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V. $2_{R}^{20}$

40
KVEKGSTTAF GVVFPDLPGCFSA
 EQGVGYVAEVPDLPGCTAG MKTLNDYMKMNYRME VVEDADEGGFVVSFPELPGCLTC QAII HEAEEGGYWAEVPSLPGCVTE

 | $D D G S V V Y$ | $G$ |
| ---: | :--- |
| $D$ | $T$ |
| $E$ | $P$ |


APDGFYVASCPDI PEAHAQ


ENDGKYKVVFPDLEGCAA E
GEQK GFVVTFPD DL P GCDT E $\square L E E G S$
$D$
$D$ YPMEE HE G GY T V V E V $V$ P D D
 $\mathrm{K} Y \square \mathrm{Y} \stackrel{\mathrm{P}}{\mathrm{P}} \mathrm{L}$

LS Y Y M E

MATYY EDG

Y


A A $\square$ F
T A
$A \square V Q Q$

| T A | F D P N E |  |
| :---: | :---: | :---: | :---: |
| A | I |  |

DEKG
SDTEA
VD P D G G
$D E D N C$
$D E D G I$
MKA $\square$ T Y T VVLERNE S G G

Q QL H Y T I I LE LK Y A I S V V Y P E E T G GR F T


 | $A \square F T P Y E D$ | $G G G Y A$ |
| ---: | :--- | IIE K A EN N

 MEREF YVLIDE E D GF F V G E V P S L K A C Y A Q EPEGGY TVVTVAC L P G CVVT F
IF PG G A W $V$ L

M GKK TY D I L
 DED GWY

VIE T G S E N G Y V V EV
QAFGVIVPDLPGCFSA

 DEDQCY L V HL
QY DV V E N
> $\square \mathrm{Y}$ DDGT O Y Y A NFKDFDACFTD
 DEGTSYGVSFPDVPGCISA
M K Q Y T V I I Q


E K V T $Q \square H$ $Q |$| I | H |  |
| :--- | :--- | :--- |
| I | L | K |
| K | D | E | E G

 E

MRYAVV $\square E K$ | A N G N Y S A Y | V |
| :--- | :--- |
| D G E S Y | P |

V I H K D S | $S$ | $S$ | $Y$ | $C$ | $T$ | $T$ | $P$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $D$ | $D$ | $G L$ | $W$ | $L$ | $E$ | $F$ |

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UniRef90


|  | 506080 |
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| UniRef90_R6NSQ6 | G D S L $\square$ NADE A A T D T A S G WI L G E L E T G N K I |
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| UniRef90-N0BDT0 | GET DEEALKEVKTAlILLWIEAAKKR |
| UniRef90-M1Z2B6 | GETREEAI A NI K E A I E L Y L E |
| UniRef90_UPI000314C210 | GETREEALELI K E A I E F HLE DLRESGENTP E |
| UniRef90_B4SA01 | GET L DELHQNLQEVI E M M L L E GEPV |
| UniRef90-Q0A6C3 | GDSIPPEAEALI R E Al E WHLA GL R D G A P I P |
| UniRef90_LOHCY9 | GESMEVALENIK D A I E G CVAVLNERAH |
| UniRef90_K9X3P6 | GETLLEDCRALLQQDAILKEMI LA Y R Q Q NKE円P |
| UniRef90-14H9Z2 | GKYL E ECRQMLLRDA TQEMVLAYQQQNKEIP |
| UniRef90-U2Q4N4 | GDNMEEALLYMAKDALE GYLLDSEEDNEF |
| UniRef90-M1ZDE0 | GEDFEMARKQATEALEFHI Y GMEKDGDVIP |
| UniRef90-N1WA98 |  |
| UniRef90-F4Y188 | GD TLEEVQENVKEAI A L Y L EVLVEK G EKI P |
| UniRef90_C6JPM0 | GETLEECLYMAKDCLA GYMSILEEEDKKI P |
| UniRef90-Q8YNH2 |  |
| UniRef90-UPI0003470E89 | GTSYEQALEN AQKVLA S LVESSVSQGESLPE |
| UniRef90-K9VBN4 |  |
| UniRef90_G0VQQ0 | GAT L TEAMENADDVLNLMVWSMEQQKQAIPE |
| UniRef90_UPI0003694398 | GETLEESHANLREA V G CLA I D L |
| UniRef90-U4QS65 | GETFEELLENLYEAVELLYLSV |
| UniRef90-UPI00042391C4 | GDTEEEALTNI Q D A I REYLA A |
| UniRef90-A7C4L1 | GDTFEE\\|NANIKEAVELYLEET |
| UniRef90_R6K069 | GETVESAVANALDAKK |
| UniRef90_UPI000348B74D |  |
| UniRef90-B8GTR2 | G D TL DEA I E NAEEAI LMMLEEALIDDA GESLPEPSSIEMQL |
| UniRef90_L8LM35 |  |
| UniRef90_W6LZ10 |  |
| UniRef90-J0S160 |  |
| UniRef90-UPI0003822FB3 | A A SREEVVTLIRREAI KFHLEGLREQGEPIPE |
| UniRef90-E4TW49 | GK DVQEARAMAKEAI ELYLEDLQASGEPIP |
| UniRef90-X1V5H5 | AK TLD E L Q K N L E VVVELCLE |
| UniRef90-W6LWH8 | GADLDECRAMLR N AL Y E MVLAYRDLGKE\P |
| UniRef90-N6X0M3 | GETMNDALLENVAEAI DFHLEGMAEDGAEIP |
| UniRef90 K7R7U1 | G D T L E AL A NI REAI ALLYLE |
| UniRef90-S6H9E2 | GSTVS QAFENVKEALSLHYE GLIA D GEPLP Q |
| UniRef90-G7WMD3 | GETPEEAQAEIVNVFEMIKEEYREEGRQLP |
| UniRef90-F4BYV6 | AKSLD DLM NRIIKEAIS LY L E T |
| UniRef90-Q1NIY8 | GETLEEAKNSLREAI |
| UniRef90_B2C6U1 |  |
| UniRef90-J7IW95 | G D TLPEAMDMA\DAAS GWLL GEVEENKQLPKATNDKNVIP |
| UniRef90-A7HI57 | GDDLAEAKRMAKDA |
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| UniRef90-O29190 | AKSLDELMERVKEAI E L Y LEVK |
| UniRef90_UPI0004143A20 |  |
| UniRef90-I4FDQ6 | A ETFEELLENLHEAI E G |
| UniRef90-F2JW02 | GT TLNEAI DMAEEALIFFHLEGMLEDGEDVPVASE |
| UniRef90-W3Y2J4 |  |
| UniRef90_A5F9M8 | GDSLTEALTMAKEALELLTLW |
| UniRef90-D7CNL8 |  |
| UniRef90-F4BYC9 | GETLEEAI ENINEAI I GCLKK RLLK T A GEKLKIPP |
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| UniRef90_Q46A02 | GSTRKEAEKNI Y E Al E M HVQ G L Le D NLPVPEESE |
| UniRef90-G4T098 | GESPEEVLQLI QEAI EFHVEGLVEEGQHIPV |
| UniRef90-B8FKC7 | GKD\EECRDMLR D A L H Q M I LA Y K ELS K EMP |
| UniRef90-Q892G4 | GD TLEESLLMMAKEALELHLVGLEEDNGD\P |
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| UniRef90-F7QNQ0 | G S TL DEARDMATEALALLHDE GL DEDGEAVPE |
| UniRef90_UPI00046E9738 | GETLEEALANDEDALLGGCLA A A G D L K LP I P |
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| UniRef90_UPI0004759BB1 | GETEEEA L LMGKDAVEAWINTAKQCDRALP |
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| UniRef90-W6LZL0 | GDTLDEAVDNAREAI DLHCET\IEDGGSLP |
| UniRef90-A3CUX6 |  |
| UniRef90-A8RC40 | GEQ\EDTMEHAKEALGLYLDTS |
| UniRef90_UPI000302CD72 | GLTLLE EVEQQMREAI A F HLE GLLREDGLPTP E |
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| UniRef90_UPI00047DE835 | A D T TEEAMHNAKEVLGLFLWGMERDNEPIPP@NK |
| UniRef90-A0A024DJ24 | ADTQEDALLKEAREALGLHLSEMEKDNDTLPE |
| UniRef90-H1Z0R1 | GSTKEEALQ N I He A 1 D L Y L E V A |
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| UniRef90-FOVS80 | G D DVEEAMKNAREMLESSLA A Y LDE G L E L P K V |
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| UniRef90-Q2FQ26 | GETLE EAMESINEAlA G CII T SRIIK |
| UniRef90_J7WTL7 |  |
| UniRef90_H5SQG3 | GRTLLEQTIJKNMERAI R L H L Q GLQ EDGLP I P |
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| UniRef90-Q6AR86 | GET QKEALKDAR V VLEMAINSLLKKNGDSLPQV |
| UniRef90_S0FX90 | GKNVDEARDSAQEALSLLHVQGMIEDGDPLP |
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| UniRef90 H1YWU9 |  | $20 \mathrm{DEDG} \square \mathrm{Y} \text { VA K KV\|PD }{ }^{30} \mathrm{PGCYT}{ }_{\mathrm{Q}}^{40}$ |
| :---: | :---: | :---: |
|  |  | SULDSDQSYIASLPEW GRFAH |
|  |  | A 1 LEKSSDGYG\Y FPDLPGCVSH |
|  |  |  |
|  |  | AEGGGY I SYPDFAECDAD |
| UniRef90 UPI00047604A0 MMKHKYRTNDEDECYLAELPERQRYFTH |  | MMKHKYRTNDEDECYLAELPELQRYFTH |
| UniRef90-J3DDZ7 ${ }^{\text {U }}$ ( MRYP【Y【HKTESGTYSGFVPDVTGCYFA |  |  |
|  |  |  |
| UniRef90-A7BRN6 |  |  |
| UniRef90-C2CFV2 K K |  |  |
|  |  |  |
| UniRef90-F4LX37 MKKFNFT ILDEDGLYDASVPALRGCHTQ |  |  |
|  |  |  |
| UniRef90-W5X417 $\square$ YERPEGALNWGA Y |  |  |
| UniRef90 UP100036EC109 |  | KDNCFVVT P PWGECHTY |
| UniRef90-14C3899 ${ }^{\text {a }}$ |  |  |
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| UniRef90-K9P708 A AVIERCADTGLLVGYVPGFPGAHSQ |  |  |
|  |  |  |
| UniRef90-R5X1L9 |  | RKTENG TYHGFFPDLECCYAD |
| UniRef90-UP10003453E8D ${ }^{\text {a }}$ |  |  |
| UniRei90-A8ZT19 |  | DEDKCYVGSVPGWIGKCCH |
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|  |  |  |
|  |  |  |
|  |  |  |
| UniRef90-UP10003836A9E $\quad$ UFEQGDTYSAYVPDLPVCVAV |  |  |
| Uniret90-M5BY7 |  | SWGAYVPDLPGCAAV |
|  |  | AVFEPTEREGGFVVTFPDVPEADTE |
|  |  |  |
|  |  |  |
| UniRef90-K9TUH1 ${ }^{\text {a }}$ |  |  |
|  |  | AVFRKTAEG ${ }^{\text {a }}$ (TGFFPDLDSCQVT |
| UniRef90-C4XHY4 ${ }^{\text {U }}$ ( DYI AVIHKDADSD WGVSFPDFPGCVTA |  |  |
|  |  |  |
| UniRef90 - 14FDC6 |  |  |
| UniRef90-F8EHN5 ${ }^{\text {a }}$ ( MKTHHFPILDEDSTYIVTCPTFKGCHSY |  |  |
|  |  |  |
| UniRef90-UP10003B5FB8F ${ }^{\text {a }}$ |  |  |
| UniRef90-B21JC1 ${ }^{\text {a }}$ EADSDYGVSFPDFPGCDTA |  |  |
| UniRef90 UPI000349130F MSRYVILIEPGHDGYGAWCPDLPGCVALL |  |  |
| UniRef90-H5SVT7 |  |  |
|  |  |  |
|  |  |  |
| UniRef90-UP100030F729A MFDNY |  |  |
| UniRef90-G5JP0 MKYHFYAVLEEDKYYNVYYPDLPGAIT |  |  |
| UniRef90-M6H635UniRef90-K0N817 |  |  |
|  |  |  |
|  |  |  |
| UniRef90-R6GAJ5 ${ }^{\text {a }}$ |  |  |
| (1) Mr |  |  |
|  |  |  |
| UniRef90-X2GVF7UniRef90- UPI0003489A40 |  |  |
|  |  |  |
| MRYATV DEKTEGNYSAYVPDLPGCVAT |  |  |
| UniRef90_F2NJK9 <br> KVILKPDPEDGGFVMSCPALDGCHSQ |  |  |
|  |  |  |
| UnRef90-K9YD53UniRef90-M2BK89 |  |  |
| UniRef90-Q0JYL7UniRef90-V7GT14 |  |  |
| UniRef90-V7GTI4UniRef90-K9Z321 |  |  |
| UniRef90-14HW1 ${ }^{\text {a }}$ |  |  |
| UniRef90-M5H3W2 ${ }^{\text {a }}$ |  |  |
| UniRef90-141769 ${ }^{\text {a }}$ ( DDLWCATVPAFPGCHTW |  |  |
| UniRef90-AAZDA3 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| UniRef90 W6LW14 ${ }^{\text {a }}$ |  |  |
|  |  |  |
| UnRef90-AOAO34MKA6 MKY Y Y A Le E G Y Y NVSFP DLP |  |  |
| UniRe90-M2CLV5 ${ }^{\text {a }}$ ( ATI TYCEEDNSYSTEFPDLQGCVSG |  |  |
| MSDLRYP LDEDGGGFVALVPDLPGCMSD |  |  |
|  |  |  |
|  |  |  |
|  |  | TFKLEKDGKKWHAFCPELEGCHTF |


| UniRet90 - H1YWU9 |  |
| :---: | :---: |
| Uniefero-B0CDU3 UniRe90-C31B14 |  |
| Uniritoo-AAOO26VOD2 | GNSYODA ESAHEA |
| UniRef90-F3L-T44 | GETVEDALANGRDAL |
| Unireet90-J30027 |  |
| UniRetotol $13 C$ E04 |  |
| Uniref90-UP100037 | GRTDEECKONLSEAL TLTLED |
| Unifetio-crack |  |
|  |  |
|  | GD SLDEVKAEMATAIALHL |
| UniRef90-UPIOOO |  |
| Unireiolobsshe |  |
| UniRefoto-a1w 1818 | GD |
| Rei90-85×119 |  |
| -UP1 |  |
| Unireigo-AP8000371255C | GDNEEKVYRQLCRIVDEWI |
| reto-D7Cu67 | G |
| Uniretao |  |
| Unireiteo- |  |
| Unifere9-OMPIOOO: | GDTLEETRKETAEAMKFH1 ChL |
| Uniretio-osb |  |
| UniReteo-M5K3As | GDDMADAREOAADALGVALLT YLIEMGRSLPE |
| UniRete90-G4E | ${ }_{\text {A }}$ |
| Uniref90-k9т |  |
| UniRetore-R581H2 | GOT DEAMDOAEAASNWI SVELEEDDLPPVSDASDGKL |
|  | ADTYDETVAEMRTALEFHLRGMRESGEPVPV |
|  | GATEVEALEN R RAI REYYAV |
| UniRefi90- 4 AFDC6 | P |
| UniRet90- 88 EH |  |
| UniRef90-K2lH26 | 俍 |
| - |  |
| UniRef90-UPIO00349130F |  |
|  | SDSLDDLELAKDAKETWI GGMLEDEKEПP |
| UniRet90-K9vus3 |  |
| UniRetefo-UP10033 | A ANAQDA RACLEVRDERGMPLPKToder |
|  | GNDDEDADMAKDALGGHL |
| UniRefero-konvil |  |
| Refi90-O3KGN1 | GNDODHALEMEEAL ELHI ELLAESGAV |
| Uniret90-056X44 |  |
| UniReito-uplooo $941 \mathrm{E1A}$ | GDTLDEA |
|  |  |
|  | GSDMDEAVYMAKDVLVGFLYGMEDDGELP |
| Unireef90-UP10003489440 |  |
| UniReteol--2nJK9 | GDTEEEAL |
| Unirefo--kix ${ }^{\text {Un }}$ | GKT ${ }^{\text {G }}$ CEEAL |
| UniRe990-M2вк89 | GDTVT EALEMAEDA AMMLAHYEDNNOATPKASNDDTK |
| UniRefog - V7GTI4 |  |
| Unireeto-Kgzzel | GETYEEALKNGA |
| UniRef90-A3UKH8 | GETLGGQLKADAASALRSHMDVSREEGLAIPVI |
| UniRef90-141769 | GESYEHLMAMVKEAVEGW |
| Unirieforo- E3DX85 | GDDFS |
|  |  |
| Uniret90-E6VO | a/vodaheal shy |
|  | A |
| Uniefe90-ASUU74 | GOTREEARARVKVLALRVLADRLEHGEPVPEMSDV |
| UniRet90-B4ET85 | gos si emahadarsal |
| Unifereio-M2Cliol |  |
| UniRet90-R6GYM |  |
| UniRef90_UPIO0034AE9E6 UniRef90 K2E5S7 |  |

UniRef90 H1YWU9
UniRef90-B0CDU3
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UniRef90 C2CFV2
UniRef90 R6N8D3
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UniRef90 E3IR96 UniRef90_J9Z9F5 UniRef90_Q8DTE7 UniRef90_K9VLW9 UniRef90 L8M4B3 UniRef90_UPI0004747E33 UniRef90_R9KYA3 UniRef90 Q1LPG4 UniRef90_C9M6U0 UniRef90-Y0KKK2 UniRef90_T1CTU1 UniRef90_E1YEP0

EGYYAEFPDLLEMCTAK E EDVWCATVPALPGCHTW D S D Y G V T I P DV P G C L S A EDDRAYVASLPEWKYARTH E E D GVWCGSVPALPGCHTW
 M A G Y R $\square E L E P$ D D D T L MMV I C P A L P E V E N GVWC G S V MDKYLIVLEKSETGFSAYSPDVWGCIA T E A DED GF LF VQF $\square$ DLEDTFT Q EQSEDGSGFGAWCPDLPGCVAV Y A Y CP DLP G CVA AVFH\AEEGGFWDTFPDIPECMSE

 EPDED RYHAWSPMLPGLHAD | $G$ | $G$ | $Y$ | $L$ | $V$ | $Q$ | $F$ | $P$ | $D$ | $L$ | $P$ | $E$ | $A$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $D$ | $I$ | $T$ | $Q$ |  |  |  |  |  |  |  |  |  |
| $N$ | $C$ | $Y$ | $V$ | $E$ | $L$ | $P$ | $E$ | $F$ | $Q$ | $R$ | $Y$ | $F$ | YE DDDEGGGYFAYYKDFKGVMGD MK TILE Y T AIIK E EK G YVSKCPEL GVASC AVVFTPHK D D K G Y HVVEFP D L L Q C C E A D AI IH K DP E S GAY GVTVLPADFPGCYS Q AVYK $\$ HEEDGAF $\ V$ VFPDLEDCFT D AVFTPKK D GKGYDAYFP DLLECCEAK TAIVENSETNLYVGYVPGFPGAHSQ

 D G D Y VI S F P D L P GCMMTQ MKYP $\square Y$ VWQE GDSAF GAAFP DLPGVHTA ED QKYIVSLPEFPYAHTH


D S D Y GVVVVDVP GCFSA DE GGE DGVVFP DLLPGCVVS GE G GYWVT GCPNLPGRVSQ E E D GVYVSECPEL GVATC


EED G G Y MAQ

IEKGNENSA IEEVSFPD LQ GCVT F
 MAK Y VYPA A I S E D G G F TVVS FP DV S G C Y T E


M M K Y K V V Y R S E E G $\square T V$ GV P A L P G C W S E F $\square$ Q T $\square L R R$ RANYVF T E E E N GY S $V$ V N F P D L AVFRKKEDGGYDAHFPDLECCEAS M D K L K Y Q M $\square$


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$\triangle \vee \| R P D D N G T F V A Y D P A A B A G C H A W$
$\square I E Q D E D G K$ Y I A SVV S LDPGCHT Q
D S D Y GVIVVP DVVP GC F S A
GRA $\square 1$ T DYYYKNMQY KVS LKQTEEGYAV WCPGLPGCAS Q



$\square E M G N E E Q A F G V V V P D D P G C F S A$
 MRYAV VIEEEGGYWVEFPEFGG AVF DYAD D G N $\square Y / L V A A L P D P P$
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TAI I EPAPEGG FWAICPE
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