11 ELQARGLT EKTPDTSDEDARLLTQRHRVGKPQFNRQDHH
TELQARGLTEKTPDLSTAAALRPLVKPEKKRTKKF TE LQQPRGHADKTPDLSDEEERLLQRRAAVSTPQFNRQDYH SRDNSDPTTLERPARPSNTLRPLVKPRKKRTKKFDRHQAD SRLNSDPTTLERPARPSNTDKMVAAKQKKRTNRFNRHQSD TELLRPRGHADKTPNLDDETARALGQKHREGKPAFRRQDHH RARPNKTDKMALAKKHVPIV KKRTKRFFRHQSD TELQQPRGLTEKEPDLSDEEGRLLTERHHEGKPQFNRQDYH $A T \square R P L V K P K V I K K K K F i R H Q S D$ TELLEPRGLVDKTPDLDDETGRLLTRRRRKSKPQFNRQDHH KKRTKVFKRHQSD
VSTTDT IVTMA DRP LVKRTKKRTKKFK RHQSD

PSPPTKRTDVSSPPA $\quad$ RRPLVKPKKKRTKKFIRHQSD $\square R$ S S K MVQVT P EMVAAKKHVPIV KKHRKRFNRHQSD RLLVKPKKKRTKK RPLVKPKKKRTKEFFRHQSD RPLMKPKKKRTKKFIVRHQSD TELQARGHADKTPELDDETEAALDQKRREGKPAFKRQDYH KIVKKRTKKFIWHQSD KRPE NYFKQLLMKPKKKRTKKFIQHQSD $R P L V K P K K K R T K K F I W H O S D$
TELRPRGHADKTPD DDDDTARA LAQRHREGTPEFPRQGRH

RPLVKPKKKRTKKFIRHOSD
MPVNRPRILKKRQK
KFIRHQSD पQARGVADKTPT LT DETAAALAQKHREGTPKFNRQDHH RLLMKPKKKRTKQFПRHQSE $R P L V K P K \| I K K E K F I R H Q Q D$ RPLRKPKKKRTKKFI RHQSD
MAALRPAPHVK T KKKRTKKS RHQSE LVKPKKKRTKKF: RHQSD RLLVKPKKKRTKKFi HHQSD
AT $\square R$ P $\square$ MKPK K K R TKAFKRHHSD RHKRTKKFLWRQSD RPGVK VVKKKTKKFTRHQCD

FIRHQSD
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I RPLVKREIVKKKKFKRHQSD

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P VARRP $\square$ KKKKFKRHQSN KKRTKRF TRHQSD
PKPLVKPKIIKKRKFIQHQSD L L K P VA R LKA ARGLTEKTPDLTESEERLLGQRSREGKPKFNRQDHH KKRTSRFKRHQSD
PRPLLKPKTKRTEKFNRHQSE KIIKKRTKKFlRHQSD RPLEQKRWQPSPAHLRPLTKPKKKRTKKFQQHQSD PSVRPLFKPT IVKKKHFKRHQCD ATLK P LVK PKKKKRTKKFTWHQSD S S S QPEYDPSVVRPASMRNDYGTKRFWRHQSD F $\begin{aligned} & \text { DRHQSD } \\ & R\end{aligned}$ RPLVKPKKKRTKSSSGTSQT RPLVKPKKKRTRKF円QNQSD KKRTKRFRRHQSD KRHQSD PLSKKTKKRTKKFARHQSD TVQPKPELDEETVDALAKRAIIGRPAFKRQEWF KlVKKRTKKFSRHQSD R P LVK PKKKRTKKS $\square$ WHQSD KKRTAKFVRFQSD KCRFLLKPKKKRTKKFIWHQSD KKRTKKFARHQTD
 KIVKKRTRKFKRHQSD PMVKPKKKRTKKF IRRHSSD KKRTKRFI RHQSD $K K R T K P F K R H Q S D$
$K K R T K P F I D H Q S D$

## QUERY

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 LQRNWRKPRGIDNRVRRRFKGQULMPNIGYGSNKKT RYVKI KRNWRKPRGI DNRSHDKFKGPILTPNTGYGSNKKT RYMRVGESWRKPKGIDNRVRRRFKGQYLMPNDGYGSNKKT KKKRVSKSYRKPRGQHSKQRKGQKGKGATVEAGFRSPTAA QYVKI KCNWRKPRGIDNRVRRRFKGQ\|LMPNTGYGSNKKT RYVNI KCNWWKPRGI DNWVNKRSKGQTLMPDSGYGSNKKT RYDKLKTNWRKPKGI DNRVRRRFKGQFLMPNVGYGSNKNT RYAKLKPNWRKPKGI DNRVRRRYKGQYLMPSI GYGSNAKT RYVKVKQNWRKPKGI DNRVRRRFKGQFKMPNI GYGSNKKT QYVKIKRKWWKPRGIENRVRRRFKGQILMPNIGDGSNKKT HCVVKI K H N WCKPGDTDNRVWRKFKDQILMPNIGYRSNKKM RYVKI K H D R R K P R GIID NRIIWRRFKGQ\|LMPNIGYRNNKKT $R Y H R V G E S W R K P K G I D S A V R R R F R S T V R M P K I G Y G S N K K T$ $R Y$ VKIJK S D WWK P K D T D N R V R R R F K G Q I VM P S I GYG S N K K T $R Y D K M K R N W Q K P R G M N D R V R R K L K N Q T L M P N G G Y G S N K K A$


 $R Y G K I K P N W R K P R G I D N R V R R R F K G Q M L M P N I G Y G S N K K T$
 T Y M R V D P S WRK P K G I N WRK P K G I R F K R V S E S WRK P K G I $R Y \mathrm{~V} K \mathrm{~V}$ K A A WRKPRGI $R R G Q F Q C N W W K P R G I$ $R Y \mathrm{~V} K I \mathrm{~K}$ C NWKN P G I K K K RVP A S Y R R P R GQLS K QR K GVK GKG G T V DA GR R T P T R I R Y GKI K R N WRKP K GIIDNRVRRKFKGQMRMPKIGYGSAKAT
 R Y D K V K E A WRRK P K G I R Y A K V K O $R Y L R V K P S W R R P K G I D N R V R R R F K G Q L R M P N \| G Y G S A K S T$
 T WRK P R G I
R F K CVPE S WRKPKGI R Y K S V K E A WR K P K G I
R Y $\quad$ V $K$
$\begin{array}{llllll}E & Y & A & K & K & C \\ H & N & W & \text { R K P P } \\ \text { K } & \text { K } & \text { C K WC K P }\end{array}$
 D GRVVRRRFK GA $\operatorname{l}$ R R M P NVGYGSNTKT D N R V R R R F K G Q Y L M P N $\| G Y G S N A K T$ D SRVRRRRFKGQ\|LMPNRGYGSNKKT
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 $L F V R I R S S W R K P K G I D G R V R R R F K G A L P M P S I G Y G S N K K T$
 R Y V K L K H N WCK P R G I E F $\quad$ V $K$ LFKRVGGASWRKPRGII $G Q V Q V K C N W W R P R G I$ R F MRIIK S S WRK P K G I K Y A C V A Q S WRKP K G I R K V T V K E S WR K P R G I T Q MRV P E S WR R P K G I $R N V K I K Q N W Q K P R G V$ $R Y D K V K P S W R K P K G G 1$ $Q Y L \quad N W Q K P R G V$ RYHSVKEAWRKPKGI UniRef90_UPI0003331D1D UniRef90_F0WVK4 UniRef90-UPI00033410F5 UniRef90_T0MK79 UniRef90_G3NDY7 UniRef90_UPI00017F088A UniRef90 E3S0X7 UniRef90_UPI0003F158B5 UniRef90_U1NT70 UniRef90_L5LT79 UniRef90-L9KWQ5 UniRef90_UPI000333633F UniRef90_UPI00042C7567 UniRef90_V4Y303 UniRef90_L5M5X2 UniRef90_UPI000333E84E UniRef90_UPI00027F24C4 UniRef90_UPI0003F0D804 UniRef90_A7RU93 UniRef90_V4YIM9 UniRef90_F7CNP9 UniRef90_M3X1R6
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R GKHPSGFE 9

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K Y LL P S GFWK F
R H L I P S GHKD F

 V H N I | $V$ | $N$ | $N$ | $V$ | $K$ | $E$ | $L$ | $E$ | $V$ | $L$ | $L$ | $M$ | $Q$ | $N$ | $Y$ | $S$ | $A$ | $E$ | 1 | $A$ | $H$ | $N$ | $V$ | $S$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $I$ | $A$ | $R$ | $K$ | $R$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $I$ | $Y$ | $N$ | $I$ | $K$ | $E$ | $L$ | $E$ | $V$ | $C$ | $C$ | $N$ | $K$ | $C$ | $Y$ | $R$ | $A$ | $E$ | 1 | $T$ | $H$ | $S$ | $V$ | $S$ |
| $S$ | $S$ | $K$ | $N$ | $H$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\checkmark$ H N I S E L E L

QUERY
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KAIVERAAQLNIKVLNANA KAI VERAQQLNVNVINKSAK $\square$ II I DRAAQLDI KI SN
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KQIVERAQQLNVRLTNGNA KTI LERAAQLAI TVTSPNA VE 1 A R A R AL GVKVTN



|  | A |
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| UniRef90-M2HS3 | V俍 |
| UniRef90-M3Z80 | V ${ }^{\text {b }}$ |
| UniRef90 F8NDN3 | VLILERAKVLGVKVVNVTA |
| UniRef90-UP1000 |  |
| UniRef90-L9L | A |
| UniRe | REIIERAAQLNVKVTNASA |
| UniRef90 UP100026573CB | KELVERARQLS LV |
| D5GE7 | AKARTLGK |
| UniRet90_13BJ8 |  |
| UniRet90_M3Z4X2 | KAIVEREVQLAI RVTSP |
| niRe990_FOXHJ1 |  |
| UniRef90_O5C | REILERAEQLNLKVLNKNA |
| UniRef90-W7T4V3 | KAIVEKAEQLGVKVTNAAAK |
| UniRef90- D2HDA2 | KATAKRAAQA BVANPNA |
| UniRef90 UPIO003FOC63 | KAIEEGAARLAVK |
| UniRef90-A6YMW7 | KAIVERAARLNIRL |
| UniRef90-UPI0003F | KDVVEGAAQLAIRI |
| UniRef90 M5ES | Ql Lerakil GVrvi |
| UniRef90-D8RFB2 | KDVERAAQLVALTNGSA |
|  | VH ARAKELGMVTP |
| UniRef90-L1JSF7 |  |
| UniRef90-F2TZJ6 | RAIVQRAKALNVKVTNRTARLV |
| UniRef90-F6SU13 | KVIVQRAGELNI HV |
|  | 1 ARAKQLGVKV |
| UniRet90-UPIO003FODE75 | KA VEGAAQ VVRVI |
| UniRef90-UP10003EDFF38 | KA VERAAQAMRV |
| UniRef90-UP10002BC9EA3 | KEIVERVASLDVV |
| UniRef90 R7W409 | K D VRAAQLDIVVT |
| UniRef90 M2W9S0 |  |
|  | NPLIWREWFQLAIIRV |
| UniRef90-R9T860 | TAI QAKADTLGIRVL |
| UniRet90-F1LEP88 | KDIVERAQQLNIKLTNGNA |
| UniRet90_S9WVS0 | 硡 |
| UniRet90 G4TCQ9 | G GARAKALGVKVNPAA |
| UniRef90 M7T509 | VGILSKARSLGVKV |
|  | KQlVERAH |
| UniRet90-Q12ZT4 | A LI EAKAVELGUKILNPTRSE |
| Q4 |  |
| UniRef90-A0A023 | $k D$ |
| UniRef90-L9KLS8 |  |
| niRef90_UP10001CBB2E0 |  |
| UniRef90 H8z99 | ID VKRAADLGUVLTNGTA |
| UniRef90-UP1000333F | KAVRERAAQLAIRVTHPNA |
| UniRef90-AP10003AFC |  |
| UniRef90 A9UDU2 |  |
| UniRef90- A0A059LM84 |  |
| UniRefo-R4X715 | KAVEERADQDVKVLN |
| UniRef90-UPI0001CE27BA |  |
| UniRef90-11F |  |
| UniRef90-M3Z | KTtaERAAPLAPKVANPNA |
| UniRef90-UPIOOO3F093EE | KA VERAARLAVRVTNPKA |
| UniRef90_K01 |  |
| UniRet90_B5IB12 |  |
| UniRef90_10Z9G1 | KVI VERARELNINVTNGDA |
| UniRef90-C5LY | KAl I ERADQIGVQVLNRSA |
| UniRef90-C4V715 | I AIVNRAKELGUHVNAEARLV |
| UniRef90-G8YF | VEIVSKAKKLG |
| UniRef90 UPI0002C3D3FC | MEl VARAKV |
| UniRet90-A4RVQ2 | A A |
| UniRet90-T1H7E0 |  |
| GOR | IDII SRAKQIGVKVTNAKAK |
| UniRef90 BGJYA4 | E Dekaralgykvi |
| niRef90 G1LB11 | AKRAAQLALRVTNPKA |


| UniRef90_C5DQZ0 <br> UniRef90-A0A05875H0 |  |
| :---: | :---: |
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| UniRef90_HOYOV |  |
| UniRef90 | 14Y5R2 |
| UniRef90 H8ZWX2 |  |
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| UniRef90 Q97BV9 |  |
| UniRef90 | M7T630 |
| UniRef90-B2Y148 |  |
| UniRef90 | Q8SS18 |
| UniRef90-Q8TW13 |  |
| UniRef90 | H0Y2D9 |
| UniRef90 Q9U5S7 |  |
| UniRef90 | K91RK3 |
| UniRef90 S7XKE0 |  |
| UniRef90-A9V8P8 |  |
| UniRef90 | M8AA71 |
| UniRef90-D7E8R8 |  |
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| UniRef90-F4PW03 |  |
| UniRef90 | F8QQI0 |
| UniRef90-UPI0003F11607 |  |
| UniRef90 | TONKY6 |
| UniRef90_E4XWH2 |  |
| UniRef90-A7AMR3 |  |
| UniRef90 | W6U687 |
| UniRef90_Q2QAR3 |  |
| UniRef90 | Q6L1B0 |
| UniRef90-LOKXI4 |  |
| UniRef90-Q4KTF2 |  |
| UniRef90-W9DSA8 |  |
| UniRef90 | Q8PV33 |
| UniRef90 B0EEQ0 |  |
| UniRef90-TOY3Q4 |  |
| UniRef90-KOIH73 |  |
| UniRef90 | T0N8J1 |
| UniRef90-UPI00032ADB83 |  |
| UniRef90-_12K2T9 |  |
| UniRef90 A8AC03 |  |
| UniRef90-G0ECG2 |  |
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| UniRef90-M3Z640 |  |
| UniRef90-ROMFS6 |  |
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| UniRef90-G4RLJ7 |  |
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| UniRef90-J9DA50 |  |
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| UniRef90-L9JGN7 |  |
| UniRef90-B3V5H9 |  |
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| UniRef90-Q813B0 |  |
| UniRef90_A3CT14 |  |
| UniRef90-F2E0A6 |  |
| UniRef90-S9VLU6 |  |
| UniRef90-D5U1Y7 |  |
| UniRef90-Q75ZW0 |  |
| UniRef90_F8QQK7 |  |
| UniRef90-JoLF17 |  |
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| UniRef90-C5FMB3 |  |
| UniRef90-SOAQA8 |  |
| UniRef90_D5E6R0 |  |
| UniRef90-F8AM74 |  |
| UniRef90-B5XDW7 |  |
| UniRef90_A2F2J0 |  |
| UniRef90-F7XMP6 |  |
| UniRef90-C6A177 |  |
| UniRef90-NOBD29 |  |
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|  |  |
| UniRef90 | UniRef90-UPI0003F14912 |
| UniRef90-A4FWA4 |  |
| UniRef90-U6ED27 |  |
| UniRef90-MOMQY3 |  |
| UniRef90-A2G442 |  |
| UniRef90-E3GZD6UniRef90-A6UQ61 |  |
|  |  |

SEFKRLMRVRQKMKKPKF LRQEWF HQSD LDDEVRRLLK DKNYMARKRFHRQEWF VKLGK KLDDELKKMLRRRDDKRRPRFGREEWF RPLVKPNKKRTKKFIRHQSD ELFDPKPLVEIKEAYRKNKKFiRHHSD RNPNLGSKEEERLEKLLREKRKKPKFRRQEWH

RS L M K P K K R R MEQF $\square \mathrm{WXXX}$ KSKKQFKRFQSW
RKIVKKRTKAFKRMHWD
AVPLLTRKIVKKRVKHFKRAHSD


M P S P A $\square K$ P

RPLVKPKKKRTKKFKWHQSD
AK $\$ VRKRNKRF $\square$ RHQSD HKRTKKFRRFQSD
VAKQKPVLDDATKSADEARKKKHPKKWHRHQSD EKPLLSKDEKRLLKIKNRMSRKRFRRQEWF SMDAEGKRLLKVRKKAKKPQFKRTDCH MDDKVKRLFKVRKKHKKPQFKRTESH MDPESRRLFNVRKKGKKPQFKRTCSH MAVPKPKMDARKKKPVIKKPK VVKKGHFKRFDSN LAARKKVKRPKF $\square R Q E S W$ MSNDKPK LTETEKKMLKRKNRMRRVEFRRQEWF

PRDTPK VVKKNTKKFKRHQSD
PEF R Y HWW
$\square R K R \square K S K K P L F L R H Q W W$
K V VKHTKKFKRHHSD
MD $\square$ KTKRLFKVRKKGKKPEFKRTDSH R PLVKPKKKRTKEFNRHQSD
$\mathrm{F} \square \mathrm{QHQSD}$
H Y $\square \mathrm{D}$
F $\square$ R H Q SA
WHRHHSD
TEAQASTEEKKKPTLTAEQQKMLK LRQLISRPRFDRMNSW AVIVLLMKPNKKRTKKFIRHESN PL VE $\square$ KKEFTKKFVRHESD
MARPRRELPKEVDALLK $\square R \square K M R M P E F V R V D Q H$ RHESE MADEK $\square R L I R A R N S Q R A T F K R Q G D S$

VAR RKPVLDEST $\square$ SD DEVAQKKKQPAFRRQEWF
RPLVKSK $\square$ KRTKKF $\square \mathrm{WH}$ QS D
TSRQKPVLDDATRAALDMRQSKKQPAFRRQEWF PRPVEKTELDLDEETRRLLGARKKASLPEFNRDDSH

DETRRD $\square R$ VRTRHNKPAFKRRGDH MVKSTPLLRKRIVKKRTGKFTRFQSD MSSDFERLLRLRSEMNKPEFLRHLWW HQSD
K $\square$ I KKRTKKFHRFQAD HKRKKAFRRHQAD
RP LVKPKKKRSKKFDRHQSD HKRTKKFKRFQSD KKHKNRFNRHQSD
KPLLTKEQKVLLKKKNEVRRVEFHRQEWF DAECKRLFKARKKSKKPTFKRAGSH PDFKRQEWF RPDKRPK VVKKKKF $\square R H Q S D$

HKKTNRFHRPQSD
MDEESKRLFKVRKKDKKPQFKRADSH
NEKVRLLKIRAKDKRPKF LRQEWW
$K P N D S P E R R L L K V R Q K A R K P E F R R Y E S H$
SFTKPNPLLLLKQEKGKKKEFKRYHSD RPLVKPKKKRTKKFM
AT L R P L LKPKKKRTKKF DRHQ
SEFKRLL KLLKMKQKRPEFKRQDWF
MRKPKFRRQEWH
RQDYH
HKKTNRFHRPQSD
KKRFKRQEYA
SEFKRLLKKKMKQKRPEFKRQDSH

## UniRef90 C5DQZ0

 UniRef90-A0A058Z5H0 UniRef90-HOYOVO UniRef90_14Y5R2 UniRef90 H8ZWX2 UniRef90-S9YIH8 UniRef90-FGBD83 UniRef90_H9TUY5 UniRef90 Q97BV9 UniRef90-M7T630 UniRef90 B2Y148 UniRef90 Q8SS18 UniRef90-Q8TW13 UniRef90-HOY2D9 UniRef90-K9IRK3 UniRef90-S7XKE0 UniRef90-A9V8P8 UniRef90-M8AA71 UniRef90-D7E8R8 UniRef90-UPIO003F0B449 UniRet90_F4PW03 UniRef90 F8QQ10 UniRef90-UPIO003F11607 UniRef90-TONKY6 UniRef90-E4XWH2 UniRef90-A7AMR3 UniRef90-W6U687 UniRef90-Q2QAR3 UniRef90_Q6L1B0 UniRef90-LOKXI4 UniRef90-Q4KTF2UniRef90_W9DSA8 UniRef90-Q8PV33 UniRef90-B0EEQ0 UniRef90-TOY3Q4 UniRef90-K01H73 UniRef90-TON8J1 UniRef90-UPIo0032ADB83 UniRef90_12K2T9 UniRef90-A8AC03 UniRef90-GOECG2 UniRef90-s9XP69 UniRef90-F1PFQ9 UniRef90-K4MD39 UniRef90-UPI0003DOE699 UniRef90-HOXJV9 UniRef90-LOPDE3 UniRef90-Q5DEE8 UniRef90-S5ZCT3 UniRef90-M3Z640 UniRef90-ROMFS6 UniRef90-M7T73 UniRef90-W2THY4 UniRef90-H1 YWP9 UniRef90_UPIO003675E9B UniR Refo- JgDA50 UniRef90-B3V6U1 UniRef90_L9JGN7 UniRef90-B3V5H9 UniRef90-D1Z0T8 UniRef90-Q813B0 UniRef90-A3CT14 UniRefofo-F2EOA UniRef90-S9VLU6 UniRef90-0752W0 UniRef90_F8QQK7 UniRef90-JoLF17 UniRet90-S7P4N5 UniRef90-171T43 UniRef90-C5FMB3 UniRet90-SOAQA8 UniRef90-D5E6R0 UniRef90-F8AM744
UniRef90 UniRef90-A2F2J0 UniRef90_F7XMP6 UniRef90-C6A177 UniRef90 NoBD29 UniRef90_L2GMQO
UniRef90_UPIOOO3F14912 UniRef90-S9Y0F9 UniRef90-A4FWA4 UniRef90-U6ED27 UniRef90-MOMQY3 UniRef90-A2G442 UniRef90_E3GZD6
UniRef9O_A6UQ66

R F R R $\quad 50$
RFKRVPESHRK QRGDD S CVVRKKFKGYPAEPKDGYGSNKKT RYNRLGRTWRKDRGI DSRMRRRFKGMAPQVSIGFGSDKAT
 RYNGLKKSWRKPKGIDDNAVRRRFKGTVVMPNIGYGSNKKT

 R Y K KL G D A WRKPRGKHSKLREHLSRRPP VVDAGFRSPAKV R Y K R I P R N WRRP D G LT S K MRR NL K Y R P S KV R VGFR GP Q A V RYDEVK QNWRKPKGIDNRVRRRFKGQF LMPNIGYGTAKKH
 RYKKL GEK WRRPKGRHSKMRRK LKK SKPKMPNPGYGSPKK V
 X Y VK $\square$ K H N WWK P R G

 $R$ YKCVDPSWRKPHGIDDGRFRRRFHGLQKHPKI GYGSNQQT $R \mathrm{Y} V \mathrm{~S}$ I G M N WRRPKGIDDSRVKGKFKGCTLMPNIGYGSDKKT $R L K R V P S S W R R P K G V N S K L R K G \square K A K G S L V K V G Y G S P E A V$
 RFKRMN QAWRRKPRGIDDGRVVRGKFKGTTLMMPSDGYGSNRKT
 QYVKI K WN WQKPRGNDNRMCRRFRGQULMPS IGYGSNKKT RFHRVDASWRKPRGDDSRVRRRFKGQYLMPSIGYGTKAAD RFKRVVKESWRKPKGI DCRVRRRFKGTVLTPKIGYGTDKRT $R$ R V R L G D K WRKPK GI DNRVRRRFKGQIRRMPNVGYRTAKRV $R Y R R L S R T W R K P N G L Q S S Q R L N R K Y R S P M A R V G Y G K V A A A$ RYKKFNESWRKPRGKHSK LRREHLGYRPPVVDAGYRSPAAV

 KFKKLDDNWRRPRGSQGKQRRKYAAKGALAQVGYGSPAAV $R F L R V K A S W R D P R G \square D N R L R R K F K G T N L L P K I G Y G S A K A T$ RYGKFDDSWRKPRGKHSKLREHQDWRPPVVDIGFRGPRET RYDRLAENWRKPKGKDNKMRKQKSGMPAIVKVGYRGPRAA RYKK LGDSWRKPRGKHSKQREHQARRPPVVDAGFRTAASV
 RFKRV DENWR LQ K GIDDSRIRRRRFRGTVVAPKIGYGSNKKT R Y F RLE R K WRKPK GND NK S R L Q L K G Y P P V V K V G Y R T P K E V
 R Y H RVGES WRK QK V L T L L L E E D S E GNI SEPKI G Y G SNN K T
 K YKRLDSNWRRPRGLRGKQRRHYKAKGALAQVGYGSPEVV

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 LY| R L G DKWRKPR G
 RYKRVVKPSWRRPMK G I D S S N V R K G L N G Q R RMP K I G Y G K P K C I
 R Y I R R E D S WR R P R G L D N K ll R Q Q R K G Y P P K V K A G Y R K P A A V R Y H R L K P N WR K P K G I D N R V R R R F R G M R A M P N DG F G S D K R T $R K K K L E D T W R R P R G L Q S K Q R R Q Y K A K G R H P Q P G F G S P K A Q$ $R Y$ V R L K P N WR R P R GK D S K M R L Q V X G WP P L V K V G Y R S P R K Y
 Q Y VK I K C N W Q K P R G DD N K VQ S R F T V Q I L IP N G Y R S N K K S $R Y R R L K T G Y R K P K G K D S K M R Q N R K Y R A P M A R G G Y G K V A A A$ K NK S L K V S WR K P K G H H S Q MRRRQRKAKGS L V K I G F G S PAA V
 RK A K L A DV WR R P R G L H N K Q R R Q F S A K G A LP R P GY G S P A A V
 K K P K F K P K WRK P K G I D N K M R R Q L K G FP P V V K I G Y R GP S L V R Y A K L S H K WR K P K G I D N R V R R R F K G Q Y LMM N I GYG S N K R T
 $R Y V K l K G N W W K P R G I D N R$
RFKR
E S WR K P K G I D
 R Y K K F D D S WR R P R GKH S K L R T H L G Y R S P V V GPG Y R T P R A V K F K R L D S N WR R P R G L Q GK L R R H Y V A K G S I A Q V G Y G S P K T V
 $R Y V K V K Q N W R K P R G I D N R D R R R F K G Q M L M P N G G Y G S N K R T$





 R Y K K L G E K WR K A R GK T S K T R RYEGRK P A MP T I GY C S P K A T $K K K R T P E S W R R P R G K L S K Q R K G V K G K G P T V E A G B R T P E A V$


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 UniRef90_A0A058Z5H0 UniRef90-HOYOVO UniRef90-14Y5R2 UniRef90-S9YIH8 UniRef90_F6BD83 UniRef90-H9TUY5 UniRef90_Q97BV9 UniRef90-M7T630 UniRef90 Q8SS18 UniRef90-Q8TW13 UniReffo-HOY2D9 UniRef90-K9IRK3 UniRef90_S7XKE0 UniRef90-A9V8P8 UniRef90-D7E8R8 UniRef90-UPIoo03FOB449 UniRef90-F4PW03 UniRef90 ${ }^{-}$F8QQ10 UniRef90-UPIO003F11607 UniRef90-TONKY6 UniRef90_E4XWH2 UniRef90-A7AMR3UniRef90
W6U687 UniRef90-Q2QAR3 UniRef90-Q6L1B0 UniRef90-LOKX14 UniRef90-O4KTF2 UniRef90-Q8PV33 UniReffo-BOEEQO UniRef90-TOY3Q4 UniRef90-K01H73
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UniRet90 K4MD39 UniRef90-UPIOOO3DOE699 UniRet90-HOXJV9 UniRef90-LOPDE3
UniRef90 A8E692 UniRef90-Q5DEE8 UniRef90-S5ZCT3 UniRef90-M3Z640 UniRef90-M7TT73 UniRef90-G4RLJ7
UniRef90 W2THY4 UniRef90-W2THY4 UniRef90_UPlooo3675E9B UniR Ref90-J9DA50 UniRef90-B3V6U1 UniRef90_L9JGN7 UniRef90-B3V5H9 UniRef90-D1Z0T8 UniRef90-Q813B0 UniRef90-A3CT14 UniRefolo F2EOA6 UniRef90-S9VLU6 UniRef90-Q75ZW0 UniRef90-F8QQK7 UniRef90-JOLF17 UniRet90-S7P4N5 UniRef90-I7IT43 UniRef90-C5FMB3 UniRef90-DOAQA8 UniRef90 F8AM74 UniRef90-A2F2JO UniRef90-F7XMP6 UniRef90-C6A177 UniRef90-L2GMMQ UniRef90_UPIOO03F14912 UniRef90_S9YOF9 UniRef90-A4FWA4 UniRef90-U6ED27 UniRef90-MOMQY3 UniRef90-A2G442 UniRef90_E3GZD6
UniRef9O_A6UQ66
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 RFRLKNGFYKFLVQSPADLEMMHNEKYAVEI AHNVGAKKR KHMLPSGFCKFLVHNVKELEVMCNKSYCAEIAHNVSSKNC KHMLCSGFRKFLVHNIKELELLLMCN
RHRCKDNFKRFVVNNVAELEMMNNRVFCAETAAAVSAKKR RHKLPSGYYKVVVNNPAEVDLMHNKTHVAEI AHSVSAKKR RHIHPDGFKHVLINNVKELEVMQHRTHAGVISRTVSRKNR RDLHPSGFEEVLVHRPEDLDGIDPSVQAARVGGTVGGRKR RGLHPSGFAEKLVYNVNDLKSINPDREGARI ASSVGMRKR KGLHPSGYSEDMVETLDDFSSLDANTVADRIAAKVGARKK RNQLPNGFYKFVVNNTQELEMMSNRRYAAEI AHTVSARKR KGLHPSGYAEVLVCTDSQLDDDNAEAEAVRISAKVGGRKK KGLHPSGYSDVLISSUAELELVDPSFEAIRIAGKIGAKKK RNMLPCGLYKFPVRNTTDLEMLMMRKYAAE:SHAVSAKKR RGLHPSGYTDNVVHNVAELARLDPKKDAARLGHTVGKRKR RGLHPSGFREQMVYTPSDLEKLDPMREAARIGASVGSRKR KHMLLSGFWKFLIHNTKEXWMCNKSFCVEMAHKISSKNR KFLLVHGQKVITVRNIKELDLMNNKLYAAEMAHKVSAKHR RGLHPSGLEPVTVHNVKELEKVDKEKHYVYIASSVGKKKR RGLHPTGLEPAVGNVKELDSLDPSRHIIYVAHTVGLRKK KFLTPSGHKTLLIANVKDLELMHTKSYAAEI AHNVSSKNB KPMLPSGFQKLLTHNGKELKVLDMCNHCAEI AHNVFSKNC KGLHPSGFSEILVNTVTDLTNLDASFQAVRI AAKVGGRKK KHVLPSGFRKFLAHNVKELEVMCNKSYSAEI AHNVSSKNR
 KHICPNGFKKFLVHNVSDLEVMQNRVFAAEI AHTVSSRKR RHI HPDGFKHVVIRNVKELEVMQHRTHAAVIAHTVARKNR RGLHPSGFEEVVVYNVEDLQNVDPKRHAVRIARTVGRRKR KHMRPSGFWKILV SSMCNTIHCTESAHSVFSKNH KHLLPCGLKKLRIFNVEDDDPMDNRVFCGETANTVGARKR RHLHPSGNEEVTVHNVGDLTIIDPETQVARI GGSVGTKKR RGLHPSGFVETLVRRPEDLEGLDPKDHAVRIAAGVGVRKR KFVLPCGYKKVLVRNVKDLDMLDMQRY GEVAHSVSAQSR RFLHPSGYEDVLVYNPADLEGLNPEVQALRIAGTVGNKKR RGLHPSGFREVLVSNRKELEGLDPRVHAVRISGKVGRKKA LLHTLPNGFRNALVSNVKELETLQNRFYCAT:RHSVGAKKR RGLHPSGFEEVHVHKPSDLEGI DPERQAVR\|GSRVGNRKR KHRLSSSFRKFLVHNVKELEVLDM
RGLHPSGFAEVLVHNSNELDGLDPEDQAVRTGAGVGNRKR RGLHSSGYEEILVHRPQDVQGI TRTQAI RVAGGVGKKKQ KFLLPNNKYKYVVKNVKEMEPMNHTKYCVQI AHNVSSKKR RGMHPSGYAEVRVFTPADLVELNPETQAVRI AGSVGNRKR KFFDPNGLKKFVVHNAADLNVMNNRTFCAEI AHNVSSRKR KYLTPSGFRGFPISNVEDLHMMQNRKYAGVI SRTVGAKKR RGLHPTGLLKPVVVHNVSELEGLINPATTIIYISGSVGLRKK RHMLPTGFKKFVVNNVKELEMMQNRVYCGEIAHGVSSKKR
 RHVLPNGMQKDRVANARDLEMSNKKFQAELAHSLSSKSR KHLLPCGKYKLTVHTPHEDVMHNKKFAVEIAHNVSVRKR RHMIIPSGHKVFLVQNPKDVELMHNRTYAAE
RGLHPSGFREVLVHNVNELSKINPDLEGARTASSVGYRKR KGLHPSGFVEVLVHNPADVEDIDASIQADRISGKVGGRKR RGLHPSGLEDVLIHNVKELEALNPETQGARVASTVGRRKK

 RGLHPSGYEEVLVYNVKDLELI DSKRQAARI AATVGKKKR RGYHPSGYDEVLVHNPKELENVDAETQADRI ASCVGLKKR KDLPCGLREVLVHNVKDLKALTNRRYCATVASTVGARTR
 RGLHPSGLQDILVNNVKELVALNPEDQGARI AATVGKRKR




| UniRef90_C5DQZ0 | $\text { VD\|I LTA R A K A\|L\|G\|V\|K\|V\|TN P } 140$ |
| :---: | :---: |
| UniRef90-A0A058Z5H0 | V GIV V R A K EL GIIKVTNPNA |
| UniRef90-H0Y0V0 | K A TV ERVA QLAVRVTS P |
| UniRef90-14Y5R2 |  |
| UniRef90_H8ZWX2 | ETLLKRAA QL NVVVVN |
| UniRef90-S9YIH8 | KAIVER A A Q L AI RVTTS |
| UniRef90-F6BD83 |  |
| UniRef90_H9TUY5 | K EIV V R A Q Q L AII LV TiN |
| UniRef90_Q97BV9 | EEI AKRCAELNI KVLN |
| UniRef90_M7T630 | $\square \mathrm{T}$ E Q K A D ELGIRVL L R N |
| UniRef90-B2Y148 | KQIVER |
| UniRef90_Q8SS18 | $\square \mathrm{A}$ IV NRAK E L G D C L N G N A |
| UniRef90-Q8TW13 | QEIL L K A ELGI VVLN |
| UniRef90-H0Y2D9 | K A I GERTA QLAI RVINP N |
| UniRef90-Q9U5S7 | $K E \mathrm{I} V \mathrm{~V}$ R A K Q L S V R L T N P N |
| UniRef90-K91RK3 | K A TVVE GAA QLA SRLTGPNA |
| UniRef90_S7XKE0 | $\square E \\| L E R A E E L G I L V D N$ |
| UniRef90_A9V8P8 | RELVTTRAA QL NVKLTN |
| UniRef90_M8AA71 | K DIV ERAA QL DIIVVTN |
| UniRef90-D7E8R8 | TMM EEKA A ELGI KVLNPSRGE |
| UniRef90_UPI0003F0B449 | K A TVVEMTARLAVRVTSPSA |
| UniRef90-F4PW03 | K A IV E R A R EL DI K V T N A N |
| UniRef90_F8QQI0 | K EIV E R A D Q L K L F V T N |
| UniRef90_UPI0003F11607 | K A 1 VER A A Q L A I RVT NPNA |
| UniRef90-T0NKY6 |  |
| UniRef90_E4XWH2 | KEVVERAA QLDVVHVTNKNA |
| UniRef90_A7AMR3 | RVIV DRAKKL GI K V T N |
| UniRef90_W6U687 | VKIVER A K EL N I R I V N P N A K |
| UniRef90-Q2QAR3 | V LI H E R A D EL GI R V L N R R R |
| UniRef90_Q6L1B0 | K EIIE E E A D NLGI HVV F N |
| UniRef90_LOKXI4 | A M I EEEK A V L L G K L L P S R S E |
| UniRef90_Q4KTF2 | R T I VER |
| UniRef90-W9DSA8 | ALI EAK A A E L S $\square \mathrm{K} \mathrm{V}$ L N P T R G E |
| UniRef90-Q8PV33 | ALI I A K A E A GI KVLNPGRSE |
| UniRef90-B0EEQ0 | QEI I Q R A K L N I R V L N |
| UniRef90_T0Y3Q4 | K EIV EKA D EL NI RVLN |
| UniRef90-K0IH73 | TEII A K A N ELGI K V L N |
| UniRef90-T0N8J1 | EMIEEEKAAELNI RVLNP |
| UniRef90_UPI00032ADB83 | RAFVGRAA QLAMCVTSPS |
| UniRef90-I2K2T9 | V T L L A R A K A I GVVKV T N P |
| UniRef90-A8AC03 | AEI I R R A Q L L GVRVA |
| UniRef90 G0ECG2 | LQ I V E EARKRGFRVA N |
| UniRef90-S9XP69 | K A TVVEK A A Q L A T RVT N P N |
| UniRef90_G8BTD6 | V T I L S R A K A L GVKI T N P |
| UniRef90_F1PFQ9 | RTSAGRAAQLAI EVVNPNAS |
| UniRef90-K4MD39 | A IIQ A K A Q ELGLKKILNP T R GE |
| UniRef90_UPI0003D0E699 | K A V ERAA |
| UniRef90-H0XJV9 | K A V V K |
| UniRef90_LOPDE3 | ILI A E K A M K L G VK LT N |
| UniRef90-A8E692 | K T I VER |
| UniRef90-Q5DEE8 | V K V V R A K Q L S $\quad$ R V V N A N A |
| UniRef90_S5ZCT3 | A EII K K E EI GVVRVLN |
| UniRef90_M3Z640 | R NTI A R T A Q L Al R V A N P T |
| UniRef90_R0MFS6 |  |
| UniRef90-M7TT73 | 1 NIV R E A D L R Gli R V L N |
| UniRef90_G4RLJ7 | $V E \\| L K R A Q E R G F Y V L N P$ |
| UniRef90-W2THY4 | K A V V R A A Q L N $\square \mathrm{K}$ LTN |
| UniRef90-H1YWP9 | FEI QAKAEGLGGKVLNPKED |
| UniRef90_UPI0003675E9B | LEI Y E A A T Q M G L R V L N P |
| UniRef90-J9DA50 | I A I VNR A K ELDDI HVTTNETARLV |
| UniRef90-B3V6U1 | A Q IH D R A D DLGLRILLNRRR】E |
| UniRef90_L9JGN7 |  |
| UniRef90-B3V5H9 | S R I H D R A D D L G L R L N |
| UniRef90_D1Z0T8 | A EI EKA A K EL NIM K L N P T F E EV |
| UniRef90-Q8I3B0 | K Qi $\mathrm{I}_{\text {E R A K Q M NV SVI N A K A }}$ |
| UniRef90_A3CT14 | GAI QERALELLGLKVLN |
| UniRef90-F2E0A6 | A EIVVKRAQQI RVVKI TN |
| UniRef90_S9VLU6 |  |
| UniRef90-D5U1Y7 | VEI F N A A S S K G F RVANP P R $\square$ |
| UniRef90 ${ }^{-}$Q75ZW0 | K E\\|V |
| UniRef90_F8QQK7 | K Q IV E R A D Q L R L H V T N |
| UniRef90-J0LF17 | VA ML A R A H A L Gli T V T N |
| UniRef90-S7P4N5 | K A I A E R A A Q L Al R V T N P N A |
| UniRef90_17IT43 | RAIILERANQLALLTVLNKSARLV |
| UniRef90_C5FMB3 |  |
| UniRef90-S0AQA8 |  |
| UniRef90_D5E6R0 | ALI ES K A D EMGI K I F N |
| UniRef90-F8AM74 |  |
| UniRef90-B5XDW7 |  |
| UniRef90-A2F2J0 | QEI I K K A Q E L N I I L N Q A R K HV |
| UniRef90_F7XMP6 | SLI ES K A M D I Gli K I L N |
| UniRef90_C6A177 | 1 M I DE R A R EL Gli K V L N |
| UniRef90-N0BD29 | L M I ED K A K EL Gl K I L N P S |
| UniRef90-L2GMQ0 | $\square E \\| V N E A K \square L G G H V T N$ |
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| UniRef90-S9Y0F9 | K A l VERTA |
| UniRef90_A4FWA4 | \EIVVKKANELG\RVFN |
| UniRef90_U6ED27 | EL MLLQK A K ELGGI K V L N |
| UniRef90_M0MQY3 | ERI EEQAEEQGVRVLNPTYEEV |
| UniRef90_A2G442 | QEI I NKA Q ELDI QI L N E S R K |
| UniRef90-E3GZD6 | ALL L E K A K L GIIKVLNP |
| UniRef90_A6UQ61 |  |


 PENSERKMVKP I HK K T NK K G R K K Q S D RFQSE
VK VVKKRTVSFPRFQAD MASE $\square K K$ LI KA RGAK K SSSRAARRQCLDQ

A TLLRPLVKPKKKRTKKF IRHRSD K A E LD N D G K R LL L K $\quad$ KR N R M K R P E F H R Q E W F PRPDVEKSTLELLDEETR RLLLNARKKA S LDPK FHR日DA H $R$ RLAKPKlKRTKKF IQ HQSD


 $R P$ L V K P K K K R T K K FI I R H Q S D RPLLK P K K K R T K K F R R P Q D

KD L L A K REKENKPDFVRPESW MS KKR LM RLK LKKMKQKKPDFKRQEWF

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A R P VEP S T L E LDP P E T K R L L A A R K K A S L P S F NR D D S H

 MS DVIKPSLTK E EK KLL K YK LIERARKRFRR QE WF ERLLRVRQKSKKPEFNFHDSH MTSERERLMKVRQKKRKPEFNRCDSH HKRTKKFRRFHS D
 MSDPK QAMS KE R R R L Q K S I K K K D K P K F L R Y D W D K R L MK L RKK K K R P SF RR VES W
 SEAVTRARPAELLRQRRLLLQFKDSRKLDRVRFARYLSW
 MT TE TK R L I $R P L V K P K Q K W T K K F \| R H Q P D$ K A R KPVFLRNLWW
 MS DTLDRLL RLRAEMNRKRF LRRHLWW


 N K E K L A L R E E I K G K N P D F V R P E S W MATEVKRLI RVRVEKGARFKRDGYG




P Y YFRFQWW QKPKKPNFKRQEWF K IVKKRSKHE IRHQS D


KQQPKFRRQEWF
ASGETPKETVESVPEKRAKRKP $\square$ SRHRPPHFTRMNDW FKREDNH $K \square S K E Q \square R L L K V R R K S K K P E F R H F A W R$
$R P$ L VK P K I VK K
RTQSD
MA A L Q P LVKKLK VVKKRTKKF $\square R H$ QS D
K A RKPEFRRYESH PEFLRHLWW
 K R Q S T H
TPALRVKPVHKRDKKFRRFDAH
 $M Q V E T K R L I D R R S E \quad R R A R F K R D G Y G$


## UniRef90 J1L1B5 UniRef90_V6LBG8 UniRef90 S9UC22 UniRef90 V6TD83 UniRef90_B1Y8V4 UniRef90-D8LZF3 UniRef90-A2SPL9 UniRef90_S9W2S5 UniRef90_G3I089 UniRef90_T0MN70 UniRef90_H8IAJ7 UniRef90 L9K2X UniRef90-J9P3D5 UniRef90-T0MYJ8 UniRef90-L2GUR7 UniRef90-A9J5T5 UniRef90-B3T587 UniRef90_UPI00033326C6 UniRef90_I3LV37

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UniRef90_A0RUF7 UniRef90_L5M8H2 UniRef90_H0AA72 UniRef90_D2VI61
UniRef90 E0SPZ4 UniRef90_E0SPZ4
UniRef90_B8GKF0 UniRef90-A9BKG8
UniRef90_A4YCY3
AKKKlL 50 $\begin{array}{lll}\text { Q F K R V } & \text { G A S WRK P R G L D S }\end{array}$ $R F$ VRVK P S WRKPRG GD S PMR HQYR GQRPMVS IGYGS DKET RYKRIEDS WRNQRTI DNK DRRKWKGWPKPVEVGYRKPAA V KFKRMNQHWRKPKGID GRCRRRFRGAT LMPNGGYGSDATT AKVKLA DSWRRPRGLHSKQRKDYRAKGAHPEAGFGAPKA V LCVVKI K Q NWRKPRGI D N
Q C V K I K R N WR K P R G $\ddagger$ D N R V Q R R F K G Q $\quad$ LM P N $\square$ G Y S S N K K T
 K K K K L A LS WRKPRGHHCKMRRQ $\square$ KAK GS IVVVVGFGSPAAV RYVKI K C S WRKPRG GD NRVWRGFKGQTSMPSVGSRSNKK R YVKIKKRNWQKPRGTDNRVCRRLKGQQLMPNIGYKSKKKT RYKKFGE EYRKPR GYHSKMREHLARRPPVVD IGYRGPKAV RFKRVKPSWRHPRGIDNRVRRKYRGTDSMPNKGFKTAGVI R Y K R V K P S WRKPKGID N CVRRRRFRGCRRMPN\|GYGSNKKT
 R Y $\begin{array}{llll}R & K & K \\ K & K & K \\ K\end{array}$

FK G Q I LMPN I G Y G S N K K T $R R R F K G Q L L M P N I G Y G N N Q K T$ $R$ Y V R L Q T N WR K P K G D D H H Q R K Q K R GR P G L V K V G Y G G P K D A K CKRI GTSWRRTKGLHSSMRKQLTHRSAIVKIGYRSPVEV K F F R L G R K WR R P Y GRD N K T R L K V R G F P A VV SVVGYRILPKEV
 RYVKI K CNCQKP DGIDDRDVHRSRARSCCRSNKKT K K KTI S D S WRRPRGLHSKQRKQRKAKGPHPTPGYGSPLAV
 $R Y K K L G D K W R K P R G R T S K M R R Y E A G K P D M P A G G Y G S P K A S$ $K K \square K L S A S W R R P R G H H S Q F R R G K K A K G A K V K I G Y G S P A E V$ D F GKL R S S WRRPRGGD NRVRRRRRGQRSMVKIGGGSDKAT
 R F K R V G T S WR K P R G ID N RVR K K Y S GA IQMMPRVGY GS DK T T K L R L R D K WR R P K GLLH S K WRERYGGGKWS L V N V V G F G S P K A V K K K KL GTS WRKPRGLDHNKLRQHIVAKGRVVQPGFGSPKAV

 $R Y V K I K C N G Q K P R G I D N R V Q R K F K G Q D F M P N D S Y G S S K K T$ K K P K F K N K W R K P K G I D N K V K H Q
 RYYRI GRSWRRPRGLQSKQRRHYGYRSVIVRVGYRSPAKV RYK RLASS WRKPK GVVNHQRKKFRGRPGLVKVGYGGPK SA

 TKPQLSDSWRKPRGQHNKQREQKKAKGNLPKPGFGSPDAV EVVK I R S N WREPRSTNNNRVHRRRKRR IVTPNPGYGSNKKA K F P K F K P K WR K P K G l D N P M R L R L K G R P P I V E V G Y R S P A A V
 KKAKFDPKWRKPK GI DNKMKHQLK GYPPIVVKVGYR GPSMV K VKRLEDSWRRPKGVDNKMRLKRKGWPVLVSIGYRK DKKV KF RAI GNRVQTGFQGQILMPNIDYGSNKKR K VKR LDE D S WR R P K GLDD T KMRRLKRKGWPPVVNIGYRK DKEA RFWKFERRWRKPKGNDNKMRLQLKGYPPIVVVGYRTPKA I

 RYKR L E T T WR K P K G I D NH QR K QK R GRP GL VK V GY G GP K I A $R Y$ VKI K R Y WQ K R II D S RA GRRFKGQILMSNI K QK H R Y GKI K P N WRKPRGI D NRVVRRRFKGQILMPNIGYGSSKK T
 RYKRI GEKWRKPRGDDSCI RRKFKGKPAMPNDGYGNNCKT
 RYKKL G DKYRKPKGKTSKRRRYEARKPAMPSIIGYRTPKNI

 R Y K R L S R T WK K P R G DD S S QR K N R R Y R S P M V R G Y G K VA E V QF K R L E DVWRSPRHLDNK DRLQRKGFPPMVKVGYRGPRAV KKESVVPESYRKPQGSHSRSRLKKKGAMPMPEAGYRTSKDD TKLLL R R GWRRPR GRHNKWRLR IGGGWSHPSPAFSSPK LV I KIVK Q S WRK PR G $\quad$ K $\quad$ K RCVKTK QNWREPRGTDNRGRRRPRGQILMPNAGYGATSK

$K K L R L R D K W R R P R G R H S K L R Q R Y G G K W S L V N I G F G S P K A V$ K K P K F D P K WRKPKGTDNKMRLKKKGYPPLVEVGYRGPKLV RCVKIK Q NWWEPRGTDNRARRRFKGQDLMPGIGYRSNRKT RYKRI K P A WRKPK GVDNHQRKQKRGRPGLVKVGYGGPRAA $R Y$ VKI K R N WQKPRGTDNRDRRRFKGQ\|LDPSIGYGSNKKT K N K RI NT S WRKP Q GK H S K QRLLKRKS A P QMP EAGLRTP KEE




UniRef90_J1L1B5 UniRef90-V6LBG8
UniRet90-S9UC22 UniRef90- V6TD83 UniRef90-B1Y8V4 UniRef90_D8LZF3
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UniRet90 UPIOOO369BE2D UniRef90-I3MSD9

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 RGLHASGYEEVLVYRPEDVQGL SKRQADR】ARTVGRKKQ QHMLPSGFRKFLVHKDLEVLLMCSSF KPMLPCGF PGLNVKELEVLDMFKDC PRCLLKNC RYLHPSGFMEVLVHNLKEIGGLNPEREAARTSSTVGRKKR KNLTPDGYRKVMVSNVRELEASLNMYYCAEIRHGVGAKKR KYTCRDGYRKFVVRNVKELDMLLMQSHKAE!AHSVSAKKR
 KHLDPSGCRKFLVHNVKEFEVMCKKPYCAEI AHNFSSKNR KHMVPSGFQKFLIHNIKEREVMCNKSHHAEIAHYDSSKNC RGLHPSGFTDNLVYNLNDLEKLDPKKDGVRFGHGVGTKKR RGFHPSGLURVIVHNVNDLVKVQNQKDIVTIASSVGFKKR
 RGMHPCGLKEVRVFNLNDLEGVDPDTHADRIAATVGRKKR RGLTPGGFRPVRVETARSVEGLNPKRDAAIIAHGVGVRRR RNLHPSGYKDVLVHNMKELENLDPATEAARISSSIGNHKK RHMLPNGFKKFLVHNVRELEVMQNRVYSAEI AHGVSSKKR NGFHPSGYQEVLVHRPEDVKGIDA KTQADRIGGTVGRKKQ KHLLPNGFKKFLVTNLQDLEVMNNRQYCGEVAHNVSARVK RGI HPSGFDEVIVHNPEELSRVNPETQADRIASTVGVRKR KHILPSGFHKFLI HNVKELKVMCNKDYCAEI AHNVSSKNR RNL VDGFRKVQI RNMDDLLAIQNRFYAGE!AHSVGAKKR RGLHPSGYEEVLVYNVKDLEKVDRERQADR\|ASCVGMKKR RGYHPSGMAEIRVNNVAEL AAAQGCAVRIASAVGMKKR
 K H M L P S G F R K F L V S S V K E L D V L L C N K P Y W A E I A H N V KHTLPGNFRKFLVLKVKELEVLLMCREQV
RGLLP G GlLEPVVINNPRDLEGLDPARYIVYTGGSVGLRKA RGLHPSGLLPIIVRNMKELESLKGKQDIVYI ASTVGLKKR RGLHPSGYDEVLIFTFDDLKNLNKNKHAlKISGKLGAKKR RDLVPSGFRPII I RTTGELEKLDATKEAAII ARTVGTRRR RGLHPSGFTDNLVHNLVDLQRLDPKSDGVRIAHSVGTKKR
 RGMHPSGFFEVLVFTEKDLENLDVKTQAI RISAGVGARKR KHMLPGDSRKLLNHNVKELEVADVQHVALHRCGHCSHVSS RGLHPTGLQPVTVSNPAELDRLDPARHAVYIASGVGLRKR



 RGRHPSGLDPAVVSSMKDLEGLSPSTHVVYISAKVGLRKR RGMHPSGFFEVLVSSVKELEGLDSKTQAVRISATVGDKKR RGLHPSGYTDNLVHNUTDLEKLNPKTDGVRLGHSVGTKKR KHILPNGFKKVTVRNVKELEMLMNKRFCAETNHA
RNVLPCGFRSVVVNNVGELEMMHNRTYAATVGKSVSSRVR KYMLPSDFRKSLVHSVKELDVMCHRSHCAEMGSVSRVR RNLV LGKYFKVKI SNVQDLNILLMRTHVGQDAKNVSQKKK RGLLPNGKKPVLVHNDEELEKIDKEKECADIASNVGKRKR RGLHPSGYRDVLVSNLKDLENLDPLTQAGRUSATVGARKK RHMLPTGFKKFLVHNVRELEVL LMM Q
RGLHPSGYEDVLVYNVKDLEKINPEKQATRTASSVGMRKK YHYLPNGFKKFVVHNVKDLEMMHNRTYCVKISHNVSTRKR RGLHPSGFEERLVHVASDEEGMDPEREAVRIAASVGNRKR RGLHPSGFEEVLVSSVKDLLGLDPAKHALRISAKVGKKKR RGKHPSGYEEVLVHNTSDLEQI DPETEAARIASKVGGKKT
 RHMLPSGSRDRSVATAKELEVLCNKSYCTELAHNVSSKNP K HiL KHULPSGFRKGTQHEVRNLEVSLI RGLHPSGKEDVLVYNPQQLEGIDPTRQAVRIAASVGMKKR RGLHPSGLLKPVIHDPKELDRLDPNMH\|LYUGRTVGLRKR

KPILPSSFRKFLVYTVKDISVLDPAT
RGLHPSGFEDVLVHRPEDLEDLNVEEEAARTGSTVGGRKR RGDRKTRLIPYVVANAKDLEVMHNNKYAAVISAKTGAQKR RNDHPSGLIPYRVSNDKELEALDPRKHAIYIASSVGTKKR
KNFLKNGMFKVKIENDRELKAMSNKKGSIVEVSKKRISNKKK

| UniRef90 J1L1B5 | $\text { GE\\| QQKA } \square \text { A A G\|L K } \mid V \square \mathrm{~N} \quad 140$ |
| :---: | :---: |
| UniRef90-V6LBG8 | QVLVQKCQEMGIHIMNGKAK |
| UniRef90-S9UC22 | K AIV VRAHELDVRLLNGNAK |
| UniRef90_V6TD83 | KQILEEAKKMGVRVLNADAK |
| UniRef90-B1Y8V4 | LEIVKKARELGFYVLNPGR |
| UniRef90-D8LZF3 | MEIVKR |
| UniRef90-A2SPL9 | SVI QTKAAELGTKVLNPKEAKV |
| UniRef90-S9W2S5 | KAl VERAA QLA LGVPVP |
| UniRef90_G31089 |  |
| UniRef90-TOMN70 |  |
| UniRef90-H8IAJ7 | EEIEKVAKELNUKVLNP |
| UniRef90-L9K2X4 |  |
| UniRef90-J9P3D5 | K A I IERAAQL |
| UniRef90-TOMYJ8 | EVLEGRADELGTRVLN |
| UniRef90-L2GUR7 | IEIVSKADEYNI LVTNR |
| UniRef90-A9J5T5 | REIVERAKQlSIKVSNANA |
| UniRef90-B3T587 |  |
| UniRef90-UPI00033326C6 | KAIVERAAQLAI RVTTNPA |
| UniRef90-13LV37 | K A I VERMAQLAI |
| UniRef90-J9NUW6 | K TI VERAAQLAIRTVTNS |
| UniRef90-K0B9M5 |  |
| UniRef90-A6UWV5 | \DI I KRAEELGDKI F N $\square$ SKKK |
| UniRef90_C3N5U4 | LEILNKARELGLK K V S |
| UniRef90-F4B8E8 | LEI I K K A $\square \mathrm{E}$ MGI K L A N |
| UniRef90-D2H319 | KAI AERAAQLANRVTN |
| UniRef90-Q2FSG6 | EVVQNKAAELNDRILN |
| UniRef90-TOZLS9 | LVLEELARRRGLKVLNP $\square$ F K E |
| UniRef90-R9SM44 | VMMLEKASELGI K K L N |
| UniRef90-Q56J77 | KLIVERAKQLAI AVTNPN |
| UniRef90-Q0W1X1 | LEI EK $\square$ A K E Q Ni K V L ${ }^{\text {P }}$ |
| UniRef90-G0QVF6 | AQI VKRAAELGVRITNGNAK |
| UniRef90-A8M915 | EII REAVR RGI KVLN |
| UniRef90-S9XNY4 | KATVETAAQVAIRATNSNA |
| UniRef90-A0A059F2R9 | IELEFYKAAELDI KLLYN |
| UniRef90-D2RE49 | LAI EEKAKELGI KVLNP |
| UniRef90-TOMZS7 | EII EEKAKELKVRVLNPRVE |
| UniRef90-F4BZU6 | LDI QAKAAEMGLKILNP |
| UniRef90_G7WMR0 | DEI EAMAREMNLKVLNPTA |
| UniRef90_Q4N393 | RVVLLD R A $\quad$ K L GVKVLN |
| UniRef90_UPI0001D542BA | T Al】 ${ }^{\text {a }}$ |
| UniRef90-L8YD24 |  |
| UniRef90-13XT63 |  |
| UniRef90-UPI00037E3B8B | MEMVSKAKELGQRLAN |
| UniRef90-X1J203 | 1 VLT ¢ Y CQKRGFKI L N |
| UniRef90-TOZZS6 |  |
| UniRef90-V6ARS3 | LEIVAKATEKKFKI F N |
| UniRef90-V4JCS0 | LQI LDEAKRRGFRV |
| UniRef90-E6N5F1 | QEVFEAAKSRGFKVLNPPAKQ |
| UniRef90_I3TDD0 | \EI Y RAAVAKGFKVANPPAV |
| UniRef90-A715Q6 | KALQEKAAASGDKI LINARVIK |
| UniRef90_UPI00042C0779 | KATAERAARPAIRVTHHNA |
| UniRef90-A2BMD6 | LEIIEKAK |
| UniRef90-LOACM3 | VELLKVAKEKGFKVAN |
| UniRef90-TOZLC7 |  |
| UniRef90-E8RAM3 | I EI Y K L A T GKGFKVANPPR |
| UniRef90-UPI000369BE2D | IKI IEECNKLGDKVANP |
| UniRef90-I3MSD9 | QAI I ERAAQLA SVTNPN |
| UniRef90_UPI0003806134 |  |
| UniRef90-Q9YF92 | QEI RRAALERGFRVAN |
| UniRef90-D9Q2T8 | LQL Le ELRRRGFRVAN |
| UniRef90-F3KMG1 | KEI MAKALENKFKI FN |
| UniRef90-LOHHX2 | VALQEAALA A G L K V |
| UniRef90-B3TBX6 | KAIVIK S I EKKFKI F NARVSE |
| UniRef90_D3ZK70 | K A I VERAA Q $\mathrm{C}_{\text {A } \square \text { R V A N P N A }}$ |
| UniRef90-A9QQ72 |  |
| UniRef90-B8C9W9 | R E $\square$ |
| UniRef90-G1QFQ4 |  |
| UniRef90-F2HHP7 | RA L L EKAKKMD\K\LN |
| UniRef90-R1E4K4 | EQII NRAKELNI EI FN |
| UniRef90_F0TB92 | A NMLERAKELKIKILN |
| UniRef90-E5KBU2 |  |
| UniRef90-N6VQL6 |  |
| UniRef90-K7MCI8 | KDIVERATQ |
| UniRef90-Q673R1 | MSI HDRADDLGGRVLNRRR】E |
| UniRef90-A1RWR9 | GEI IKKAEELGFRILN |
| UniRef90_G0QF30 | EQIVEKADQEEIKVLN |
| UniRef90-D3RXU9 | LQI EEKAKELNIVILNPT |
| UniRef90-D2HRF6 | TAIAERGAQLAII |
| UniRef90-UPI0003EBC741 | K A T |
| UniRef90-D4ACC7 |  |
| UniRef90-S9WSQ7 | K A V VERAA QLAVGATSPSA |
| UniRef90_F2KST4 | LMI EEKAKEMGIVILNPT |
| UniRef90-A3DNC4 | $\square E I M R \square A S E K G F K V A N$ |
| UniRef90_S9YQS8 |  |
| UniRef90-A0RUF7 | K $\square$ DA A F A VE K K F K $\square$ F N A R V S |
| UniRef90_L5M8H2 |  |
| UniRef90-H0AA72 | EMLLEKAEELDVKVLN |
| UniRef90-D2VI61 | KQIVERAKELDIGKVLNATA |
| UniRef90_E0SPZ4 | LEI IS KAREKGFKI AN |
| UniRef90-B8GKF0 | EVI QNLAREAGLKI L $\quad$ NP |
| UniRef90-A9BKG8 | KKl VDLALIMDIKI NNP |
| UniRef90-A4YCY3 | LIEII I S K A K E L G F R\|V|AN |

KE $\square R D K K \square K Y N K \square$ L $\quad$ EFHRYNWD
KKRSRKFTQHQSD $K \square Y R \square K L K H K S L L P E F K R Y D W D$

MTKPAKKNMKKF LRFDWD VKIVKKHTTQFKRHQSD KRIVHKRTKRFVRFESE
ATLRPLVKPKKKRTKKFILIRYDWD KKHKTTFARHQSD KRRRVKFARYGWW PEFKRHLEH


 KADKKRTVQHHSD $R R L V K P K M V K K K K F I$ WRQS D LVKPKSKRTKKFIQHQSD

K IVKKHRKSWRRHQSD
$R P L V K P T \| V R T K R F \square R N N Q T$
DA $\square R$ P LVK PK $\square$ VKKKKF $\square$ WH Q S D

PE I I R HRSD
M $\square \mathrm{K}$ L K K T K K N F K R HEAK

R P C VK P K K K R T K K R $\square$ WHRAD
RPDMKHKFTHEEFDRPRSD
 KKKTHPKFNVPNYG

K S F LKHNSK

UniRef90＿F4G1P5
UniRef90＿Q2NFX4 UniRef90＿－Q74MV8 UniRef90＿A0B9V3 UniRef90＿L9KNB7 UniRef90－11IRH8 UniRef90－L8B456 UniRef90－J7G6E4 UniRef90－V4Y1V8 UniRef90－A0A031LME1 UniRef90－L5M2X7 UniRef90－H2C6I6 UniRef90－B7PKC0 UniRef90＿O05638 UniRef90＿B6JYB9 UniRef90＿A0BCQ6 UniRef90－TOMC83 UniRef90－P34040 UniRef90＿D1JIG4 UniRef90－10A016 UniRef90＿D2HHA1 UniRef90－M3YXS4 UniRef90－UPI000332EF93 UniRef90＿B1L783 UniRef90－UPI00037197A6 UniRef90－UPI00046B6661 UniRef90＿S9WDX1 UniRef90 L9KMU1 UniRef90＿G7YBY8 UniRef90－S9WFM1 UniRef90＿UPI0003AE51A0 UniRef90 S7MY38 UniRef90－Q4PMB0 UniRef90＿UPI0002C57620 UniRef90 G0QB93 UniRef90＿TOMD72 UniRef90－Q1RQD0 UniRef90＿HOWDD7
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UniRef90_T1CIH7
UniRef90_Q3LWI6
UniRef90-UPIOO03338212
UniRef90-L5LVK6
UniRef90_TOZBU0
UniRef90-D2EG39
UniRef90_UPIO003512FEB
UniRef90-L9L4T4
UniRef90-UPI00038C2483

50
60
70
80
K Y Y R｜L｜ERQWRRTRGQDNKTRLLIUJKGFPKPVVM｜I｜GFRAPKS\｜ RYKKLGDSYRRPRGKDSKRRRYQARKPAMARVGYGSPKAT RKKRNDPKWRWGHGRDNKFRDKMKGKPRPPEPGYRSPRKV KKARLGESWRRPRGLHNKLRQQVRAKGRLVRPGFGSPRAV RYVK IKHSWWKPRGTDNRVWMEET QGPDLDAQHRDQQEN
$R Y$ IGLK T S WRRPKGDDSRVRRKFKGCTLMPNIGYGSDKKT RYCKLKRNWRKPKGI DNRVRRRFKGQYLMPNI GYGSNSKT RYDRLKKSWRKPKGIDSCVRRKFKGKTLMPNIGYGSDKKT RY L RVAHHWRRPRGNDNKIRDEDKGYPKRVKVGYGKPRLT

KKRTPESWRSPTGTLSKQRRGMKSRGPKVAPGFQSPKAA RYFK LERKWRHPRGDDNKTRDGDRGYPKLVKDGYRKPKN PHVKIKRNWQKPRGTDN
K Y Y RLERQWRRTRGQDNKTRLKVKGFPRPVSAGYRTPKVV P NWRKPK GDDNRVRRRFK GQYLMPNDGYGSNKKT KYYRIGRQWRKPRGIDNAI RLEDKGYQPKVKI GYRTDKQ LI NFKRVSESWRKPKGI DGVVRRRFRGTDRMPKIGYGSNKKT DYHKLRPSWRRPRGI DNRVRRRFRGNRPMPKAGYRGDKKT KFYRI GRTWRKPKGIDNPVRDEDKGYQPKVKDGFRSPRE RYVKI KRNWRKPRSTDNRVHRRFKGQULMPSISYGSNKKT RFDRVGSSWRKPKGDDGRVRRRFRGTIVMPKIGYGSNKKT KKKKLSKSWRRPRGHDNKVREHRGGKPAWVQVGYRRKKED
 QYVKVKHNRWKPRGTDS
KYFRLERT WRRPRGDDNKTRDHLKGFPKLVSSGY TYVKMNDNWQKSRGI YSRAGRRLRDQDLMPSVDYGGNKKP RCVK $\quad$ KKHNWQKPRGI NDRVRRRF WMPEV PGPRRHGAR QKLGATKSWRRPRGLDNKQRDK LKSRPKQPNDGYKNPDED QRVQMK Q T WWKPRGII DNK LICAMQAG QDVK CCIKIK GNWQIPRDIDYR
LIFKRLGDKWRKPKGIDNRVRRRFKGQVRMPKVGYGSAKRT MKRNWWKPRGADSRVRRRDMGRILTPNTGCGSNKKT STCRNEVQRQQPRGTDNRVRRRFRGHILMPNTGYGSNRET RCVKMK QNWRKPEALT

MPNIGYGSNKKT
RYVK TK HNWWKPRGSDDR
KKPSVPDSYRRPRGHHSRSRQKRKGAVP LAKAGRRGKKET MPK KGYKKPD IV
MKTSWRKPGG DDNRVRRKCGGT $\quad$ RMPGAGYGSNRQT LCVKIQHDGWKNRGVDSRARRRFQARNLMPSAG SSRET VSANWKRWT GTQNSVKPFFKASQKLSAKASRSSKKT KYKR】NAGWRKPKG】DSCVRRRFKGKTKMPNDGYGSSKKS MPS GQASNKKT QHVK $\square K R T$ WWKTRGDTACWAELLP $\square Q A \square T \square H S N T R D P K$ NWQKPRGDDNRMQRRFKSRFLMPHCGYGSNKKR RRDTVKRVQR MCDGYGSDKK】 LT QSVNEVW EPRGDNNTVWRRFEGQULMPSIGYEDNEDN TKKRVKDSWRKQRGI DNKKRDKKDFMGAEPNIGYGNPKKL
 SLIDIKKKWRKP KLRGPDNRVWRRCKGQTLMPTTGSRTPRTC
SRKGVKDRWRKQTGKDNKKRKKLAHAGAEPTIGYRNMEGV KLKRLGSSWRKPTGTKNKTKVGKKGHNKMPSKGFMSPVSK LCVKI KSNGRRPRGVDSRAQRRFQAWTLMPSAG SSRET RYVEIKCTWKKTRDID KVHKRFKDQULMMTTGHREQQEN
lupas＿21
lupas＿14
lupas＿28
jnet＿
conf
sol25
sol5
sol0
jhmm
jpssm


UniRef90_F4G1P5 UniRef90_Q2NFX4
UniRef90 Q74MV8 UniRef90_A0B9V3 UniRef90_L9KWT1
UniRef90 L9KNB7 UniRef90-L9KNB
UniRef90-IIIRH8 UniRef90-L8B456 UniRef90-JJGGE4 UniRef90 V4YY V8 UniRef90-A0A031LME1 UniRef90_L5M2X7 UniRef90-H2C6I6 UniRef90-B7PKC0 UniRef90-O05638 UniRef90-A0BCQ6 UniRef90_Q975J7
UniRef90-T0MC83 UniRef90-P34040 UniRef90_D1JIG4 UniRef90-10A016 UniRef90_D2HHA1 UniRef90-M3YXS4 UniRef90_UPI000332EF93 UniRef90 B1L783 UniRef90 ${ }^{-}$UPI00037197A6 UniRef90-UPI00046B6661 UniRef90_S9WDX1 UniRef90_L9KMU1 UniRef90_G7YBY8 UniRef90-S9WFM1 UniRef90_UPI0003AE51A0 UniRef90_S7MY38 UniRef90-Q4PMB0 UniRef90_UPI0002C57620 UniRef90 G0QB93 UniRef90-TOMD72 UniRef90-Q1RQD0 UniRef90-HOWDD7 UniRef90 UPI0003441BF6 UniRef90_Q9SEV3 UniRef90-J9FXA7
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UniRef90-T1CIH7
UniRef90_Q3LWI6
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UniRef90-L5LVK6
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UniRef90-UPI00038C2483

90
100
110
 RGLHPSGYKDILVENAEEI KALNPETDAARI SATVGKRKR RGLLPNGLKPVII HNVEELTKI KEGEDAVI HHAVGKRKR RGLLHPSGREVLVRCVKDLKRA EGCAIRI ARTVGMRKR
 RHYLPNKFKKFVVHNVSELELLMMHN RHMLPTGFKKVLVHNLKELEVLMMQN RNLGPKGRSNI KI NNLNELKTLATSNQSVVISKNDGCLKK RNLHPSGFKLVIVHRPEDVDKVDPAREAIVIGRTVGLRKR RGLHPS GFEEVRVHNTDDLDDVDGDTEAVRI ASKVGDRKR
 RALHPSGLREVLINNLRDLDKLKGMEDIVRISSKVGLRDR K HI $D P N G F R K V V V H N E L E M L M M M N R R Y C A E I ~ A H G V S S K K R$ RGLHPS GLRPILVKSVKDLEAFAKGKQUIIISSTIGLRKR K Y CMPNGLKAFLVRNVADVELLLMQN
RYLDQSGFRKLLITNEKDLELLLNRTFAGEDAHNDSARKR RGLHPS GLIPFYVNNKKDLEKAMKDKVIVVFSSTIGLKKK KHMLPSGFQ
RFLTPSGHNAFL_HNARTLSCAAGCPSAAETATPVSSRKR RGLHPSGMHEVLTFNPNDLAKADPDEVAVRIASTVGRRKR RGVHPS GLRPVVI ESRSQLENLDPKDHIVYLSSKLGLKKK

 $R G L H P S G R R V A \| V H N S E E L R R L S S E R E G V Y I A H T V G E R K R$ RHLDSSGLRKVLVNNDQDLSKI KKGEGIIISSTVGDKKR KHMLDS $\operatorname{V} F K K$ KLAHNDKEFEVLLMCN

## ELEVLLMSNQSYCAEVAHNDSSRNR

KHПHPDGFKHVLIHNVK
KHILPSGFRKFLVHNIKQLEVMCNKSHWAE $\square$ AHRSPPRPA KPVLDGGFWKLPVVSVQELEVLL
QHRLPS GSRRLLVPNVKELEAPLTCSRTVLSAHSVSQRPA KHILPNGFRKVVVHNMRELEMLMNRRYCAEIAHGVSSKKR
RGLHPSGNKEVLVHRPEELQQVD ENEAARIASKVGGRKR RFLLPNGLRKYRI FNADDLEPSLNRSYCAEI AHSVGAKKR
 KRMLPRGFWKFLVHGUKGLEVMCRKSHHAETAHHVASENP RYLGKTGRYDFKVKSPKELDFLDMSNLFYD RHILRPNGRKLLI RNEKDIELMNNRTYCAEIAQGDSAKNR KHLLPCGDKKLRIFNVEDLDPMLNRVFCGEIANTVGARKR
 K LLMMHNRTYCGEI A HNVSTKKR EDTLLRGFRKFLVHKPKELKCSSPKSYCAEI GHNAFSK KH

 CPVDPAGAWSALSR ERAGQLMCSEFSQAPIAH MS SKSH KHADPRGGGKFPVHTVKEGQVMCNTCYCAETAHMSPQRTA
RGLKRNGRLAVIVSNEKEFRVSGNGNDEIT




[^0]

| UniRef90 F4G1P5 | LLDII KRANEII G L R VICN |
| :---: | :---: |
| UniRef90 Q2NFX4 | QLI V AKAQQYGVKI L N |
| UniRef90-Q74MV8 | QQI LEKAKEDSIPI ANP |
| UniRef90-A0B9V3 | EKI EAMAREMNLKI LINPKTE |
| UniRef90-L9KWT1 | K AIVVERAAPLAI GVTTPDA |
| UniRef90_L9KNB7 | NATVERAA QLAl R VANPSAK |
| UniRef90-I1IRH8 |  |
| UniRef90-L8B456 | E |
| UniRef90 E1QRG5 | VEIVRRAl ERGVRVIN |
| UniRef90-V4Y1V8 | ERI EEVCEDEEI R V L N P T Y $\square$ EV |
| UniRef90-A0A031LME1 |  |
| UniRef90_L5M2X7 | KAI VERAAQLAI RVTNPNA |
| UniRef90-H2C616 | GEILKRAQELGLKVCN |
| UniRef90_B7PKC0 | K L V ER |
| UniRef90_O05638 | $\square E L I K K A E E L G K \square A N$ |
| UniRef90-B6JYB9 |  |
| UniRef90-A0BCQ6 | A T LVRRAAEDNVRDT N |
| UniRef90-Q975J7 | LELVEEAKKMGLKIAN |
| UniRef90-TOMC83 |  |
| UniRef90-P34040 | $\square \mathrm{A}$ |
| UniRef90-D1JIG4 | EVIEEKAAALGTKVLNPMR |
| UniRef90-10A016 | IELMK L A REKGLRIIAN |
| UniRef90-D2HHA1 | TVERTAQPA NPSA |
| UniRef90-W7KVM8 |  |
| UniRef90-M3YXS4 | K A NVERAA Q L A NRVTNLNA |
| UniRef90-UPI000332EF93 | K AFVERAA Q Pavrvik |
| UniRef90-B1L783 | S I I REEASKLGLKLAN |
| UniRef90_UPI00037197A6 | FELLKKAQSQNIEVLN |
| UniRef90_UPI00046B6661 | E A V VERAALLA LRVT C |
| UniRef90_S9WDX1 |  |
| UniRef90-L9KMU1 | K V I VER A A Q $\square$ A $\square$ R |
| UniRef90-G7YBY8 |  |
| UniRef90-S9WFM1 | K |
| UniRef90-UPI0003AE51A0 |  |
| UniRef90-S7MY38 |  |
| UniRef90-Q4PMB0 | K ILVERAQQLSVRDTNANA |
| UniRef90-UPI0002C57620 | K ATVERAAQPATRATNPNA |
| UniRef90-G0QB93 | ENILRTAHREGVKVLN |
| UniRef90-TOMD72 | $\square \mathrm{A} \\| \mathrm{V}$ NRAKELGIHVINAEARLV |
| UniRef90-Q1RQD0 |  |
| UniRef90-H0WDD7 | NATVGRAAQ |
| UniRef90_UPIO003441BF6 | K A R V E R A A P $\square$ A $\square$ R A T S P N A S K |
| UniRef90_Q9SEV3 |  |
| UniRef90-J9FXA7 | KTlVQRAKELNVRLTNGT |
| UniRef90-ROKLT9 |  |
| UniRef90-UPI0003C8C6C7 | KAMGDSAAQLAI APTNP |
| UniRef90-L5K7B2 | QELQSRGKQLAIRVT |
| UniRef90-D7L6J8 | K EI VERASQLGV VI T N |
| UniRef90-J3QPL1 | K AIIMHRAAEMA |
| UniRef90-C7DIU4 | E EMAS $\square$ AKSKGIRTI N |
| UniRef90-T1CIH7 | A EMLKFAKEQNLHUVN |
| UniRef90-Q3LWI6 | K L |
| UniRef90_UPI0003338212 |  |
| UniRef90-L5LVK6 | KPLWG GQPAGHQVTNPNASE |
| UniRef90-TOZBU0 | EMLAKRADEKKIRITNFNERE |
| UniRef90-D2EG39 |  |
| UniRef90-UPI0003512FEB |  |
| UniRef90-L9L4T4 | K T L W K |
| UniRef90_UPI00038C2483 | KASWE EQPSLSSTINP |

[^1]


[^0]:    lupas_21
    lupas_14
    lupas_28
    jnet
    conf
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    sol5
    sol0
    jhmm
    jpssm

[^1]:    lupas 21
    lupas_14
    lupas_28
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    conf
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    jpssm

