UUERY UniRef90-K8E5W5 UniRef90_14X7K3 UniRet90_D8K3Y8 UniRef90-R5LCN3
UniRef90 E3PTX2 UniRef90-D9SXA2 UniRef90-M4ZXT7 UniRef90-X1HOJG UniRef90-R5FV36 UniRef90-A9BHA7 UniRef90-R5DJP8 UniRef90-GOVND3 UniRef90-A3ZLI6 UniRef90-UPI0003B38A18 UniRef90 UPI000347C287 UniRef90-D2V3J1 UniRef90-10YKL3 UniRer90-UniRef90-E8N3M2 UniRef90-Q2JFH8 UniRef90-H9ZMT9 UniRet90_G3PHS9 UniRef90-R71760
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UniRef90 F3Y7C7 UniRef90-H2Y956 UniRef90_H9ZMT7 UniRef90 R6GTF1 1 UniRef90-Q1ACl3 UniRef90-Q039K9 UniRef90-G4TN58 UniRef90 $\mathrm{F} 8 \mathrm{CLL5}$ UniRef90-M40983 UniRef90-B0SAF6 UniRef90 T1AOB5 UniRef90_UPI0004785B3C UniRef90_D9RT17 UniRef90_UPI0002FD2B21 UniRef90-A6Q6H4 UniRef90-K2E7B4 UniRef90-T1DGV0 UniRef90-C4LL63 UniRef90-Q6FZC0 NiRe90 - P UniRef90-BoWRV9 UniRef90_Q2LAS9 UniRef90_Q3LLP4 UniRef90-VRTU4 UniRef90-V6J1H0 UniRef90_Q7M4E7 UniRef90_G3JVLL UniRef90_UPIOO0378C887 UniRe_D878L9 UniRef90 M4Q9Q6 UniRef90-A6XII9 UniRef90-D2WLI7 UniRef90_G3J4Q2 UniRef90_IOYY77
UniRef90_DOEVV6 UniRet90_R6ZLQ4 UniRef90 D4G88K0 UniRef90_DSSPQ5
UniRef90 J9CN86 UniRef90-F3YTY2 UniRef90_O27139

7F
$-8$ PERDTDKPFLMPI EDVFTITGRGTVVTGRVERGTVKIGDE P K R E M D K P F L M P I E DVV T I T GR GTV AS GRI DR G VV K V G D E P A R D TEKPFMMPI EDVVSITGRGTVATGRVERGQIIKI GDN P ERPKDKPFLMQVEDVFS I

 PERATDKPFLMPVE DVFT | $P$ | $E$ | $R$ | $D$ | $L$ | $D$ | $K$ | $P$ | $F$ | $L$ | $M$ | $P$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $P$ | $E$ | $E$ | $D$ | $V$ | $F$ | $T$ |  |  |  |  |  | PERDTDKPFLMM V E D DV F S PVRDIDKDFLMPVEDIF S

 P E R DL D K P F L L S V E D V PTREADKPFLMAI E DVV S P E R DVVD P F L M P I E D I F S

 | $P$ | $A$ | $R$ | $A$ | $L$ | $D$ | $K$ | $P$ | $F$ | $S$ | $M$ | $P$ | $V$ | $E$ | $D$ | $V$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $P$ | $P$ | $S$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $P$ | $R$ | $P$ | $V$ | $D$ | $Q$ | $P$ | $F$ | $L$ | $M$ | $S$ | $V$ | $E$ | $D$ | $V$ | $F$ |

P PRPVDQPFMMPVEDVFS PQRDIDRPFLMPI EDVFT
P VREMDKPFLMAVEDVFT
P K R E L E K P F L LP I E GVV S


PKREDDKPFLMPVEDVF T
P N R DL E K P F L M P V E DV F S


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

P VR DTAKP F L M P V E DV F S
PERPDDRPFLMPI EDVFS
P S R P T D K P L L R L P L Q D V V Y K

$P \vee R \vee L D K P F L M P V E D V F T$
P P R I TVDK P F L M P V E DVVF
P E R D D DD K E F I M M P I E E D V
P K R DVDD P F L M P V E DV
PERDTEKTFLMAVE DVFS
PKRPVTKPLRVPLQDVYK I
PVRDTDKPFLLPI EDVMT
PDRKEDMPFLMPVEDVFT
P E R A V D K S F L M A I E E D I I F S
P V R E TD K P F L M P V E DV F

PQRATDKPFLMPVEDVFS
PNRPDVDDP F L M P V E D V V F S
PTRIVD KPFLMPVE DVF S
PQRA D QPFL MP I E DI F S
$\begin{array}{llllllllllllll}P & E & R & D & K & D & K & P & F \\ P & Q & R & D & V & D & K & P & F & L & M & D & V & V \\ M & D & V & F & G\end{array}$
P EREEI D K P F L L M M $\operatorname{M}$ V
PAREEDKPFLMSVEDVFS P K R E T D K D F L M A I E D D I F T
PKREDVDKPELMMPI E GVVFS
PVRDVEKPFLMPVEDVFS

| $P$ | $V$ | $E$ | $T$ | $D$ | $K$ | $P$ | $F$ | $L$ | $M P$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $P$ | $E$ | $R$ | $P$ | $V$ | $D$ | $Q$ | $P$ | $F$ | $L$ |

P VRRETDKP F L M P V E D I F S
PARDTDKPFLMPI EDVFT


P V R E L D K P F L M P V E DV F T
PVVRDTEKPFLMM I E DVVFT
PVRENDKPFMMPVEDVFS
PKRPHDKPLRLPLQDVYK


QUERY UniRef90_F4LRF2
UniRef90_K8E5W5 UniRef90-14X7K3 UniRef90_D8K3Y8 UniRef90_R5LCN3

UniRef90-E3PTX2 UniRef90-D9SXA2 UniRef90_M4ZXT7 UniRef90-X1HQJ6 UniRef90-R5FV36 UniRef90-A9BHA7 | UniRef90-R5DJP8 |
| :--- |
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UniRef90-H9ZMT9 UniRef90_G3PHS9 UniRef90-R71760 UniRef90-D6KQK6 UniRef90_187D78 UniRef90-L7VFT6 UniRef90-Q0ZIA3
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UniRef90 J9CN86 UniRef90_F3YTY2 UniRef90_Q27139
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 GlVMFRKELAQAEAGDNAGVLLRG GVEMFRKLLDQAQAGDNDGALLRG GVEMFRKLLDEGAGDNIGALLRG GVEMFNKTLDEGRAGDNI GVLLRG GVEMFRKLLDEGAGDNVGALLRG GVEMFRKLDEGEAGDNVGCLLRG GVEMFRKSLDQGQAGDNIGALLRG GVEMFRKDDDAEAGDNIGALLRG
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UniRef90-Q5VGR3 UniRef90-X2ND70 UniRef90-Q4Y7S9 UniRef90-FOGU14
UniRef90-B5TDM2
UniRef90-L5JNJo UniRef90-F710F1 UniRef90 J1AR72
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UniRef90_U3TU07 UniRee90_UPIO0036E3C05 UniRef90-A8ABM5 UniRef90_M $3 \mathrm{WXF3}$ UniRef90-C7Q3S0 UniRef90_10AOS6 UniRef90 UPIOOO380C146 UniRef90-- 9 gitis UniRef90-C1C2Y5 UniRef90-C3ZAS7 UniRef90-E5BB45 UniRef90-A4J6J7 UniRef90 UPIOOO36C2242 UniReif90-HOAEB3 UniRef90-UPI00037713D4 UniRef90-M3XUU3 UniRef90-B8DN05 UniRef90-F6TX56 Unirer90_M3XMKO
UniRet90_Q4MYZ3
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1
PKRPNDKPपR乌PI QDVVYKI
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PERDENKPFLMPVEDTMTI


TGRGTVATGRVERGALRILSDN GGIGTVPVGRVETGIVKAG GGLGTVPVGRVETGVMKPGDT TGRGTVATGRVERGVLKTGDT PVRPFGKPLRLPLQDVYKIGGRGTVPCGRVETGVIKVGDE PKRPTDKCLRLPIQDVYKINGVGTVPAGRVESGCLKPN PNRPSDRPLRLPLQDVYKIGGIGTVPVGRVETGTIKGG PQRDMDKPFLMPVENVYSIAGRGTVVTGRLERGKI KKGMD PQRDLEKPFLMSVEDVFSVSGRGTVVSGRVERGVLRKDSE PYRDIQKPFLLAIEDVFSI bVRPSDKPVRIPLQDVYKi
PEKPTDKPLRIPVQDVYS: KGVGTVPVGRVGPGVLKVGDV
PKRPTDKPLRLPLQDVYK1
PSRPDDCPFLMPVEDVFS












PQPPTDAPLRLPQDVYT S




PKRLADKPLRIPIQDVYK GGGTGVPVGRVETGVLKPSMV
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GLGTVPVGRVETGVMKKG

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| UniRef90 Q9NH77 |  |
| :---: | :---: |
| UniRef90-X0V524 | I EREEVQRGQVLAHPGS $\square$ KP |
| UniRef90-K2SHR7 | VKREDVKRGMVVAAP |
| UniRef90-UPI00036A3A1A | TKKEEVARGMVLAKPGSTTP |
| UniRef90-D2Q9B0 | 1 N R DQVERGQVLAAPGSVTP |
| UniRef90-D6YUZ2 | $V \mathrm{NKDEI}$ QRGQILAAPGSCKP |
| UniRef90-Q1YNX9 | TKREEVQRGQVLAKPGSVKP |
| UniRef90-C5JB86 | IK REDVQRGQVLAKPNS |
| UniRef90-P17746 | VQKKDI ERGMVIAKPGTI |
| UniRef90-K7X7L7 | VKRDDI RRGMVVCAP |
| UniRef90-O96985 | L SAKDIKRGYVCGDAKNDPP |
| UniRef90-Q9GQU8 | VAVKDIRRGNVCSNDKNDP |
| UniRef90-R5GWN4 | V TRQDI ERGQVLCKPGS ${ }^{\text {P }}$ HP |
| UniRef90-F2XJI9 | V PKDDI LR G MVLAKPKTI DP |
| UniRef90-111B68 | MQKEDIERGMVLAKPGSITP |
| UniRef90-C6UN07 | VDKALIVRGRVLCKP |
| UniRef90-D3PHY7 | L S $\square$ S DI R R G M V CG D $\square$ K N D P P |
| UniRef90-O36039 | I A AKDIKKGYVVGDSKSDPP |
| UniRef90-A4ZA14 | V SVKDIKRGNVCSDSKNDP |
| UniRef90-E2BIH5 | VKRDEIKRGMIMAKPGTVK |
| UniRef90-C9SGH0 | I R REDVRRGMVVAVPGS |
| UniRef90-K6GHV7 | I ERDAVERGQVLSAPGSINP |
| UniRef90-G1E782 | I QKSEI DRGMVLAFPGSITP |
| UniRef90-D8WMA5 | V SVKDIRRGNVASDSKNDP |
| UniRef90-C6A4R7 | VGKNDIKRGDVA G H |
| UniRef90-C3YV07 | V DVK L R R GFVAGDSKNDPP |
| UniRef90-Q2TTF1 | I AVK Cl K R G Y VASNA A |
| UniRef90-F7XYL0 |  |
| UniRef90-H3JTW5 | 1 P VS DLKRGYVVGEASRDPP |
| UniRef90-H3A468 | LPVKNLRRGHVAGNSTSDPP |
| UniRef90-D8LDT2 |  |
| UniRef90-M4HZL4 | V S VKEI RRGNVAGDSKND |
| UniRef90-D6Cl25 | VNYKDIQRGQVICKPGSVKP |
| UniRef90-J7H034 | I KREEVERGQVIAKDGSIK |
| UniRef90-R4UKG3 | V TVK DI R R GFVAS D A K N |
| UniRef90-F8WPG9 | V S IK EI K R G NVVS QNNADV |
| UniRef90-UPI000381B0EA | VGKKDIKRGDVLGHVDNPP |
| UniRef90-B6DNX5 | $V$ SVKEI RRGNVAGDSKNDPP |
| UniRef90-N8R5L2 | TKREDVQRGQVLAKPGT $\mathrm{I}^{\text {K }}$ P |
| UniRef90-E0NIL2 | VQRNEIERG |
| UniRef90-Q2FRI3 | I GKD DVRRGDVCGAS |
| UniRef90-Q5VGR3 | V SVKEXXXXXXXGDSKNDPP |
| UniRef90-X2ND70 | KREEIERGQV |
| UniRef90-Q4Y7S9 | V S VKEl K R G Y VAS D T K N P |
| UniRef90-FOGU14 | VQRNEISRGQV |
| UniRef90-B5TDM2 | V S VKELRRGYVAGXSKSNPP |
| UniRef90-L5JNJ0 | V SAKGVHRGNVAGDSKNDLP |
| UniRef90-F710F1 | V SVEDVCHSNIAGDSKNDPP |
| UniRef90-J1AR72 | VGKNDI RRGDVCG PVELDPP |
| UniRef90-W5MZL6 | V SVKNLRRGDVAGNAQHDPP |
| UniRef90-Q8IE20 | VKRNDI TRGMV |
| UniRef90-Q18EY5 | I GKDDI RRGDVCGPS |
| UniRef90_UPI000274560A | $V$ VVKDVCCGSVAGDSKNDPP |
| UniRef90-L9JSE8 | V S IK N |
| UniRef90-D9VKR8 | V H R D GVRRGDVVAAPGSVAP |
| UniRef90-A0A014NLE6 | TKREDVERGQVLCKPGSIKP |
| UniRef90-Q2QCW6 | D R D |
| UniRef90-UPI000379729B | I K R G QVRRGQVIAAPGTVRP |
| UniRef90-K2BLN2 | LKREDIERGQVLSAKGAITP |
| UniRef90-R9TAT2 | I AKNDVRRGDVA |
| UniRef90-UPI00036DD972 | V D REEVERGQVLVAPGTMKP |
| UniRef90-F0VGB3 | KRDEVKRGMVLGAPGY LK |
| UniRef90-G1QBE5 | MSVKDVLC G NAAGDS |
| UniRef90-S6C418 | VAVRELRRGFVASDADNKP |
| UniRef90-A5JHE1 | $V \mathrm{GKADVRRGDVCGESKNPP}$ |
| UniRef90-X1NY56 | DKD D |
| UniRef90-B5Y752 | VKVEELDRGDVIAPKGALVP |
| UniRef90-A0A010YNB9 | I KREQVQRGQVVAAPGSVTP |
| UniRef90-M3Y6H4 |  |
| UniRef90-J9J5E8 | V T K Q VKRGMCLVKPGS |
| UniRef90-U3TU07 | IQKKDIKRGMILAKPNKFK |
| UniRef90-UPI00036E3C05 | FGKKDIARGDVLGHVSNPP |
| UniRef90-A8ABM5 | VSKNDIKRGDVAGHPENPP |
| UniRef90-M3WXF3 | V SVKDVCQGDVAGDSKNDPP |
| UniRef90 C7Q3S0 | VR REQI R R G QVLA APRS $\square$ QP |
| UniRef90-IOA0S6 | V T K T DI KRGDVAGHLT N |
| UniRef90-UPI000380C146 | VRREQVRRGMVLAEPGS |
| UniRef90-J9Z419 | V S VK E |
| UniRef90-C1C2Y5 | $V \mathrm{~K} V \mathrm{~K} \mathrm{NLSRGM} \mathrm{\\| LGAMGS}$ |
| UniRef90-C3ZAS7 | V S DKDLWGGCVAGDSKNDPP |
| UniRef90-E5BB45 | VS SRNCVVVTS |
| UniRef90-A4J6J7 | V EVEEVKRGSVLVTPNSVEP |
| UniRef90-UPI00036C2242 | VERSELSRGFVVAAPGVLKP |
| UniRef90-E7BT56 | ERDEV |
| UniRef90-H0AEB3 | V GTDDI QK G DVAGPEDNPP |
| UniRef90-UPI00037713D4 | VRRDQVRRGQVVAAPSS $\square$ A P |
| UniRef90-M3XUU3 | SVKVVHRGSVAGDSKNDPP |
| UniRef90-B8DN05 | L DVEDVQRGDVLA HPGTL |
| UniRef90-F6TX56 | I K REEVRTGMVAVKA GSILKP |
| UniRef90- M3XMK0 | V S VK DVRHSNVANDSENGPP |
| UniRef90-Q4MYZ3 | VKKDDVSRGFVI |
|  |  |

## UniRef90 A6TQL3

 UniRef90_J3JVM3 UniRef90-U5KN18 UniRef90 H7CDL8 UniRef90-A0A016TJC2 UniRef90-A0A023FY52 UniRef90_B8F962 UniRef90_G7IC27 UniRef90-B2A1F7 UniRef90-JODNN7 UniRef90_UPI00035972A2 UniRef90-I4DCL4
## UniRef90_Q24SV7

 UniRef90-UPI00046BF699 UniRef90_C9RC43 UniRef90-M0U8E1UniRef90 B7QCK3 UniRef90_B7QCK3
UniRef90-12CCL7 UniRef90-Q1DDD7 UniRef90-G5F5E8 UniRef90-G5C6A8 UniRef90-X1Y6Z0 UniRef90-B113P7 UniRef90_A0A023FM87 UniRef90-E6VTJ3 UniRef90_UPI000258E63E UniRef90_S0EVB8 UniRef90_J9UTZ0 UniRef90-F2U1N5 UniRef90-X4Z1W7 UniRef90_UPIO002E8F50C UniRef90_X1G9A7 UniRef90_LORGN7 UniRef90-W4QUF1 UniRef90-LONOL1 UniRef90-X8IS01 UniRef90_G6D7Z0 UniRef90-M1PAR5 UniRef90-S5BIY8 UniRef90 K4DWK5 UniRef90-UPIO002F3FF83 UniRef90_D3TLT5 UniRef90-WOKOL9 UniRef90_UPI00037E53E4 UniRef90-D8K2F8 UniRef90-K1Y0A3 UniRef90-W3AND9
UniRef90 ${ }^{\text {T1 }}$ A3Y5 UniRef90-S7QJ22 UniRef90_G9WLG6 UniRef90-E1G5C7
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UniRef90_S4BGK5






P E R H L N T EVVMFPAE HVYAIVK GRGTVI TGKLER GSLLKK GD K


PERPVSKPFRLSIND,FK GTGSGFCVSGRVETGSLNVGER
EKPAT GPVRLPLDRVFTVAGFGTVVTGTLVSGTIRVGDT
$P$ QR Q T D L P F L L A A V E D

$P S R P T D K P L R L P L Q D V Y K D G G D G T V P V G R V E T G K L K P G V N$
P E R P S E GPA F L P V D RVVFTIKK G G GTVV T G T L L L G A L A V G D A


$P$ QRSID K P FRLCVVSDVFKDQGSGFCVTGKIVAGYI QTGDR




A R NTALPYRLPIDRVFTVQGFGTVVTGTLVSGTIQVGDP
$R P T Y K A L R L P L Q D V Y X I D G D G T V P V C R X X X G V L X X G$





SRDAS GSFRLPID QVFTVHGQGTVVRGTVYEGQVQEGDV
PQRPVAKPFRLPDDRVFSMQGFGTVVTGTVVDGVLREGDE

 PPRADEKPFLMAI EHVFEVDKKAVVVSGRVDQGQLKVGAD

 $S G P \stackrel{F}{F} R M Y$ D $\operatorname{DRT}$ Y NVTGVGAVASGTVVSGTVESGDT $P G R S T S G F A R R D V D R S F T M Q G F G T V V T G T L W S G E L X T G D T$ DTGKP RLDPI DRVFS DKGAGTVITGTLHHGSLAVGDE GPFRRLSVVRVVAMK GFGAVVTGTSIS GRTTVGED





 P K R P T D K A L R L P L Q DVYK I G GI G TVVPVGRVETGVIMKPGDH $P P R T A Q G L F R L A V D R A F T L P G H G T V V T G T V H G G C L R L D D E$ QRKRSGPFRMPIDHVFTVVGQGTVVRGTIFEGSVGQGDR $P$ D R DV S K P L L M P I C DVVVRSTS Q G QV SC GK L E A GA V R P G S K PKRPHDKPLRLDI QDVFK IV GVGTVPCGRVESGTMKPN

PRDRE GAFFMP I D R SF P V A GFGTVVVTGTAYRGRVSQGD D
 PARNDAAPFRFPI SNVFKGQSAGTAVSGRVCGGVVQVGER K DVRGHFRLPVDRVFS IGSGGTVVTGTVISGSIREGEQ
 $P$ K R P T D K P L R L P L Q D V Y K I G G DG T V P V V


 $P$ QRKID A PVRRVPI S GIVKIKGVGDVLAGRVEQGIIMPNQE
 C C SQYATQLDE ETVVKE E C N PARPRHGLFRLAVDRVFTLAGQGTVVTGTVFGGQVQVGDT
 A R A L N K P L R LT T G D I F R G G VQ H P L S I S R I EA G S L Q V G D S
 $P Q R N Q D E A L I M P I S S R T A D T G R G T V V V G T V E Q G \square L V K K G E K$
PKKNADGPLT IPDD HAFDVKGVGTVALGVVKQGTIVVYDE
 PKRSSSGAF IYAVDHCFSIRRGQGTVMTGTVLSGSVSVNDN




| UniR | VIKKEEIIERGFIL |
| :---: | :---: |
| UniRef90-_3JJM3 | 1 K KK D -KRGMLLCASKSVT |
| Ref90_SKN18 |  |
| UniReffol H7CD | QKNEETKRGMIL |
| UniRef90-A0A016TJC2 | LGPKDVRRGC |
| UniRef90-A0A023FY52 | VKTNDVERGMT |
| UniRef90-B8FS UniRefo - all | LEKESVNRGDVL |
| UniRef90-G71/ | Vatrdikogyv |
| UniRef90 JoDNN7 | VESKAVRRGNVL |
| UniRef90-UPIO0035972A2 | VKNDVIQRGMIL |
| UniRef90-14DCL4 | VDVAEVERGSVL |
| UniRet90-Q2 | QRGD |
| UniRef90 UPIO0046BF699 | 1 EMQNVSIUGN |
| UniRet90-M0 M8E1 | QKDD QRGMVLAKPGTITP |
| UniRef90-B7QCK3 |  |
| UniRef90 Q1DDD | VEPEALRRGMV |
| UniRef90-G5 | R |
| UniRef90-Q5 | D KR |
| UniRef90 G5C6 6 | D1/K NVGC |
|  | A VGY SDL |
|  |  |
| UniRef90-E6VTJ | LDMDKVITGSFVGCDPGTLFP |
| UniRef90'UPI000258E6 | GVGDI। CNPQNPVP |
|  | PEQLERGAQIISAPGVLVP |
| UniRef90_J9UTZ0 | RGFFAGETKNTPP |
| UniRef90-2UNS | K ${ }^{\text {k M }}$ R ${ }^{\text {R }}$ |
| UniRef90- UPIO002E8F50C | IERDALRRGDWIADERCFTP |
| UniRef90-X1G9A7 | 1 EKDDLQRGQVLAKPKS\\|TP |
| UniRet90-LORGN7 | DIERGEV |
| Ref90_Q0.J9 | SHIMPGGV |
| UniRef90 W4QUF1 | EELTRGDVLVASG |
| $\text { UniRef90-LONOL1 } 1$ | A Did RGSVLAAPGAVP |
| Ref90-G6D7Z0 | P |
| iRef90_M1PAR5 | P |
|  | P |
| UniRef90-E5WN54 | VSKEDVERGEVV |
| UniRef90-UPI0002F3FF83 | 1 DKELIHRGQVL |
| UniRef90-D3TLT5 | S SVERGM |
| iRef90_REJLN4 | KDENVRGEVV |
| UniRef90-UPIO0037E53E4 | VEAHQURA |
| UniRef90-D8K2F8 | VRKEELERGD |
| UniReef90-K1 | VDTAG\|ERGMV |
| niRef90-T1A3Y |  |
| iRef90-S70J22 | VDPVHLNVGSVLCPPSDLVP |
| iRef90_G9WLG6 | VKKEELHKGSVI S |
|  | VKANVVKRGMWLGA |
| UniRef90-UPIO004679C64 | $1{ }^{\text {H }}$ |
| UniRef90-H2NGR2 | VSVKDVRHGNNAGDSKNDPP |
| Ref90-Q5E |  |
| $\begin{aligned} & \text { UniRef90-UPIO00472F9C6 } \\ & \text { UniRef90 UPI00047BC66F } \end{aligned}$ | VARQDVARGDW |
| UniRef90-V4L | IDANQVMAGGVLCHPDYPV |
| UniR | SVDOLN |
| UniRef90-T4 | KVEEINRGD |
| UniRef90-V4TS | 1 DVSRVMSGGVLCHPDFPV |
| UniRef90-UP10004417 |  |
| iRef90-D8 | VKTSNDRGDVIS |
| iRef90 | LEPAELQRGYVLSDPN |
| UniRef90-R61 | VKKSERRRG |
| UniRef90-B2BMX8 | S VKELRXGYVAGDSKNXPP |
| UniRef90-G812M2 | VDRDQIVRGQVLAAPGS\\|K |
| UniRet90-B4IZYO | VDSNVMPGCDVMCPQMP■P |
|  | LTKENMPRGD |
| UniRef90-UPIO003F120C7 | D |
| UniRef90 UPIO0037C411A | R |
| UniRet90-W4Z419 | R |
| UniRef90-S9X223 | VFVQDVCRGNVANDSNDPP |
| UniRef90_W9CEM1 | D |
| iRef90_B2DDA3 | GKDEVSPGDI |
| UniRef90_A0A016VL43 | VKADQV |
| UniRef90 UPIO0035DOAA4 | V G |
| UniRef90-K01H92 | SVD SRG |
| UniRef90 UPI0001CB9587 | KLLERGMV |
| iRef90-UP1000289252A | EEI QRGDQLAHPESL |
| Ref90-D | AGVIVPGGVLCHPDYPVP |
| Ref90 | AlVGCMILTE E/D R PV |

## UniRef90 G3S5G2

 UniRef90-K0AYV5 UniRef90-V5I2R7 UniRef90_F1NA79 UniRef90-B0CRW9 UniRef90-H6MUQ0 UniRef90_K7KQL1 UniRef90-A2AX44 UniRef90_UPI00038EDCDD UniRef90_C0S074 UniRet90 S0G827 UniRef90-FOFZKSUniRef90-I1BJH9 UniRef90-B3IUP1 UniRef90_O29514 UniRef90-U5LBJ6 UniRef90_C5YF35 UniRef90-T1HNK4 UniRef90-D8J8W2 UniRef90-UPI000333F5A4 UniRef90 A4D9V2 UniRef90-G9NMR8 UniRef90_UPI0001D30F9E UniRef90_E4ZXR6 UniRef90-D1LAC9 UniRef90-A9WCA3 UniRef90_G7NBH4 UniRef90_C1K9V0
UniRef90_W2UZ35 UniRef90_M5WR35 UniRef90-S8ADR5 UniRef90-W7UCT8 UniRef90-L7HWP3 UniRef90_U4LCZ1 UniRef90-19CN75 UniRef90_A0A011AAA5 UniRef90_D5EFE7 UniRef90-W0V624 UniRef90-U1Q2D5 UniRef90-K3UCY1 UniRef90-I2FV42 UniRef90-W5XFT3 UniRef90-B2GKB1 UniRef90_G5A0Q1 UniRef90-E6N9Q0 UniRef90_UPI0003C38C6C UniRef90-R5XPC0 UniRef90_K4C875 UniRef90_C5NUP4 UniRef90-X1H9S6
UniRef90 V5ILK5 UniRef90-L2FLY8 UniRef90_UPIOOO4711567 UniRef90-B3T416 UniRef90-H6RLI6 UniRef90_UPI0000D86360 UniRef90_D3BU07 UniRef90_UPIO00255EEFC UniRef90_C2L1C1 UniRef90_UPIO003B784CB UniRef90-C0LL61 UniRef90_V4HDZ8 UniRef90_UPIO004063580 UniRef90_G0R063 UniRef90_G1U312
UniRef90 H3G570 UniRef90_G0S917 UniRef90-DOGLX7 UniRef90-X6LL74 UniRef90_UPIO003665A3E UniRef90-D5NZA8 UniRef90-C5AHA3 UniRef90_14YB14 UniRef90-H6LB57 UniRef90-F1SN60 UniRef90-J5HE71 UniRef90_UPI0004118E6E UniRef90-UPI0003699834 UniRef90_K3Z4D3 UniRef90-U7KMK3 UniRef90_G413M4 UniRef90-I3S5U0 UniRef90_F4H9U0

1
THSTDKPLQLPLTGRYKTGG\GTVLVGQV|
40


PSRDPSGHFLMAVDHCFS $\square$ KGQGTVMTGT\LS GSVSLGDN PARDVTAPLRIPISNVFKGQGSGAVVSGRLIAGVVQTGER PAAPVDAPI RLWI DRSFTVSGAGTVVTGTLSAGTVTVGDT PTREFSKPLLMPVCDVIKSTTLGQVSSGKLEAGALRSGSK PKRNVDAPMRCPISGIVKlKGVGDVLAGRVEQG\|VNPGKD P TCPVDKXMCLSSFQDVYK IVGSVGTVLVGXVEQGVVNPGKD LD K P L RMT A DVFR G GVLNPLSISRLDSGYLQVGDQ $A R R D D G L F R L A V D R V F T L A G Q G T V V T G T A F A G R V T S G D T$
$T R L D K M$


## LDKPLRMTISDVFRGGVQNPLSDSRTDAGSLQVGDQ

ARALKKPFRMAISEIFRSQQGTTTLAGRIDSGTIQUGDP PAPDPDADVRLWVDRAFTDRGAGTVVTATLAAGTLRTG PDRNMKKPLRLSVADVFKGDMRSPLSSGRIESGTLQVGDV PARPTDKALRLPLX XXXXXXXXXXXXXXXXXXXXXX PARDVRGVPRLAIDRSFTDTGFGTVVTGTLRDGVLSVGQE $P T C R I D N P P R L P L Q A V Y K M G G D G T V L V G H V E S G F L K F G$ PERKNDAAMRMPVSGVYKIKGVGDVITGRVEQGVVKPGEE PERDEDSDFLMPI EKLQSUKGQGTVATGNVECGKLKKGTD $P$ L R DPKGPFRMP I DDKFK DMGTVVMGKVESGSVREGDS TKADEKPLRMTIADVYRGGVINPVTIGRIEDGNLQVGDT PRRSPSGPLFMAVDHCFPLKGQGTVLTGTVLRGRVSVQDV

TRALKEPLR\TVSD IYNIGQSTLTVGGRLDAGSVQMGDA PHRDVLKPFLLPI CDVDSKYSSGQVTCGKI ETGAI R DGSK RAVVKPLRLILTDVFRGSDQNPVSVSRI DSGHLQAGDE
 PRTRRGPFFMPI DRAFPISGFGTVVTGTAYKGQVGPGME PRRDERRLFRLGVDRVFTLPGQGTIVTGTALAGRVKVGDT FRMYIDRSYSVTGVGAVASGTVNAGHVEAGDE
ARALKSPFRMA TSEVVRSQLGTTTVAGRVDAGSFQIGDA PARLLDSPGRDPVTNVFKGQTA VVAVSGRVVSGDVQIGDR

KRPASAPWYLPIDRAFSAKGHGVVVTGTLAQGRVSVGDR PEPDATARFRMYVDRAASTVGVAGVASGTVKSGEVEAGDE $P D R D A T G D F R L A V D H C F A V P G N G T V L T G T V L S G A L T K G D E$ PPRAKDLDFLLYI DRVYNVEGVGNVVSGSVKQGSLTPGAE PLDRSFSIDGFGTVVTGTLMAGKLQEGDK
 PPRDPNGPLRMPI DDKFK DMGTVVMGKIESGSIREGDN AKNVEKNARTNI DRSFQVKGFGTVVTGTLTEGVINVGDE KKDINLPDRLPIDRVFTLSGDGTVITGTLWSGKVKSGDE
 $K R D$ D GLFRLAVDRVFTLTGQGTIVTGTVVSGRVVVGDT

TEGALVLPVDQHFNVKGVGLVAIGYVQDGAVKKHDE PAPDHEAPVRLWIDRAFTIKGAGTVVTGTLAAGTVAPGDR PRRDDQGPFLFEFDHCFQGKGQGSVMTGTVDRGSVELNQN PRPPADSPVRLWVDRSFTVRGAGTVVTGTLAAGTVRPGDH PEKSPS GLPRLPIDRDFSLQGLGTIITGTLISGTLTKGDG
 PKRASDGEFRMYLDRSYDVKGVGAVASGTI QSGRVEAGDD ERSFTKKPRMNIDRVFSVKGYGTVVTGTLMEGVLKAEDE PKRNKDGPFYFLI DHCFPIKGKGSVI TGTVDQGSHTSGQE
 PRELRKPDRMLISEVYSTMQSPVTILGRLEQGCVQVGEK KNARLNVDRAF QVKGFGTVVTGTLTEGTVSVGDE

$P V R M W D D R A F S V K G A G T V V T G T W A A G Q L K V G D S$ ARRDDGLFRLAVDRVFTLSGQGTVVTGTALAGRVRAGET RNFSAPDMMPI SEKYK DMGTMVVGKDESGTMKVNDK KKLNTPPRLPIDRVFSVDGFGTVVTGTLDEGRIKLGEN ARAIEKSLR\|SVQDVYKAGVTGGSVTVSGRVDAGNVQV

TEKPFRYADDRVFSVK GAGVVVTGTAVSGTVHVGDS
FRMAVDRVFTVKGFGTVVTGTALEGEVKEGDT
EGLFRLAVDRVFTLSGQGTVVTGTVHVQAAQAAGE
PHHDVSRPLRLPICDVISITLGQVAVCGKVEAGGIRTGSK
PAPGPTAPVRLWVDRAFSVKGAGTVVTATLAAGSLRVGDS
KRA $\square D K P L R L T V S D D F R G D T N P D S I S G R I D A G G L Q V G D Q$
$F C V P L K M C F P S R V V E P W P P G V L R G G L V K V G D T$
$F R Y A D D R V F T D K G A G D V V T G T V F G G K V S V G D E$
REQNKPFRYA|IDRVFTLKGAGLVVTGTVVGGKV|SVGDE


| UniRef90_G3S5G2 | $\text { V\|SVK D } 1 / \mathrm{R} R \mathrm{G}_{\mathrm{D}}^{90} \mathrm{~L} \text { A D S K N D P }{ }^{100}$ |
| :---: | :---: |
| UniRef90-K0AYV5 | I K K S DI K R G D I I S K P N S M E P |
| UniRef90-V5I2R7 | L E A GLLER G VVCSPGHLS P |
| UniRef90-L8Y748 | IS VK DV Q C G NVAGNS K N DP P |
| UniRef90_F1NA79 | FDPKLL ERG LICTPESL |
| UniRef90-B0CRW9 |  |
| UniRef90-H6MUQ0 | I D S DEI A R G DVLLS P D T W |
| UniRef90_K7KQL1 | V D GNHVMAGDVL CHPDFPV |
| UniRef90-A2AX44 | LD K N M P R G DVMV |
| UniRef90_UPI00038EDCDD | MSVK G L L C G S V A G G S K N D P |
| UniRef90_C0S074 | 1 D SA HVRS G DVLCS P T S PV |
| UniRef90_S0G827 | V P VK DVK R G MVL S GP D A V H P |
| UniRef90_F0FZK9 | V D K A D V E R G D Ti A D |
| UniRef90-I1BJH9 | FD I I NLS NGCVICT GS NPVP |
| UniRef90-B3IUP1 | LK K D N M K V G DVMVK |
| UniRef90-O29514 | $V \mathrm{R}$ Y D E L R R G MVI S |
| UniRef90_U5LBJ6 | $V A K E D A A R G Q V L V S A D S F T$ |
| UniRef90_C5YF35 |  |
| UniRef90_Q6E0Q6 |  |
| UniRef90-T1HNK4 | $F D Q Q N \square A \square G Y$ P L D P A F P T |
| UniRef90_D8J8W2 | VREA DI E R G MV |
| UniRef90_UPI000333F5A4 | V S VK DV H C G S V AVD S K N D P P |
| UniRef90-A4D9V2 | I D PI HL R S G DVI CRPSAP |
| UniRef90_G9NMR8 | 1 D P I HI K 】 G D I I C |
| UniRef90_UPI0001D30F9E | $V E A D D I G R G D V L L S P G$ |
| UniRef90_E4ZXR6 | I D P D H L R Q G D MVC A P Q A P V |
| UniRef90_D1LAC9 | $V \mathrm{~S}$ VKELRRGYVAGGSKQNPP |
| UniRef90_A9WCA3 | $V \mathrm{HHRDI} R \mathrm{RGHVLT}$ L LPGALT P |
| UniRef90_G7NBH4 | V S VK DVWWAIVLNHS G Q I |
| UniRef90 ${ }^{\text {C }}$ 1K9V0 | L NKDNMPRGDVMV |
| UniRef90-W2UZ35 | MKRDELQRGQI I SILD NLLK |
| UniRef90_M5WR35 | IEEEDI LS G F V L A SVA N P IP |
| UniRef90-S8ADR5 | I EMD Y L K 】 G V V CHADTP |
| UniRef90_W7UCT8 | L D A K EMERG AL CTPGSVP |
| UniRef90_L7HWP3 | 1 D P ERVRAGDVI CDPTNP |
| UniRef90-M0SLA6 | V D Q G Q 1 Q G GVLCHPDFP V |
| UniRef90_U4LCZ1 | 1 D P D H L RVG DVV C D K N WP |
| UniRef90-19CN75 | $V \mathrm{G}$ L D E I A R G D AL T VPGLLAP |
| UniRef90-A0A011AAA5 | I SLS DVGRGDVVT AKDCFT |
| UniRef90_D5EFE7 | V S L D EL $\square$ R G DVVCA |
| UniRef90-W0V624 | I A REDI ERGNWMVAP |
| UniRef90-U1Q2D5 | V D ES EVER GMVL |
| UniRef90_L9KAA5 | MSVNDVGHGNVVSDSKNDPP |
| UniRef90_K3UCY1 | 1 DP P HI R V G D ML C P T K N P |
| UniRef90_I2FV42 | 1 DQL Q I SVGGSVLCAP |
| UniRef90-W5XFT3 | V K L E D V R R G M TL G A P GAV |
| UniRef90-LOIAP3 | 1 A ES ALE R G MVLLP A D A DP |
| UniRef90_B2GKB1 | ADRDTI HRGDVLLTPETWP |
| UniRef90_G5A0Q1 | LDP SLI ERALAAVSPPGSLAP |
| UniRef90-E6N9Q0 | $V$ REELLE R G M V V CEPSLNP |
| UniRef90_D9QUG5 | V D V D Dis R G DI L A E P H T L |
| UniRef90-UPI0003C38C6C | FSAKAMERGDVC |
| UniRef90-R5XPC0 | $\square \mathrm{K} \mathrm{V}$ S E I Q R G DVI A Q T G S V |
| UniRef90_K4C875 |  |
| UniRef90-C5NUP4 | I KFD DVKRGDTLA T A G S LT |
| UniRef90 ${ }^{-}$X1H9S6 | V K K N |
| UniRef90- V5ILK5 | I D P \HVRVGD\VCDP |
| UniRef90_L2FLY8 | 1 D P I HVRVG D I S T K A A P |
| UniRef90-UPI0004711567 | 1 EKSAI DRGDWIVDP |
| UniRef90-B3T4I6 | L REEALHRGCl\| V HPNSDVP |
| UniRef90-H6RLI6 | V A V E D L S R G D AL LT P G A |
| UniRef90_UPI0000D86360 | 1 D PM HLK T G DVI CSPSSPV |
| UniRef90_D3BU07 | L D A NLLERG L L C T P K T VP |
| UniRef90_UPI000255EEFC | $V$ DVE DV G R G R T L L S P D |
| UniRef90_C2L1C1 | LK K G D I K K G AVL A |
| UniRef90_UPI0003B784CB | MS A Q D $\quad$ Q R G DVLCP |
| UniRef90 C0LL61 |  |
| UniRef90_V4HDZ8 | VA ESELLERGMVLVPRASEP |
| UniRef90-UPI0004063580 | $V A \mathrm{~V}$ D E L K R G N TVVATK |
| UniRef90-G0R063 | LDHNLIERG I A C T P G |
| UniRef90_G1U312 | M Y VK D R G S TAGDSKND |
| UniRef90_H3G570 | 1 DPSALT T G S ILC S $\square$ A S PV |
| UniRef90_G0S917 | 1 DQEYVS $\square$ G DVVCD P N H PV |
| UniRef90_D0GLX7 |  |
| UniRef90-X6LL74 | L K K N M H T G D I M |
| UniRef90_V5GW82 | V E E E DVS P GFVLCDSVNP |
| UniRef90_UPI0003665A3E | TKREDVVQRGQVLAKPGS |
| UniRef90_D5NZA8 | VDADAI SRGDVLTS |
| UniRef90-C5AHA3 | 1 DKA ALARGDVVA D |
| UniRef90-14YB14 | $V$ D D E NVQVGFVVLT DPKK P V |
| UniRef90_H6LB57 | L K K S QVA R G D Ti A P LD S M |
| UniRef90_V5J737 | I D P M HLK A G D I L C D PL L P VP |
| UniRef90_F1SN60 | $V \mathrm{~S}$ VK DV H H G VEAGDSENDPP |
| UniRef90-J5HE71 | V EKAEMTR G DWL |
| UniRef90_UPI0004118E6E | V S K D D $\quad$ KR GEVLSS |
| UniRef90-UPI0003699834 | MT K D TI ERGDWI A D A R SFTP |
| UniRef90_K3Z4D3 |  |
| UniRef90_U7KMK3 | $V$ DAAEI HRGDVVLSP GA W |
| UniRef90-K2QNJ5 | 1 D P Q HLRLG DIV CHPSSP |
| UniRef90_G4I3M4 | LERSDVSPGDVL TS GAVEP |
| UniRef90-I3S5U0 | I QKVDI QR G MVLAKPGTIT P |
| UniRef90_F4H9U0 |  |

## UniRef90 X2M154

 UniRef90-F4COH6 UniRef90-UPIO003741D6C UniRet90_K6VYX5 UniRef90-E1Z5S9 UniRef90-UPIoo0364260D UniRef90-G2LEF0 UniRef90-T1AADD9 UniRef90-Q97BU2 UniRef90-UP10003F4A2DD UniRef90-D8LFS8 UniRef90-F2UL21UniRef90 V5GKK8 UniRef90-G9P041 UniRef90-H8ZZJ3 UniRef90-A0A034WRG1 UniRef90-A8UV19 UniRef90-A1DFQ2 UniRef90 W1J1U3 UniR Refo - E4VDF9 UniRef90_A3F521 UniRef90-A9UW29
UniRef90-A0YG44 UniRef90-M7ZDC1
UniRef90_UPI0002B4337F
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UniRef90-D5GFN0
UniRef90-G2Y9Y3
UniRef90-B6JC82
UniRef90-J9K4D0
UniRef90-D4F9F3
UniRet90 D2VV70
UniRef90-OOCWC3
UniRef90-A4X2G5
UniRef90_M5FQ29
UniRet90_C1K9W9
UniRef90-A3LU23
UniRef90 - 990059
UniRef90-Q2GSU9
UniRef90-S8EHD3
UniReffo K8WLCO
UniRef90-A8SMV6
UniRef90- UPIOOO35D3AC3
UniRef90-TOTJY1
UniRef90-W5ISZ5
UniRef90 G9Y Q56
UniRet90-UPIO0042DOCC3
UniRef90_DOLF75
UniRef90_B5A4N6
UniRef90-D4B4K6
UniRef90-TIJ2U2
UniRer90-U3P11
UniRef90-W8QT57
UniRef90-12FTQ9
UniRet90_C9PDV7
UniRef90-A2SSO3
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UniRef90-H2YEZ3
UniRef90-UPIOOO331494B
UniRef90_C9SWL3
UniRet90-K5W2D7
UniRef90-KKHJY2
UniRef90-D811FO
UniRef90-UP10003C028BC
UniRef90-I2GVR8
UniRef90-M2N6C7
UniRef90_GOW391
UniRef90_W4GZV5
UniRef90 J1L3L4
UniRef90-C4SM14
UniRef90-L1 J8K9
UniRef90-O9NCN5
UniRet9o_WarR13
UniRe90_R7UZ5
UniRef90 Q0U5B8
UniRef90-V5GHZ3
UniRef90-TOPZ50
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$M P V D H F F N V R G \square G T V V L G S V A E G T L K K H D E$

PRPPTSGRVRFWI DRAFTRTGAGTVVTGTLAAGAIGVGDT
IEKPLEFMINDVYSVPYAGTVVSGLVNTGSIRLNDT
$P$ FLFF I D H CFAll K GQ G TVVMTGTVVMGSVVRVGDP
S R E E G L A F R L L A V V R R S F S


$\mathrm{V} D A P$ F E F A I S D VF S V P F V G T V V S G VI TA G T V M T N D A
PSRRASAPLYFAFDHCFSVRGQGTILTGTVLTGEVKVNQL
PREWKS PLRATVADVYKVAGFSSV HVARIVTGCVHEGDT




PERN $\square$ NA $\stackrel{P}{P}$
PLRVLVDSAFVVK




GHFRMS I DR【V S $\square K$

AKPTDKPPLGQLDDTYSVP



IK


G G G TV $\operatorname{P}$ PVE QMQT GV L K K G
$R S S D G P F \| M P V V E K Y Y$


RSSDGPF IMMVVVEKYK_ DAGTVVVTGTVLSGTVAVGD Q




PPRDNTAPLRAPVSQCLS $\quad$ RKGVGDVLTMRIEQGQLVKGDE




PEK



$P$ P P P E GSPRLHVDRVFSVVGSGTVVTGTLTGGPLRRGDR




PSRPTDKP LRRLPL QDVYK GG G DGXXXXXXXXXXXXXXXXX
PKRDTDKPFLMAI ENVVSITGRGTVATGRVERGMDEVGQT




DEPSEMVI DHCF DVVKGVGTV I LDGKVVTNGTVVKQ D N
EHALTRRFRLAVDRAFSVKGAGLVVTGTALGGRVKVVDT
E H A LT R R F R L A V D R A F SVVK G A G L V VT G T A L G G R V K V G D T
$P Q R P$ A FPFRFCVNDVVRGQGSGUTMSGKIES G GIICHGTK




T N K P L R L P I R D V


RH $\square$ NAPFMLPI AS






RMTE GPVRMPVVVNRYR DMMGIVVLGKIVS GTIS KGQV
$R G\|Q N P L S V A G R\| V A G H V Q V G D S$



P R L L K H P V $\mathrm{R}_{R}^{\mathrm{R}} \mathrm{M} P$ I T E K Y K
PRLLKHPVRMPI TEKYK
$P T R D P S G P F L M A V D H K F K$







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L H RE A V GR G DLVVLDPDLHLP
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V GKDEVHRGEWVCTP
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I DASELERGQVLAPEGSMP
V E VE E L S GMFLAA
I K R G Q V R K G MV L
L D A K LMERGVVTTPGSVRP
I DEALI RAGNLVCHPDEEPP
V K T T A V R
I E E E D I L P GF VLCSPKR LV
FNAKMLERG LLTRPGY L
VNYDEVKRGFWVLKPGS $\qquad$
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I S K E HL FRGDWL LS EK P L P
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I S E D AVNPGYVLCA
I D R E NVARGN ALLV
I E E E DI MA GFVLLSSVAN P
I K R Q D I R K G MV L V S
$D V L C G N M A E D N K N D D P$
I E E E DVV I P G F V L S S P K K P


$V$ E K A QI QR GDWL
V N Y Q DLKA GIII SDAENNP


$V \operatorname{E} E \quad E D L Q P$ G Y VLTS P K N P V
$V$ K R S Q $\quad$ R K G M V MVVS P S L N P
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V E D G D I S P G FV V T S P N K PV
I S K E GI T R G D WL
L K K E DVPK G SVLIP N NT F T
I A K DEVHRGDWACAP
LGPDQVKRGDWLLTPELHAP
I D K D L L K R G N I I SK K G

I S T DEI ARGDALIT P A S
L P K D R V K V G EIM A
$V \operatorname{R} R K D V V R K G M V L D R L D R P$
$V E E E D V S Q G F V L C D$
1 S VK D L G C G Y V A G D S K N N P P
$L A V E Q \square N R G N W L L K P$
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LS R K QVQRGDLLCAPSAPV
I D A E ELDRGFVLTDPK
LDK GEL AP GDVI TS A G
$V$ K P D E V GRGDVI SKE GAV
V DKERVARGDWL

| $V$ | $D$ | $\square$ | $M$ | $K$ | $V$ | $T$ | $T$ | $G$ | $S$ | $V$ | $L$ | $C$ | $D$ | $\square$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $I$ | $E$ | $N$ | $P$ |  |  |  |  |  |  |  |  |  |  |  | AE E E D I MP GFVLLCSPKRLV

 $T A R G D V R R G D V L L T P G$
VE E EI RPGYVAGDPNNDPP $M S V K D V R W V$ V $A$ G D S K N D P P
V E E E DI S P G F V LT S P K N P
I E A Q HL R S G DVVVCDP KRPR
V E E E DV S A GFVLTS P K N PV
L D A S A MERG
V E A E E L S R G Y VLS
I S K Q QI NRGDWL
$V$ E E E S L R L G F V I C R P E N M
IDD EN I NK G DVLCP Y DNLAA P
V E E E DVSGGFVLCSPDNL
I S CGAI HRGDVLCT
$V$ E E E D I LP G Y V L C S P K R P V
I K R S QI RKGMVMVSPT LNP
$\vee N K K \square V R K G M V L V S G N W$
$\square E E E E \square A K G H V L C$
$\square$ D M A D $\square$ N S GSVICPVNAP
A A A E E MKRGFFI CAP


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P $\| \mathrm{DGAFRMGLDRAFTLDGVGTVVAGSVSSGKVGIGDG}$ PLRMSVDRSFTLSGAGTVVTGMVVQGRVSVGDQ
RSSDGPVRIPIVDKYK DMGTVI $\square \mathrm{GK}$ KESGS PAEFQ1 DDVYSVPGVGTVVSGTCLQGTVRLNDA ERPQHQRFRLALDRAFTVKGAGLVVTGTALSGEVRAGDT PNPRHEGEVRVWLDRVFTIRGAGTVVTATLPSGELSPGTE PVPDTGADVRLWI DRAFSVRGAGTVVTGTLGAGTLRVGDE PDRNTEAQMRLPISGVYKIKGVGDVLAGRVEQGLVKPGED

LPVDHFFNVRGVGTVVLGNVAEGTIRKHDLE QRSTSGGFRLAI DRAFSVAGAGTVVTGTALSGQVTAGDT PERPEHQRFRLALDRAFTVKGAGLVVTGTALSGDVRVGDT PQRSVDKPFRLSVSDVFKDQGSGFCVTGKIEAGYIQTGDR PFRMPVQWVNRPNLDFRGFAGLIASGTVRVGDP PXRFPFQDVYKIGGDGTVPVGRVETGVLKPG
PAR DAPVRLWVRAFTVRGSGTVVTGTLGGGRLRAGDE RKDRAPLMDPVSEKYKDMGTIVV GKIESGRLRKNDT EEPSEFQLDDTYSVPGVGTVDSGTCMKGDIRLNDT PKREEKGDLLFEFDHCFQLKGQGSVLTGTILRGTVEVNT RSSDGPLIMPVTDKYK SMMGTLDGKVESGSVSKGQS TSGRVRLWVDRAFTIKGAGTVVTGTLTAGTLTTGDS PVRVLDKAFLMPI EDVFSIQGTIKVVGEE PEREVDKPFLMFI DRTYNITGVGTVVSGTTKQGRLQPGRA PRRDTEKSFLDADHCFALKGQGTVLTGTV RGTLRDNTE DQPGRFPI QDVYK FDHRRIIAGRIESGSLKVGDE AREQSAP RLYVDRVFTANGTGTVLTGTLQQGRLKVGDK KREFEKPRRLIVTDMSSEGKNVTVC GRVVQGFVRMGDG PPWDENGPLRIPLDEGYKDNGIVAVG KGIESGTLYGS PQRQNSGRLVVAVDHCFPVTGKGTVMTGTVIDGSVRLNQE
 PGRETEDPLRFTKRTSAKNGGIDTVPMGRVDTGVLRLG VDHHFNVKGIGTVLLGGVVKGT RTHDS ERLTNKPFRMGINDUYKSTSKGSVSVGKVEAGVIGVGDK SRHINAPFMLPISG KMKDMGTIVEGKVESGHIKKNAN EKDDSGPFRITISDSFSPAHSSAVHMTRIEAGAI QVGDT ARGCEGGFRLAI DRAFSVPGAGIVVTGTALSGTVAVGDK P E R E S G H S F R M S V D H C F
(VGVAGLVTGTALSEVKVGDS GAFRLAVDRSFVLAGTGTVVTGTVLSGAVAVGDT $\begin{array}{rl}D A T L P L R L P V Q D V Y T & W D G R R I V A G R V E T G E I V R G G D E \\ R K L H A P L M P D\end{array}$ PAPDPGAPVRLWI DRAFSVRGSGTVVTGTLPAGRIRTGDE
 FRMPVQYVNRPHDNYVGCAGKIASGTVRMGQN H $\Pi Y V D R V F S \Pi K G A G L T \Pi T G S I K G G D I K R D D T$ PKRHNDKPLRMPITKVCSISGVGKIFTGRVEYGTITPNLK PARPNDQPLRLQISGVLKVQGLGVVATGRIDSGTLKPNMN PEGDENKPLKALI FDSYYDPYRGAVAFVRIMDGQVKKGTR PTCPTGKPVYRPLQDMYK GGDISTVPVGRVETGVLKPS PERSTNSSMLLAVDHCFLVKGKGTVMTGTVDQGTLTLNDV PKRPLDKPPYLPLQNVYEIDGMGTVLVGRVEVGAPKSS RDSTALLRIPVLDRY HDRGTIALGKVESGSVRVGQK RKITNSPLMVPIEKYKDMGTIVV GKVESGKVTKGQS EKPFRMPVQWVNRPNGDFRGFSGTIASGTVKPGDE PTHPTDKP LHMPLRDGHKSGQAGAVPMETCVFKSS RLPVDRSFVLKGDGVVVTGTLWSGEITRPGDM PPRKSSGEPLVYIDEVYNVTGTGPVVLGSVIDRGVMKENDI PVPDPGAPVRLWVDGAYAV DGGTVVTGTLGAGCIRAGDE PAPDHGADVRLWADRVFSVRGRGTVVTGTLGGGTLRTGDR PEPEPDARVRLWIDRSFSISGAGTVVTGTLTAGTLTEGNR PAEFQVDDTYSVPGVGTVVSGTTLIGGVIRLNEV $P D N Q P A R F P I Q D V Y R F E D R R V L A G R D E A G S V K V G D K$
$G P R L A V I D H A F P V K G V G V A L G L V R G G L R A H E K$
 PDRSAEGKFLFYVDHCFNDKGQGTVLTGTVDSGSVGVKSV

Unirefor
Un

| UniRef90_I7MDV7 | $\text { LE D K D } \backslash E \text { R G Y M V V C S T E DLLC }{ }^{100}$ |
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| UniRef90-UPIO003B41553 | IA K D A D H G DML M A P ELLA |
| UniRef90-F5T5F7 | MEKAACKKGDIIAEKGSLQ |
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| UniRef90_J2PCV6 | LALEEH HRGQWL |
| UniRef90-R9VPR4 | AEKEALSRGDWLLSQQPDEP |
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| UniRef90-D9TDG8 | LPRDRVGRGDA L L T P |
| UniRef90_UPI000441278C | V D E DISPGFVLTSP |
| UniRef90_A7SDY7 | 1 K R S Q I R K GMVIMLD K RLIKP |
| UniRef90-FOZR79 | L D S KLLERGLV CSN |
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| UniRef90_UPI0002F4F600 | I SKDAI TRGDMVVDPHLHAP |
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| UniRef90-X0W5N5 | $\checkmark$ R H E D |
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| UniRef90-U7R4R0 | V S KEQVS R G D WL |
| UniRef90-K0B217 | 1 IVEDYKRGE IVSHKDN【 |
| UniRef90-F4DBS2 | V PHKEVARGHCLL |
| UniRef90-B8BYC2 | 1 D A A RLSPGCVICHP |
| UniRef90_Q4Z5A0 | VEEDQI SKGFVLCDSLSSL |
| UniRef90-A0A016UT54 | LNADSISRTMILCSPGAL |
| UniRef90-A7HXN8 | E Q $\square$ FVER GELVSHAENPP |
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| UniRef90-E1RIV1 | A D EI DRGQVVTT D D $\square$ K |
| UniRef90-F4PS70 | DVATA D R VGS I L C D |
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| UniRef90-W7QB01 | DEDDISRGDVI S S S S LP |
| UniRef90-D8IB06 | $\square \mathrm{KKEEI}$ RRGHLLC |
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| UniRef90-K1P2A2 | GKKDDLKRGVFVVKPGTYP |
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| UniRef90-UPI0003783E32 | $\square S K D A T A R G D V V G A A E L H A P$ |
| UniRef90-UPI000464F19F | DEDDVSRGDVLAAADSPP |
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DE $\square \mathrm{D} \square \mathrm{SRGEM} \mathrm{LV} H$ P DNLP DD SDIQAGYVLTSAKNPV DEVDTSRGDLICTAESP

