFHWSGWLEGEKVTGNVPVIGETDNAGTAPAY
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VPQDMLLMYEAW
VKEG
M P EALFDPPYGNYSPYLTLAKG VGGYSYMDHVPYRD
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I
IRK

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 VREDTLFGYFGFGHV SKDLKRAYGKGVNSNALMPS FT VRRGVVLMATEAWFEPGFGGKRHKIEQSGNPNVLTLDIVT VPKGMAYMYHAQDRTMGVPGTTVSGKRGGTHNSVT VAEDCLLMYEAWFGRGNDFNVQNLVDDESA N DMGAF
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$M K P G V I A C S H H L G R W R R A Q D A G N R W A$
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## TSDYVVMMYVGWW

 TSDYVVMMYVGWW QAGEEG TKHG RPLRIEDHVVHQIWMPYHWGNKGGVDGDAANELVA DAL


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UniRef90 G4RQ87 UniRef90-E3PRQ5 UniRef90_E8WHJ6 UniRef90-I2QSWO UniRef90-F4FZV2 UniRef90-F0JDF2 UniRef90-IORLC0
UniRef90-V2QD83 UniRef90-X1VR19 UniRef90 UPIO0040AA472 UniRef90-V6TOY5 UniRef90-K8WD79 UniRef90-D3DIB6 UniRef90-UPI0003747879 UniRef90-B7RNC1 UniRef90_W1IBP1 UniRef90-AFHG8 UniRef90-D8J9A1 UniRef90_G6EGN8 UniRef90_W4PZG5 UniRef90-A5UU80 UniRef90-C6BZP1 UniRef90-E8RQ23 UniRef90-R9BTP4 UniRef90_UPI0003814E4E UniRef90-A0A046Q184 UniRef90_Q2W235 UniRef90_UPI00037E2B5B UniRef90_A7K409 UniRef90-MOP5L8 UniRef90-D4H4X8 UniRef90-B3EDR3 UniRef90-T2GAC5 UniRef90-UPIO0047C5F3D UniRef90_S7VJ10 UniRef90_A3VYZ0 UniRef90_Q30ZK9 UniRef90_C8PGV6 UniRef90-M1SUN5 UniRef90-D8GTG9 UniRef90_U1PHV0 UniRet90-19CHQ6 UniRef90_S7TZB2 UniRef90_W8HGG9 UniRef90- XOXLX UniRef90_M5IWE2 UniRef90_V2QEY7 UniRef90-UPIO00363C3B0 UniRef90_U2SX85 UniRef90 Q7WMZ7 UniRef90_X3EWN7 UniRef90_D8J565 UniRef90_LOAJT9 UniRef90-E8RIW3 UniRef90_U7P8X2 UniRef90-UPI000467B703 UniRef90-C8PUV1 UniRef90-A7MYH5 UniRef90_Q1NHQ4 UniRef90_AOA023DIT3 UniRef90-LOWFL8 UniRef90_B8GAC6 UniRef90-M1PCH9 UniRef90-M0D240 UniRef90_X2L7I9



[^0]PQRDK ${ }^{10} T F V L T T G R T K^{20} K Q W H T M T R T G Q V A E L L K E E E \quad 40$ LRLI IGRNP LYYQGSMSNNKFIKEVLW TEKFPYIFNSGRTVGQWHTQTRTREDEFVKNSCF P $\square$ REKYPFTVLAEHMRTRNHTQWWD VDYMKEFEK DEEYQFYYNTPHPKYRTHSSWGMTDWNLIWSSRG GDDNRERPLRLINWKP RTQGMHRTQNSPWLRETRP EKDRFPFLINNGRANHVWQSAYLDQENDFVMDRYP ADDEFRLL GRSSVHNAHANNPLLELH GGDHPFQVTGGHPRVSUHSTHLS NAHLSRLHRG
E P L P T H

FLLA GERR
$F$ LCTSGRQP
$F$ RLVF GRSP VEYEGGGEE QR $R D P Q W R R V Q R$

P P T P E D G E
FRLLF GRLS FHTHARTQNN Q

 K E N E L Y FI Q G K V A H S M T G T Q M V | P | P |
| ---: | :--- |
| $H$ | $G$ | LPNERLDPQHIHSSRSANAKWLVEIGH GSPPDQYP $\quad$ A T L N R K TP WFYH TWEN H H HP WL R Q Q L I P

AKYPYRLITPHRKDSLFSQ HLEDYEG
ADQEYPFTVIS HKMNLHTQSRTVLHDWSLEVFP
ESKKWPFLI NNGRTNVVWQSAYLDQDNEFVMDRFP

SEEFPMVLSAGERRAFTANT
$\square \mathrm{Y}$ R
WRRRDAAG
RETAS
A P DEEYP Y LLVTSESTGHFADGS $\square$ TCNDSWAEEHFP ADETHPFRLVTAPARNFLNTSFGETPTSASRE
GDEKEFP LIFTEHRSRNREGRSANTTWYQEFKDADP

D S S E Y D

GVSREKYPY TFSTNKVASHYHTECQYSDWANEME
LD A T QA E GPVLEDTP HGKWS DH S T Y G DT VRMLT LSRG

 G G P

T P D F P G G PPAKEE

KEGS






D S G DYPF F L LT L I S R N T L H S Q I P A GM Q Q G L
PKTQWPFSLTNF KSNVHSAVSNLSPRLNS $\quad$ SKG

 EPVDSEYPLTLTTGRTDGVYNTGVRTRNDADT
 FTFIAAPS LRFFDGRGGNKPWDPITKVAW
E NHGGP
PY R L L C R R H L HVVYNS S C N T D R T
HR G V P
 FPYVFSTSRLTEHHTAGGMSRQLAY LSELQQPG
$P$ QA DWPF LLSSFKS $\quad N L M S S M S \square G V S R L R Q V H P$

 E WHPPDDEEYP LLVVSDFEQLSRAHCQEYADRFGLAYEEYR


 GVPD K P GRYRLI TMRSNDQFNTTI YGYS DRLRGIE G DGDFPF LFVPGPNHHFLNTTFSNNEKHISFGKEP



## UniRef90 E4TYQ6

 UniRef90-14C4F7 UniRef90_U5RPG0 UniRef90_K0ZBB9 UniRef90_L9YKC8 UniRef90_M0D8A0UniRef90-191PZ4 UniRef90-19LPZ4 UniRef90_E1QMF2 UniRef90_UPI00047B8154 UniRef90_Q5NZV2 UniRef90_UPI00046FF2BC UniRef90_A0A017T5A7 UniRef90_S6CLE5 UniRef90_Q1NQN8 UniRef90_D4H0P4 UniRef90_Q39YV2 UniRef90_Q1NL67
UniRef90-P37600 UniRef90_P37600
UniRef90_B3V6L3 UniRef90_A6BB39 UniRef90_G4RQ87 UniRef90_E3PRQ5 UniRef90_E8WHJ6 UniRef90_I2QSW0
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UniRef90_D8J9A1 UniRef90_G6EGN8 UniRef90_W4PZG5 UniRef90-A5UU80 UniRef90-X8CEQ6 UniRef90_C6BZP1
UniRef90_E8RQ23 UniRef90_R9BTP4 UniRef90_UPI0003814E4E UniRef90_A0A046QI84 UniRef90_Q2W235 UniRef90_UPI00037E2B5B UniRef90_A7K409 UniRef90_M0P5L8 UniRef90-D4H4X8 UniRef90-E7BA62 UniRef90_B3EDR3
UniRef90_T2GAC5 UniRef90_UPI00047C5F3D UniRef90_S7VJ10 UniRef90_A3VYZ0 UniRef90_Q30ZK9 UniRef90_C8PGV6 UniRef90_M1SUN5 UniRef90_D8GTG9 UniRef90_U1PHV0 UniRef90_C8WNR9 UniRef90_S7TZB2 UniRef90_W8HGG9 UniRef90_E1JRZ2 UniRef90-X0XLX3 UniRef90-M5IWE2 UniRef90_V2QEY7
UniRef90_UPI000363C3B0 UniRef90_U2SX85 UniRef90_Q7WMZ7 UniRef90_- X3EWN7 UniRef90_D8J565 UniRef90_W0L3E6 UniRef90_LOAJT9
UniRef90 E8RIW3 UniRef90_U7P8X2 UniRef90_UPI000467B703 UniRef90_C8PUV1 UniRef90-A7MYH5 UniRef90_Q1NHQ4 UniRef90_A0A023DIT3 UniRef90_LOWFL8 UniRef90-B8GAC6 UniRef90_M1PCH9 UniRef90_M0D240
UniRef90_X2L7I9

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Y P Y|L LM N A E EGEA|L|G|I|YEGEPVII|TNHLLGSLELLD|V|RF GK N H P L WMHK DVA A RLGVVKDGDSVLVRNEIGSGTATVETTDG
 EAFVVEMHPEDAA D L


 DMFVEMHPKDANDRS I QNGQMVWDETPTAR IMAKAMV TRR DGAMRMHPDDARAHGLTDGSRAICASERGELEVTIDLDDA

 GPVVV WL N H E D A A GAA G I

 R N P I WI H P K D A A K L G V S E G D L L K I E T E DG WF V D K V WV T E G






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


 L H P L WL N D R DA AETGGIRDGDWVEVVNDHGAVVTKAVV SAR HMYAEI HPDMAEDLDLVGGEDHVIINDKGSILVKAKVTYR Y NPA WL NP QD V VEL GL E E G DR I WMTS DH GRUPAA V S GDP S NP IV HMNERDAKK L DV D DK E LVVRDWN DRGECQQTVVSVGTN
 D GALLRVSVEDA QALGLVDGCRARISTAAGSAEATVEITET A MFLLEIHPDDAEARSI A DGDSVVAYNDLGEVAFTARVTPL RMDVMMNAEDMAGLGLSEGDAVVVESEHGAM
V S I A H I N E K M A N E L F T K E N E I I L L K N K N G E


 VNPVY I H P DD A ERAGGIK T G DEFVI E T P S A S T KALDAMIVS G LP MAR I H P ET T E Y I E A F D R GK TV I S S R R G S A T IA A VNPD D G


 VN MV ML HESDAKRLGVSHGDLVRIVSPAASAEARVVVGDV HP FVVEMHPDDMVDLGLNPGDLLEIINDNGVTQGMAYPMPT
$P E E L A A A P C A A Q A A A G D A D G E A A L L D C T P G G Q M Q V T V R F D P A$ V N P V Y I H P N D A QLA GIV T G DEFVI ETPGGSTKAYAMILS G ES PV WI S P A S A K A E GL K T G D V V K L K N K F G E Q K A K I F V T Q G



 QAPVWI HPDTMAREGLKSGDCLEI QS PWGRLSAPA YPC F G Y N P A Y L H P D D M T E L GL S D R T LI RI S S D L S S I TAMVAMKDPA P M T L A M M H P G D A A A R G I A D G D A V
 WS E V WM N N Q DA A A E G I A D G QLI T I G N P I G D
 T MVLMMHPADAARLALT DGVEVVCGNTRGAARFTLTKCTPR H NPVSDSRADASRLGIGNGDAVRIVTPGGAVTGLALVRDG
 EP PVVRLHPDTLRDERVRDGGLLDVRSRRGTVTARVEADDR R E V L GNYLHI H P DDAEPRNI STGDMVRVTSPDGEVELMAHVYE

 $R$ QVIF M N A D DAD RLDDLKA GDKVTIQSEYGD T N FAE $\triangle$ N K Q T GEAAK G L K T G D M V W $R D V L L M S P R E G L A A G L S E G Q D V G L A S D$
$R \quad \square \mathrm{H} M \mathrm{~N} \square \mathrm{~K} D \mathrm{AL}$ S K G I K D G D QVVRVWNNRGECDLKVSVGEN R DVLFMNAEDMA ERGLVVHGDKVMDIETADLDGSTLRYDNLTA E N A LI N R DDA E R L GL RTG D RVVR S S A R K P M I G K VK VI E G $D N P V \bar{W} V N D E V A A K I G L I D G D T V G F V N S E G V E A T T T T V T V T$

UniRef90_E4TYQ6


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UniRef90_I9LPZ4 UniRef90 E1QMF2 UniRef90_UPI00047B8154 UniRef90-Q5NZV2 UniRef90_UPI00046FF2BC UniRef90-A0A017T5A7 UniRef90_S6CLE5 UniRef90_Q1NQN8 UniRef90-D4H0P4 UniRef90_Q39YV2 UniRef90_Q1NL67 UniRef90-P37600 UniRef90_B3V6L3
UniRef90_A6BB39 UniRef90_G4RB87 UniRef90-E3PRQ5 UniRef90-E8WHJ6 UniRef90-I2QSWO UniRef90-F4FZV2 UniRef90 FOJDF2 UniRef90-IORLC0
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UniRef90_E8RRQ23
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UniRef90-T2GAC5 UniRef90-UPI00047C5F3D UniRef90_S7VJ10 UniRef90-A3VYZ0 UniRef90-Q30ZK9 UniRef90-U3CDT0 UniRef90_C8PGV6 UniRef90-M1SUN5
UniRef90-D8GTG9 UniRef90-D8GTG9
UniRef90-U1PHVO UniRef90_C8WNR9 UniRef90_-19CHQ6 UniRef90-S7TZB2 UniRef90-W8HGG9 UniRef90-E1JRZ2 UniRef90-XOXLX3 UniRef90-M5IWE2 UniRef90_V2QEY7
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UniRef90 E8RIW3 UniRef90-U7P8X2 UniRef90_UPI000467B703 UniRef90-C8PUV1 UniRef90-A7MYH5 UniRef90_Q1NHQ4 UniRef90-A0A023DIT3 UniRef90-LOWFL8 UniRef90-B8GAC6 UniRef90-M1PCH9 UniRef90-M0D240


VRPGCDGVSFHYGHDEVVY DYTGYHQKHGNPN LLTSSESS AKPKQTFMLFAY VTPGQLFDAMAFEVKPGA TRGDVLVTERGGWNKAGHG MQPGHVSLPNGLGVDHPDHGRVGV ADNLLRDIA $C D P G H L N L H Q G G W Y D P N T D G \quad V D D G G N A N T L I D A T M P$ LRQG
LQAGVVVA EGDWANRAHRGGMG
$\square$ NTLTGSDED
TRPGVAVKCYGQGHWAYGRDATMDYQKRGGNNNEILPSDY

 I MP GVV C M P H A WG HN R P GTRR DT VA EA H A G S L N D I T N E K V I
 $N Q P$ PE GL VF VP
 $V P R G \square A M Q Y H A P E R T V G T P R T P S R G G R R G V H N S L M R I R L K$ $P$ Q GGNE DF LDP Y HWGGVAAPD GSKPLADGDSANF I S S S GF VRPGVVQMSH GWGQLPDDDPGD FENSGAN TN LLD D E R R DM
 I RPGV I ACSHHLGRWRLREDEG G $M L A G H A A L P N G F G L D Y L N D D G H T V V \quad P G V A P N A L T S T G W R$ $\square$ AK G A VA

EGARVRVFDLARGSVMAYYPEANVLTG TAMV
VGDF VVLMYA GWW $V P R G V L R L E H G F W T D \square D A P N V N D L I D Q K G N M G S Q L M W N G V$ $M L A G H A A P P N G F G L D Y T G D D G R T V V A G V A P N A L T S T R W R$


 I R P GVVVACSH H $\square W R R E Q Q D E A N R W W S D G G V H Q N T T F P V H P$ L R P D L L VA E R G GWTRA GH
 $V M P G V I A V E H G F G H T A L G A Q D V T D D G R T F S L N D L V P S D P T$



$V \mathrm{MP}$ G VV A I E H GY GH HEMG
$V$ S D NLVV HMNVGWWE KSSNPNFDTEN Q


 L R T GLVVSMAFG YGP T D NDEEVVWAVGSSPSRMVSDSEKF





 $1 P$ L G MV WL P I H H



 $\vee$ N R L I P
 $A D D G V E R R V D G L T V T S F D L P D G C V G A Y Y P E M N P L D P L W Y H$ $V L S G V V V \quad T Q G L W$
I E Y S V AR GTVA A Y Y P E A $N R L V P L D Y N$ 1 RP GV VAFP L GWGHFAS GAGE VVIDGRRAAGVHANAAMRV


|  | 140150 |
| :---: | :---: |
| $\begin{aligned} & \text { UniRef90_E4TYQ6 } \\ & \text { UniRef90_14C4F7 } \end{aligned}$ | DFVGGSAAMQECFVEDEK |
| UniRef90-U5RPG0 | DPYSKEPSYKYVPVNIEKV |
| UniRef90-K0ZBB9 | NQVSRNQCYFDQAVAVEK |
| UniRef90 L9YKC8 |  |
| UniRef90 M M D8A0 |  |
| UniRef90-E1QMF2 | DPAGGANALCEATVRLARA |
| UniRef90-UPIOOO4788154 | DRGSGNAVFNGVPVTVVPAEG |
| UniRet90-O5NZV2 | DHLAGGYEQRGVRVNIKKA |
| UniRef90-UPIO0046FF2BC | DSVTQMQETKVTLCQ |
| UniRet90-A0A017T5A7 UniRet90 S6CLE5 | CWICGASQLRGNPMVVYKATEE NSPFGNPV |
| UniRef90-Q1NQN8 | DPAGGGLNLCECFVTVRR |
| UniRef90-D4HOP4 | DPISGGAGFHNGFVKVEKV |
| UniRet90_C39YV2 | GGYaQ |
| UniRef90_Q1NL67 | SPLMGQPAYADMLLR |
|  | SPVSGGTVVHTAGVTLSRA |
| UniRef90-A6B339 | DPISGQPAFKSSYVEVQ |
| UniRet90-G4RQ87 | D $\square_{\text {degor }}$ |
| UniRef90-E3PRQ5 | D 1 GGQVSYHETFTDIE |
| UniRef90-E8WHJ6 | PVGGLPDFSSTRVRI |
| UniRef90_I2QSWO | DPVTDNQMVKWSWVA \| RK |
| UniRef90-F0JDF2 | SVVGQGTPFYETRVTVEPC |
| UniRef90-10RLC0 | DAFAGTP WHKHVPARVE |
| UniRef90 V2QD83 | SRYDHGNAQQSAYVIIKP |
| UniRei90-UPI00040AA472 | APF GGVAFHDTKVWLR |
| UniRef90_V6TOY5 | EHLSGSTARHGGLAR |
| UniRet90_K8WD79 | DWVSGASVRQGLPARIERV |
| UniRef90-D3DIB6 UniRef90 UPI0003747879 | DPVSKQPELKFTSVNLR |
| UniRei90-B7RNC1 | DPITGQAAWFDLKKKIEKAPAPA |
| UniRef90-W11BP1 | DPLSKETDYKKCALKUEKA |
| UniRef90-H5YOX8 | DP GGNLVSKNUMCN AKAE |
| UniRef90-A7HGD0 | P TLMLGA |
| UniRef90-D8J9A1 | DAETQMQETKAGLVRVEKAT |
| UniRef90-G6EGN8 | EPINSMARLSALPVALCRMD |
|  | D MGGGATFFSGRVACEKMT |
| UniRef90-X8CEQ6 | DPYAGTPWHKHVPARDEALT |
| UniRef90-C6BZP1 | SDMGEATTLIDNTVEVR |
| UniRet90-E8RQ23 | DPRSRTPSFKATPVQVR |
| UniRef90_R9BTP4 | SDIGGQVVT Y NETEVEIVKVK |
| UniRet90-UPIOOO3814E4E | DPVGKGA ${ }_{\text {dek }}$ |
| UniRef90-O2W235 | DPVSGTAVRQAIPARLAKA |
| UniRef90-UP100037E2B5B | EQYIGTISMGTSIVTVSKA |
| UniRef90-A7K409 | DWVVGAAARQSILPAKIR |
| UniRef90_MOP5L8 | DPESDEPNFKQCAVDVRKV |
| UniRe |  |
| UniRef90-B3EDR3 | dp\SGmecwhe KVRTEKA |
| UniRef90-T2GAC5 | SRVGNGTPYYEATVGLE PLPSSCSGSPQAS |
| UniRet90-UPIo0047C5F3D | DR GGGSTFYDHR DVR |
| UniRef90_S7VJ10 | EHESGCSARQGIPVVRVE |
| UniRef90_A3VYZ0 UniRef90-Q30ZK9 |  |
| UniRef90-U3CDT0 | DWVVGGAARQSLPAK\RKV ${ }^{\text {d }}$ |
| UniRef90 C8PGV6 |  |
| UniRef90M1 |  |
| UniRet90-D8GTG9 | GKQAAYYDTF VE【KK |
| UniRee90-U1PHVO | DPDSAEPNLKQCAV |
| UniRef90 C8WNR9 | EPGYGSACTQETVVNVKKA |
| UniRef90-S7TZB2 | DPVSGGPTL |
| UniRee90-W8HGG9 |  |
| UniRef90-E1JRZ22 | SDMGEATTLNDNTVEVRRA |
| UniRer90-X0XLX | DPLSGQPVWWN |
| UniRet90_M5IWE2 | DWVSGAAVRQGL |
| UniRet90_V2QEY7 | SRVDHGNGQQSAMVWI |
| UniRee90 UPIOOO363C3B0 | DPNVLIQESKVGTCDIQPGRRP |
| UniRef90-U2SX85 | DSWGGGSTFYDVCVDVR |
| UniRei90-X3EWN7 | DWVSGAAVRQGLPAKIERA |
| UniRef90-D8J565 | DPRSDEPNYKQCAV |
| UniRef90-W0L3E6 UniRet90 LOAJT9 | GEGTGTPTSKSLPVTVRRCAAAP |
| UniRef90_LOAJT9 | EPVSGMTARFHPVEVVTPLGGGD |
| UniRef90-U7P8X2 | EPTSGAAVRQGMPIRVTRLDA |
| UniRef90 UPIIO00467B703 | SAVGQGTPYYEARVDVEP |
| UniRef90 C8PUV1 | DKKSGMPAFKTVSVR |
|  | DPVGGSAVFYDTKAR VKA |
| UniRef90-O1NHQ4 UniRef90 A0AO23DIT3 | DKLSKTPAAKGVPVRIVVADDAP |
| UniRef90-LOWFL8 | DKESGTPSYKSVPVR TK SVSEAPP |
| UniRef90-B8GAC6 UniRef90 M1PCH9 | DPVGGSAVFYDSKVKLEKV |
| UniRef90- M0D240 | DPQSKEPNFKQCAVR |
| UniRef90-х2L799 | DAESGTPSYKS |

UniRef90 G2H6P? UniRef90-A0A059MIM6
UniRef90_UPI0003818F77
UniRef90-C7LT80
UniRef90 L8P6R7
UniRef90-I4CEH8
UniRef90-F4H9X7
UniRef90 L9VG52
UniRef90 ${ }^{-14 C 8 J 6}$
UniRef90-M0LY94
UniRef90-J3A6X8
UniRef90-UPI000465F45C
UniRef90-A1HU05
UniRef90 C5EQL3
UniRef90-L0F7Z8

1

30 RSANATMAEHDA
 $R$ LDPPDDGYPLQLLTLINRRFVHSQ1

 EPTDEQFPLTLTTGRRPDAYNTGVRTRE DD EPQKA LYPLMLDTGTLIDSTNEFGHFVTDRGVEEA EPLTETYPLTLTTGRRPDRYNTGVRSQGSD

DNRFGFYLVTLYRSNDQFNTTIYGHSDRGRGLEGS


lupas 21
lupas_14
lupas_28
jnet conf sol25
sol5
sol0
jhmm
jpssm
 $\begin{array}{lllllllllllllllllll}6 & 3 & 4 & 7 & 7 & 3 & 6 & 6 & 4 & 4 & 3 & 1 & 5 & 7 & 7 & 8 & 7 & 6 & 3\end{array}$
 $\rightarrow$

| UniRef90_G2H6P2UniRef90_A0A659MIM6UniRef90_UPI0003818F77UniRef90_C7LT80UniRef90_L8P6R7UniRef90_14CEH8UniRef90_F4H9X7UniRef90_L9VG52UniRef90_1C8J6UniRef90-M0LY94UniRef90_JA6X8UniRef90_UPI000465F45CUniRef90_A1HU05UniRef90_C5EQL3UniRef90_LOF7Z8 |
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LLAEVV $\bar{V} L A T S E A A R L G|L D D G A| V V|R| V|E S C V G A V V| K A T L R T A D G$ THPLWTNPSDAARFGVGTGDLVRVNTEIGYFVARVWATES GLTVEVSPELAAERGLHHMGWAHVITSRTAVEAKVVVTDR E PVVSVHPRTAEGLGI EPGA GWLVTALGGLAVLFAADES
 ENGFLVNPEDAKRLGLKNGDLAKVSNPSGEWVGKVIFTQT S GIVAMSSQDAVKFKDAHGDLVELATPGGKVNVQVMVIDG PPTARVSPATAAALTDEDDDWTQVVSRRASVTARVEADES GSGDKIHPQLARLI GVSKGESLTLENDNGTLTAPAWLSDD RPVARVNPETVAAFGDGDGSDTRVESRRGSVPVTDDPDPA RMIVLMSPVDMDEAGLSEGQPVTLATDSGD D DTLKINPIDAKKLGLK DYDKVKIVNEDGKNDTTDKDTNF





UniRef90 G2H6P2 UniRef90-A0A059MIM6 UniRef90_UPI0003818F77 UniRef90-C7LT80 UniRef90 L8P6R7 UniRef90-I4CEH8 UniRef90-F4H9X7 UniRef90 L9VG52 UniRef90-14C8J6 UniRef90-MOLY94 UniRef90-J3A6X8 UniRef90- UPI000465F45C UniRef90-A1HU05 UniRef90_C5EQL3 UniRef90-LOF7Z8
lupas_21
lupas_14
lupas_28
jnet
conf
sol25
sol5
sol0
jhmm
jpssm

S VGRGTPYYETSVIV|V|TPC ${ }^{140}$
DPLSGMHCWHQ KVRVEKA
D MGGVGAYYEQRCRLER
A A MSNTPTSKSVVVRLERVSGDV
DPVGGSVSFYDTHVRLVPA
DPRSKEPNFKQCAVRLE
PSSGVAPKKFAWVTAYKFQSEKEAATAL

DPIGGDPDFSSTKIKI QK
$\begin{array}{ll}D P R R G T G D H A N V A M R V & \\ D & D G E A T T L N D N T V E V \\ D\end{array}$

DPVLKNTSLEDMVGA



[^0]:    

