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 KVLVFGHKNPDTDTI TSALVYAYLKNELGVEAEAVRLGE K TLI F GHKNPD T D TII C S A I A Y A DLK S QL G H DVEP PVRLGE
 K E V KVYVLGHRNPDTDA KVLVFGHQNPDTDA K V L V F GHKSPDTDA


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## E K

 LVF GHKNPDTDS I FGHRN P D T D A$\qquad$

KELVGG | $K$ | $E L$ |  |
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T T LVF GHKSPDTDSTGSP I DWAWYLSEKGTPAKPVLLGE
$\square H V V G H L N P D S D A \square C S A A M T A R W L T \square R G Q Q A T A W R L G E$ DRFLVLSHVNPDGDATGSALGVVLMLEQLGKEYVVVNEGE
 $K K V V F G H K S P D T D S T G S P D I W A W Y M T E L G Q P A K P V L L G E$ K K V WV VGHKN P D T D S $\square$ C A A L AY A E L K N R K E D G R Y VARA G A

 E K I VI A S H V S P E G D A $\quad$ G G S A L A L A M G L K K L GK HA E V VC H N G K P I YVIGGRNPDTESIICSAI GYAHLKQAMGVNAVAARAGK Q N $D D F L I \quad D S H V S P D G D T T G S A L A V G L M L E Q L G K R C T L V N E G E$

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VNGETA 50
V GETQYALDYFKQESPRLVETAANEVNGVILVDHNERQQ I NGETEYALKKFNAEVPRLVNTVANETDSVILVDHNERQQ

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S TK D TEEVQVLEVTDHHRTANFETAEPLYYRAEPVGCTAT SVVDLD QVRVLEVI DHHRI A NFETSDPLYYRAEPVGCTAT



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 TADEI A EANLVEVI DHHKI GCLSTSDLPI SVRMMPVGCTAT SVADIDDVT, ITVVDHHRIANFETAAPLWFRAEPVGCTCT

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 SVDNI EN AKI LGKLVDHHKI A AVSGARDAE I VGIVVDHHKL SAGNISNAII KKVVDHHTMNFVA GTADMKQAKI RGIVDHHKLGDITTSEPLECWDKWPVGCSAT
 AMDNLAKAELLAGVDHHKLGDITTSNPLEMWVWPVGCTCT TI DNLSKGELVAVVDHHKLGDITTTSNPLEMWVWPVGCSAT
 APHDLKEATVLGIVDHHKLGDITTDTPLECWIRPVGCSNT LDPAIADAEIKGVVDHHKLGNVTTSNPLEMWVWPVGCSCT APKNIDKAE1VAIVDHHKLGDVTTPNPVLFVNLPVGCTGT APDDVAEAEVLGUVDHHRLGDVMTVNPMEAWIVPVVCTNT SLDDLDEGKLLAIIDHHKVG LTTVEPI LYYAKPVGSTAT SVAGLANAQIVGVVDHHRFGDFTTAAPLTIVAMPWGSSCT SADGMKDANLGII DHHGDGSVGTSGQLLYDARALGATAT SVEGLKSATVFGVVDHHRDGDFETAGPLHYDAFPWGSSCT SVDNLADVTVYGIYDHHKFNFGNATPLYMTAKPWGSVST LPAGINDADLQIDHHRLVGGLETKGPIDIRIEPVACTAT
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DRFLVLSHVNPDGDATGSALAVAQMLRNGGKTFVVINEGE

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$\square G \square T Y$ HVSPDGDAVGSA पA LLQG $\square R K \square G K \square S Y \square L S K D V$ DK！ITHRHVRPDLDATGSQVGLATWTRDNFPEKQVYCVGE
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ENIIVGHKSPDGDALGACLAWAEYLRRQGKSPRTVVPDA QKIAl IPHRNPDGDAMGSCLALYGFLKATGHTVQVVAPND KTFLL AAH
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DKLVMSHASPDGDTLGSAAALLRGLVSGGKVKFFCADP ERIVICGHKSPDGDAI GSSLGWAAYLRSLGKSPDIVMPDA N！VVLTHENPDGDA\｜GSSLALYQALKALNKDAE！II LLVVAHDNPDPDAปASA $I$ GLARVAESAGVPADPCYGGE
ETTATGSHDNPDGDNLGSTLALRKSLEDYGKDVEVLANDT TI II HRHERPDPDALGSQFGLQRVLQKRFPDKKI KAVGE KElVIVTHYNPDGDAlGSSLGLKHALKNLGDDATVVVPND
KRFYTTTHVRADGDALGSETALFYVLRQLNKSVY IVNEST TTLVFGHKAPDTDSTGAPLIWAWYLSEHGEPAEARLLGQ

KNILIISHVNPDGDTLGSMCGLYATLENYKKKCDMMADSK KPVIVIGHKNPDTDSUCSADSYANLKRTLGEEYDPSRAGH

KKMVIVPHKNPDGDA $\square$ GST $\square$ G $\square$ FHY $\square K K H H Q D A \square V I A P N D$ QT VVHRHVRPDPDAYGSQGGLVELLKASFPEKNDYAVGE DDYLVVSHVQPDGDAVSSTLAVGWLLSCLGKKYTMLNEGP LFCGHVVTDLDSIIAGAIGAAVL HGGVAARASE ENGIVVGHKSPDGDALGACLAWTEYLRQWGKSAQIIVPDA KKLAVISHVNPDADSLGSUMALGLALQKNCQSVTICVCDH俭 DTVI HARHRPDPDAYGSQCGLAELLKTSFPEKKVYVTGE DTVI HRHMRPDPDA GSQVGLQKLLQHNFPDKHILATGY
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DKFVIVTHVSPDGDALGASLGLYHFLNTYGKDQTVIVPND DDFLVVSHVQPDGDAASSTVAI GWLLSQLGKKFTMI NEGA DNILILTHAHPDGDTLGSGFALCRALMQLGKKARVINDDV
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DR I IHRHQRPDPDALGSQLGLRELLRHNFPNKKVLAGS $V Y V T G H K N P D S D S$ CAAYGYAEFKNKTDDPAVPVRDGN KRIGLSFHTSPDGDALGSTGALLNALRYGGKDSYIVSRDV DTILI HRHKNPDPDALGSQCGLRALLRANFPEKKI YAVGY DDYLVVSHVQPDGDAVVSTVIIHWLLEKLGKRAVLVNEGR
$K T A V V V H D N P D P D A D S G A L A G K M A E N Y G \square S P T \square Y N G E$ KSILVTSYVNPDGDGVAGMVAYAEFLQKTGKNA पAGMFDD

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|  |  |
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| C4G |  |
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| UniRe90-- 5 SA | VADKALLGK |
| UniRef90-D3HVH5 | WLPNSEKVVRHDKRTRMLDQADLLFCLDFNDPGR |
|  | SRIFEVLPCISEARREGTREKYDLAISVDCATIKL |
| UniRef90-M01 | RAMVNLLDSLITVDIDLDDYGGI ALVDHSRAGL |
| $\begin{aligned} & \text { UniRef90-FOY } \\ & \text { UniRefgo-Fog } \end{aligned}$ | DLFMILDCSEFDR |
| UniRef90-B1 YKB7 | VDATEYQQ |
| UniRef90 X5K6Y6 | QVMVSEFKREVFHNADVIFCLDFNTLSR |
| UniRef90-R5NL4 | VPNTYKWTAPTSG MYTYPDTPSEKPEVVFCLDCPTGAR |
| UniRet90-Q2CFM1 | ELPALLDDVED GQPVVVVDTNNPAE |
| UniRef90-0121 | $\square G H Q E N K A F N L L G \square D L N R M E E H S L S D F T D I A M V D C A V P G A ~$ |
| R8V | VPDVYSYDPHTNEVKNDDYY DKSREYQQVIMVDHNERDQ |
| UniRet90-UP10003B78 | $V N P E T Q Y V L D K F G V E P E P Q L D D \square Q Y R Q V E G D S S H M S L K R$ |
| UniRef90-W3 |  |
|  |  |
|  |  |
| $\begin{aligned} & \text { UniRef90-R7F } \\ & \text { UniRef90 A } \end{aligned}$ | EEPTLHYLRRLD |
| UniRef90-W4BQY9 | EITNMASSEPPRQYSNVICVDCADFQR |
| UniRef90 K8ENU8 | Q |
| UniRef90 D7NAI3 | D F K W |
| UniRet90-UPIO003741DEA | PSRLSYLTLADSITCVKEHPLDRSF THIISICDADFRR |
| UniRee90-G4 | MN MLWHAEDIINGSEELPDRTFTHVICVDCADFAR |
| UniRef90_D5 |  |
| UniRef90-D9S3L4 | VPKKYRFLPRCGDV RPFIPEVDKAEVMI CLDSGDPER |
| UniRef90-UP1000347 | NEPTLTM |
| UniRef90- N2BHX | IVPNLFKFLPRADEI VSEPDDTVRFDLMIVQDCGDAQRLGR |
| UniRef90-D6\% | EEIDGLKH EVINETQCVIVLDCGDVKR |
| 7E | SFLS LSNELDGNGKEIPSNADCLVTLDCGNVER |
| UniRet90_D9R |  |
| UniRef90-R7JE00 |  |
| UniRef90-R5 | IPKKYDYLYSD\DFPEFE ADYVVAVDVATENL |
| $\begin{aligned} & \text { niRef } \\ & \text { niDf } \end{aligned}$ |  |
| UniRef90-K1LAF9 |  |
| UniRef90-UP10004734602 | LS WMLDFSKPEDRALATLRLEEADLVFCLDFSVLGR |
| UniRet90-M7DZA9 | DEPSLA WLAKMDQVADSDYVSSLVIVTD TANTPRI |
| UniRef90-G71 | VNPETQFILDYFGVKAPRLLETVKLKVEDLNF DT DKPIN |
| UniRet90 G7LYK3 |  |
| UniRef90 F9V7P5 | DEPTLTYL RSSEAMDQVELESGTKYLSSMCDTANTPR\\| |
| UniR |  |
| Di | AF |
| K1 | VLKRFCFEYPQA LTNTDNFDKIILVDASELSV |
| UniRef90 ${ }^{\text {B6YOLI }}$ | DFNVLCR |
| UniRef90-R61301 | R |
| UniRef90_A6Q221 |  |
|  | R |
| Unil | YLSFLSGTEDUYLSDENTERKTDYDLVFVVDCGDLER |
| UniRef90-E1R3A5 | WGHFILDTNDIGN |
| Ref90-UPIO004206ADO | Q |
| Ref90_K2EPD9 |  |

UniRef90 UPI000377FBE4 UniRef90-JOMG38 UniRef90-B8I6E9 UniRef90_D9SK19 UniRef90_M2P7Y0 UniRef90-A4XL68 UniRef90_J518X6 UniRef90-D5EFP9 UniRef90-C4GAMO
UniRef90 M8DL02 UniRef90-M8DL02
UniRef90 W6N153 UniRef90_G8X931 UniRef90-N9Y265 UniRef90-A2TWQ9 UniRef90_R6X9R4
UniRef90_UPI0003B6EFB1 UniRef90_C1DVJ4 UniRef90-F7NL96 UniRef90-H1LRT2 UniRef90-U2Q2G4 UniRef90-U2TFI8 UniRef90_K01X78
UniRef90_D7N5W1 UniRef90-R7EYC3 UniRef90-H1HPY9 UniRef90_G2PS68 UniRef90_UPIO003B642B1 UniRef90-17LIZ2 UniRef90-D6TKS7 UniRef90_Q8TRK4 UniRef90-C8S324 UniRef90-B1QX38 UniRef90_R5A9N5
UniRef90-D3HVH5 UniRef90_R5NPQ0 UniRef90-M0PJN9 UniRef90-FOYXS8
UniRef90-F0GV04 UniRef90-B1YKB7 UniRef90-X5K6Y6 UniRef90-R5NJ14 UniRef90_Q1PW58
UniRef90_Q2CFM1 UniRef90_Q12UW2 UniRef90-R8VT16 UniRef90-R5DXF2 UniRef90_UPIO003B78724 UniRef90_W3AMX4
UniRef90-R6KW05 UniRef90-G2EAY6 UniRef90-R7R498 UniRef90-A6CLE1
UniRef90 W4BQY9 UniRef90-K8ENU8 UniRef90_D7NAI3 UniRef90-A6TRK5 UniRef90_UPI0003741DEA UniRef90-G4HBK2 UniRef90-D5DMX4 UniRef90-D9S3L4 UniRef90_UPIO003473390 UniRef90_C7HS56 UniRef90-N2BHX1 UniRef90-D6M8N2 UniRef90-L7ENZO
UniRef90 D9R0S9 UniRef90-R7JE00 UniRef90-UPIO0035CCB5D UniRef90-R5Y679
UniRef90 R6PVB3 UniRef90-K1LAF9 UniRef90_UPI00047B4602 UniRef90_UPIO003B55C21 UniRef90-M7DZA9 UniRef90_G7M8X5 UniRef90-G7LYK3
UniRef90_F9V7P5 UniRef90-A0A015L8V1 UniRef90_UPI00047AF39F UniRef90_D5E884 UniRef90-K1YJG9 UniRef90_15ATV3 UniRef90_B6YQI4 UniRef90_R6IB01 UniRef90-A6Q221 UniRef90-K1MFJ0
UniRef90_D9QRF9 UniRef90-F5WRX9 UniRef90-E1R3A5 UniRef90_UPI0004206AD0 UniRef90_K2EPD9

ADPLLESSEATFVIMDDHHQAPEDYAQ \|ITFSNPNASSTCS GPDSLITGN VVGIIDHHRLGGLDTRLPPEVCDKPVGSTAT
 AVDGI EDAEIVEIVDHHRVANIETRNPIYYRCEPVGSTST AVDGI E EAELLEVIDHHRIADFQTDGPLSFRAEPLGCTCT

 $M G N F A Q D V Q L L N$ DHHPTNDEFGTCNVIRTD R A A ATAE

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 L N NYFEDANTR I MI DHHSVVNMF NDSILPE GHPVDIVVDHHPPRGPVAGSDVNYVDPSAPACAC AVDGIIE EADVLEII DHHRLS SIETMMPVFRRNQPVGCTAT




 AWEYMR D HN I T T L P
A V E G I E A A D L L E D D D H H K I A T VQ T M A P V Y F R N Q P L G C C S T
 A GDMTSSAMKIMI DHHQQPDDYATY MYSDVSMSSTCE A VD G $\square E Y A D D L E D D D H H R D G T L E T M S P V F F R N Q P L G C T A T$






 NA WS I DE NKL NVVDDKE






 GNYSLRMAWNIMRDNH
$\square$ S A DLS S N Y E GKI I N DD H H $\square$ S N D N Y GVL N Y VDA T S S A T C E DDERWMQADYVI KIDDHHPNDDAY GDLRLVEPDRSSASE VGRAEEEYALL NI DHHPTNDAFGSTNLL R F D A A A A A TA E















| UniRef90_UPI000377FBE4 | $\text { T FK } \square \text { A S F\|L }{ }^{170} \text { E K GAN N S Q } \prod^{180} \text { N S N/V\|F E }$ |
| :---: | :---: |
| UniRef90_J0MG38 |  |
| UniRef90-B8I6E9 |  |
| UniRef90_R7IGI7 | D R R M A D R L A R I A GI DL E TLLGREMFSAG |
| UniRef90-D9SKI9 | DK QVLS R L A EI A DV DVEEHFAKEMFK A G |
| UniRef90-M2P7Y0 | DKKTAYKLAKIA GV DL E E F GMEMFKA G |
| UniRef90-A4XL68 |  |
| UniRef90-J5I8X6 | DKKAAERLAE\A NVNLNTYGLDMLKAG |
| UniRef90-D5EFP9 | DREAAQELATIA GMDIETFSRSMFEAG |
| UniRef90_C4GAM0 | DEAA ARTLAEI A D I Dide EHA M A MFEA G |
| UniRef90-M8DL02 | VMESAASLLKY GVNPGEVAERCL |
| UniRef90_W6N153 | D R T M V S KL AP $\square$ A GI D P E K FA K EMFK A |
| UniRef90_G8X931 |  |
| UniRef90-N9Y265 |  |
| UniRef90-A2TWQ9 | THEVIA ALI K K GANNDQ\HQNI Y |
| UniRef90_R6X9R4 | T FEFAASLLK R GVNVS DVYKRVLQ |
| UniRef90_UPI0003B6EFB1 | VLRQA A KLVEM GI S F H Q I A D Q V L E |
| UniRef90_C1DVJ4 | TFEDAK F L TEK GADPHY |
| UniRef90_F7NL96 | VLR Y A A DL LE |
| UniRef90-H1LRT2 | D K A A G L A L A K IA G $\$ D $\square \mathrm{E}$ K Y A N Q M F A S |
| UniRef90-U2Q2G4 |  |
| UniRef90-U2TFI8 | D R IA G E AL A A I C G E D DE P YA D A MF D A G |
| UniRef90_K01X78 | T F EVAASELVKYP FDRSE\\|YQNLY |
| UniRef90-D7N5W1 | T F K I A S ELI K I G $\quad$ D $\square \mathrm{NKV}$ V A V NL Y Q |
| UniRef90-R7EYC3 | DREAVRVLAPIA GVDATTYALDMLKA G |
| UniRef90-H1HPY9 | $\square \mathrm{Y}$ T I I G M L L T T Gld K D K I Y R NV Y |
| UniRef90_G2PS68 | THRVVAELI DK GADNMKI H Q K V |
| UniRef90-UPI0003B642B1 | THRII A ELIQQ S GLNSESINERLYE |
| UniRef90-17LIZ2 | DKITTAERLA E I A GI D I E S F A LEMFRA G |
| UniRef90-D6TKS7 | D I EVA H KLA T I A QV DLLQEFGQAAFEAG |
| UniRef90-Q8TRK4 | DLLSAAS Y L Y P L S N |
| UniRef90_C8S324 | D R AVAEKL A AELADD |
| UniRef90_B1QX38 | D K EI C L K L A El A GIIEVE D F A K E M F K A G |
| UniRef90-R5A9N5 | THRIA GALLELL GARGADINRAMFES |
| UniRef90-D3HVH5 | $\square \mathrm{Y}$ F I 】 S QL L T K G I D K D K I Y R NVFF |
| UniRef90_R5NPQ0 | TFA I A S ELLAAK GVN |
| UniRef90_M0PJN9 | DFEAAAALSEHAD |
| UniRef90-F0YXS8 | DEASARKLAETAK |
| UniRef90_F0GV04 | T F NAA GKLLTL GADSEYI YRNLYQS |
| UniRef90-B1YKB7 | T F S VA A QL L D T G $\square$ D T D WLY C N M Y Q |
| UniRef90-X5K6Y6 | THRIVANLIEK GADPA Q I |
| UniRef90-R5NJ14 |  |
| UniRef90_Q1PW58 | VFRAA A F L L H G ARHAE $\square$ S K NVY |
| UniRef90_Q2CFM1 |  |
| UniRef90_Q12UW2 | D L S A A A Y Y Y P L A D HE |
| UniRef90_R8VT16 | D RYT A E EL AKI A G D D P T HAVAMFRAG |
| UniRef90-R5DXF2 |  |
| UniRef90_UPI0003B78724 |  |
| UniRef90_W3AMX4 | DEK T GRELLAETA GVD IE K Y A F S M F S A G |
| UniRef90_R6KW05 | DVEACNALAKIA D I D I E K Y GREMFRAG |
| UniRef90_G2EAY6 | T HLVT A Y L D Q GAE HDQ $\square$ H NDVMDA |
| UniRef90_R7R498 |  |
| UniRef90_A6CLE1 | TFDVAGELIRF DFDRNELYNKMYES |
| UniRef90-W4BQY9 | VMATVS ELL S L GVNGPELAETLLE |
| UniRef90-K8ENU8 |  |
| UniRef90-D7NAI3 | $\square \mathrm{Y}$ T I G ML L T T Gl D K D K I Y R NVF |
| UniRef90-A6TRK5 | THYI A GRLKEY |
| UniRef90_UPI0003741DEA | VMEIAA S ELLR $\square$ GVS G N Q L A D HLL E |
| UniRef90-G4HBK2 | VMS I A S ELL G H GVVNGPELAEDLLE |
| UniRef90-D5DMX4 | TFCYASELL Q Y GFNFKDVY D QLY K |
| UniRef90-D9S3L4 |  |
| UniRef90_UPI0003473390 | T F A I A S K L R E I P F D F E I A R K M |
| UniRef90_C7HS56 |  |
| UniRef90-N2BHX1 | T M R DA A F L M E Q G $\$ D F T A V V R T Y  \hline UniRef90-D6M8N2 & THTIA G DLV V T Gl D F SEl HR\IYE  \hline UniRef90_L7ENZ0 & THLIA GELLIN T GL DFS SVMHRKIF  \hline UniRef90-D9R0S9 &   \hline UniRef90_R7JE00 & \Y T I I GELI K K GI D K D E 1 Y R K VFQ  \hline UniRef90-UPI00035CCB5D & VMEIVSLLLTY GVNGHQLADHLLE  \hline UniRef90-R5Y679 & SYRi A A ELIEH GADNGKINRAMFE  \hline UniRef90-R6PVB3 &   \hline UniRef90_K1LAF9 & VHLITA ELI GLL GADNTKI S R L I Y  \hline UniRef90_UPI00047B4602 & V HL V VA ELI D K GADS S Q I S N Wi Y D S  \hline UniRef90_UPI0003B55C21 &   \hline UniRef90-M7DZA9 &   \hline UniRef90-G7M8X5 &  \hline UniRef90_G7LYK3 &   \hline UniRef90_F9V7P5 & TLY L A S KLAEF DFDRPALGREM  \hline UniRef90-A0A015L8 & VMA I A S RLLD A GVNGFGLA D H L L E  \hline UniRef90_UPI00047AF39F &   \hline UniRef90_D5E884 & DLS A A S FL Y P M A D  \hline UniRef90_K1YJG9 & DKVA A S WL NQFA K L S E NFWKEDFDA  \hline UniRef90-15ATV3 & DRKAAMELAK T A G I D $\square$ EKYASAMFRAG |
| UniRef90-B6YQI4 |  |
| UniRef90-R6IB01 | TMRI A A ALL L E $\square$ GVVKPNEI S D S M |
| UniRef90-A6Q221 | TFEFAKELCEK GVV DPEYVATMLL |
| UniRef90_K1MFJ0 | THKII I ELLIEAAGANPAEITSN |
| UniRef90-D9QRF9 | A HRII A D M L E L G I D T K R I I K V V Q |
| UniRef90_F5WRX9 | DFEI AN LLQDRS GLDRNEFARDMYE |
| UniRef90_E1R3A5 | T F Glda H DLVED GVNPNEMYQH\YES |
| UniRef90-UPI0004206AD0 | DKRYAEKLAE\\|A GVD\NDFGQQMLLA |
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UniRef90_V6SQW2
UniRef90_UPI0003B3F446
UniRef90_G2FPK5
UniRef90_UPI000287DCBD
UniRef90_UPI0002F7E8FA
UniRef90_UPI00036EB423
UniRef90_UPI00037774F9
UniRef90_F0NZF5
UniRef90_R4K7Q6
UniRef90_R6RGA1
UniRef90_UPIO003B4C77F
UniRef90_R6HCX6
UniRef90_R6UK97
UniRef90_UPIO00248D9FB
UniRef90_G1WAX0
UniRef90_E6TZX2
UniRef90_D8GQJ2
UniRef90_V5FNB5
UniRef90_UPI000402729A
UniRef90_R6BFG4
UniRef90_UPI0002FDC1D8
UniRef90_UPI00042215ED
UniRef90_A0A017RVE4
UniRef90 S225Y8


 D DFLVVAAHVQPDGDAAGSTFAVAWMLQSLNKRFTLI NEGR RVVLTGHKSPDGDALGS S L GWAFYLRQLGKQVQVVMPDA

 K KI AI I PHRSPDGDAMGSTLGLYHFLLQLNHEPIVIAP NE


$R V A L G G H V R P D G D C V G S T L G L Y Q Y L Q K N Y P E!T V V Y L E P$ D RVLV S GHKRPDTDSIGGSAFGI YK LAARHLNKERII I NPME DSI IIHRHVRPDPDAYGSQGALKELIMTHFPNKKVVIVGE $V A V \bar{V}$ V H D N P DP D A $\square A S A M G I S \square I V E S V G L R A D P C Y F G D$

DK V V VS HVSPD GDA G S S L G LYY HF LD SQDK VNVIVPNA
 QNi 1 1 P H K N P DGDAMGSTLALYS YLMLLK QKKSTVITPND





D Q IIH R HERPDPDA $\square$ GS QVGLATLIDRERYPEKNVFVVGD QRIGGVVHDNPDSDAFASALCLATMAESLGRSADILLYYGT






 RRLLI DAHAGPDGDTLGSALALSGLLDAQMGHEAQVVCHDH D K FVI S S H liR P D A D A L G S ELLAMMA S F L K S L G K T V H I VV N P G A

 HIVI IP HLN P D GDAMGS SLLGI F HVLK NIGGKKVHVVSPSA D DFLVVSHVQP DGDADSSTSVI GWMLDQLGKTKTLI NEGE

V V L H T N P D P D S I S S A M A L C A I A K K D K Q L N C C R I L Y D G K
 Q KIVI HRHQRPDPD AL G S QVGGLAELLDRNSFSEK E I RQVGK

$Q P V A V V T H D N P D P D A \| G A A L A L V D \square A R S F D V D A V P C Y A G E$ $R K I V I V G H R N P D G D A M G A T L G L K H Y L D K K G H Q A T V V V P N E$ TIVA A S H M N P D G D N L G S K L C L Y K L F K N L N K E V Y V I E N D Q


E
EKIVIVTHVSPDGDALGSSLGLMHYLYEEEKTVHVIVPNA

 DRII I HRHQRPDPDAL GSQVGGLA E I L RATFPQKEIVYQVGE $H F V V I S H \square Y T D G D A L G A V M A F Y H Y L K S L G K K V E A I I P C G S$




| UniRef90 V6SQW2 <br> UniRef90_UPIO003B3F446 <br> UniRef90_G2FPK5 <br> UniRef90-UPI000287DCBD <br> UniRef90_UPI0002F7E8FA <br> UniRef90_UPIO0036EB423 <br> UniRef90-UPI00037774F9 <br> UniRef90-FONZF5 <br> UniRef90_R4K7Q6 <br> UniRef90-R6RGA1 <br> UniRef90-UPI0003B4C77F <br> UniRef90-R6HCX6 <br> UniRef90-R6UK97 |
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 DEPSLDFLK $\square G D E N K A M I N L L G I K L K H D D D V D \square K N Y C S I A V V D S S S S K T$

 $V$ DHNEKNQ VDHNERAQ
 \PD KFMYMAGPHTVDEYVKTPPERKFVAVI S VDCADFGR FPDFLKWLPVLRFDKQPDAVVEAFRQADLVCCLDFGEPHR MNQSVKKLLLWSRF $\square$ TPEEALEE $\square$ TQDSMLIVVDTHKPS L $\square$ DPETTFVLNYCNVESPKVTSDYSKF QVGLVDDFNQRTQ FPDF LA WLLPGSENVLIFEKDKENTTKDDLIFTLDFNALHR $\square P E Y P S A F S F L P G V E K \square K K$ ES D $\square Q E Y D L A \square A L D C A S I R \square$ EEPNLSWM AEMDAVADKDYQGALVIVT $\frac{V}{D}$
VPDSFRF NOFRF GAAADIRSEVTETETYDLFDLLDCGDSNRLGF IN S D LEQLGSLPNEEYHEQTKDWDTPSTLIMMVDHHRPSE $\square S H Q E N R A L N L L E I D M R T P G D A L L D E F E E I \quad L V D H S S P C G T$ FPDF LK WMPGSKD DRYQEFA DK LIMEADVICCLDFNALKR


$\square P Q \square Y$ GF LP LVQE I K P P EEFPD DA DTAVILDCTD


 $\square G H Q E N R F$ VNLLDD I KMEHLS L D ALLQK CT YL A MV DCS GPGA


EEPSLGFL ANMDELDDEKFEGALVIVCDTANE ERQ IH HETRAAFVNLLDDPDIDHITNGDPDRYSVI ALVDCNTPGK





 PNS QTR WALEKS GAKP PK LI R HIMMLR VK DVMNKNLVTANR


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  DEPTLAWITT DVE GLLRYLTEMQE $\square \mathrm{D}$

MDEVSDSDY DGALLVI


## KKO

 $\square$ SHQENRA $\square$ N LLG $\square D \square H R \square S A D G \square D G F G G \square A L V D H N E Y A Q$ YPDFDHWAPGSETTQRFDWQNAQSHKADII F




NEPTLT WM
TVEGLRFL
8


## UniRef90-D1CCV3

UniRef90_UPI000248F5B9 UniRef90_A4J6B1 UniRef90-D5XF15 UniRef90_UPI0003F64F9B UniRet90_W8VXP1
UniRef90 MOD112 UniRef90_UPI000319FB83 UniRef90-A0A011 RR72 UniRef90 A7IAM8 UniRef90_UPIOOO288D455 UniRef90-ToU7U9 UniRef90_V6YZ68 UniRef90_R7F790 UniRef90_R5VXFO
UniRef90 Q8RA39 UniRef90-С6Х2в0 UniRef90-F3Y2S9
UniRef90-M1GHF5 UniRef90-A8M165 UniRef90-Q9K834 UniRet90_D1YUV4 UniRef90-R5MK74 UniRef90 GOIUN5 UniRef90-R6MD35 UniRef90-UPIOOO39DE891 UniRet90_WODDX8 UniRef90-B7TYM9 UniRef90-DOTPR9 UniRef90 1324 D 2 UniRef90- F 816 J 8 UniRet90-FOSRR5 UniRef90-R5DFB5 UniRef90-UPIOOO47A3DF8 UniRef90-F9MTC9 UniRef90-W7XVL9 UniRef90-E1RK80 UniRef90-UP10003F8BD90 UniRef90-S5QY46 UniRef90-V5XM63
UniRef90-R6MAKO UniRef90-UP100047C52AD UniRef90-V4Y3H6 UniRef90-A4C1M3 UniRef90-D1VSB1 UniRef90-MOHI89 UniRef90-K4DE9 UniRef90-R6YT80 UniRet90-A7H9B1 UniRet90-E4TNU4 UniRef90-UPIOOO3682423 UniRef90-16SYA5 UniRet90-H1XYT8 UniRef90-V7HXH5 UniRef90-UPIOO04760413 UniRef90-F2F8X2 UniRef90_R6VOZ9
UniRef90_R5Y3Q8


## UniRef90_D1CCV3

UniRef90_UPI000248F5B9
UniRef90_A4J6B1
UniRef90-D5XF15
UniRef90_UPI0003F64F9B
UniRef90_W8VXP1
UniRef90_M0D1I2
UniRef90_UPI000319FB83 UniRef90-A0A011RR72 UniRef90 A7IAM8 UniRef90_UPI000288D455 UniRef90-TOU7U9 UniRef90_V6YZ68 UniRef90_R7F790 UniRef90_R5VXF0
UniRef90_Q8RA39 UniRef90_C6X2B0 UniRef90_F3Y2S9
UniRef90_M1GHF5 UniRef90_A8MI65 UniRef90_Q9K834 UniRef90_D1YUV4 UniRef90-R5MK74 UniRef90-G0IUN5 UniRef90_R6MD35 UniRef90_UPI00039DE891 UniRef90_W0DDX8 UniRef90_B7TYM9
UniRef90_Q0TPR9 UniRef90 ${ }^{-13 Z 4 D 2}$
UniRef90_Q1AXT4 UniRef90_F8I6J8 UniRef90_FOSRR5
UniRef90 R5DFB5 UniRef90_UPIO0047A3DF8 UniRef90_F9MTC9 UniRef90_W7XVL9 UniRef90_C6D2F0 UniRef90_E1RK80
UniRef90_UPI0003F8BD90 UniRef90_S5QY46 UniRef90_V5XM63
UniRef90_R6MAK0 UniRef90_UPI00047C52AD UniRef90_V4Y3H6 UniRef90_A4C1M3 UniRef90_D1VSB1 UniRef90_MOHI89 UniRef90_K1ZGN9 UniRef90_R6YT80 UniRef90_A7H9B1 UniRef90_E4TNU4
UniRef90_UPI0003682423 UniRef90_16SYA5 UniRef90_H1XYT8 UniRef90_V7HXH5 UniRef90_UPI0004760413 UniRef90_F2F8X2 UniRef90_R6VOZ9
UniRef90_R5Y3Q8

| UniRef90_V6SQW2 |  | $T$ H R V V |
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 UniRef90_H7ELPO UniRef90-G5KE62 UniRef90-V711K5 UniRef90_UPIO002FEF2AF UniRef90-UPI00047512DC
UniRef90-A0A033UTD3 UniRef90-C2FWG1 UniRef90_K8Z764 UniRef90-QOAYI6 UniRef90_UPI00041FDF4B UniRef90 C6VIH9 UniRef90_UPIOOO376EF0B UniRef90-R5YTX3 UniRef90_G9ZT41 UniRef90_U2XHB4 UniRef90-C2KYU5
UniRef90 ${ }^{\text {W7CIF3 }}$
UniRef90-R7BL34 UniRef90-R5LGE9 UniRef90-H1LJN2 UniRef90-A0A011AEX5 UniRef90_G5IMM9 UniRef90-E5V3Y9 UniRef90_UPIO0047E5E38 UniRef90_U7UCW3 UniRef90_G9QJH8
UniRef90_UPIO0047B4CF7 UniRef90_AOA016QLE9 UniRef90-N1ZM81 UniRef90-SOKLV5 UniRef90-W8T4D1 UniRef90-R5XJB1 UniRef90_17LE90
UniRef90_F7KBA UniRef90-UPIO0041AAA7E UniRef90-U7UE47 UniRef90_Y5P271 UniRef90_UPIO002491AA4 UniRef90_L9W5M8 UniRef90_U4TMJ8 UniRef90-R6GI80 UniRef90_UPI0003F53E29 UniRef90_E1L710 UniRef90_UPIO00478752C

 DSFIITTHTGPDADGIGAEIDMYHLLKTMQKRVHVINADP
 DQVYVMGHKNPDMDS GSADGVTKIAETNGKEAF VVIPED

QDT $\square V I G H K N P D T D S \square C S A \square A Y A Q \square K S Q L A P D T S F D R C G Q$ DQVFVMGHKNPDMDSDGASVGVRKMAQMNDKGYVVINFDE DTI I I HRHMRPDPDALGSQVGLAE ILDRASFPEKQUYQVGK

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    K\ I IHRH\IPD G D A YGS QLGLKY LIT SNFPDKQVFVQGE \(D Q V I I M G H K N P D M D A D G A A G G V L K V A E V N N T D A Y V V V P S D\) N VVLLCHNNPDPDAUSSAMALAA AARDKKVTCKRULYEGN
```

 QKIVITTHRDPDADALGSSLGWASYLLKKGHEVTVISPTD
$T$ LA V VMHDNPDPDA $\square A S A L A L V R \square A E R M G Q S A T A C Y Y G S$ ETIVI HRHVRPDPDAYGSQLGLKELILANYPDKKVYAVGQ

 EKVFVMGHKNADMDSFGASIG\|IDRAVRNRNKKAYFILGG
D QLFVMMGHTNPDMDS IGACLGDRRDAEMNGKECWIVIDDE D K V IV M G H K Y P D M D A I G A A I GIV K V A N M N N R D Y V V V NF Q E
 $D N V M I M G H K S P D M D S D G A A M G V M N D A K T N G V P G Y I V E F D E N$ $D T \| I L H R H V R P D P D A Y G S Q G G L A E I I D A T F P E K T V F T V G E$

T I I H R H Q N P DP D A $\square$ G S Q A G L K E L LC V V Y P T K K $\square \mathrm{L}$ M T G F

## ETII I HRHVRPDPDAYGSQLGLKY LEEEAFPEKNDYAVGQ

 K Til I HR HVVRPDPDA Y G S T F GLL R E I L Q A S Y P D K Q I F V T G E DKI I I TTHHKPD GDAL GS SLLGLVHWLKN QNHDVVHVIVVS S D QTII I CRHDHPDPDALGGSQGGLATLL SQAFPDKRVLCFGS
 $D$ Qi FVVQGHRQPDMDAVGACLGIVRIDAEMNGKQCWIVLDEQ





[^0]NEPT|L|AM
50
A SMDTV ${ }^{60}$
70
80 TPPRYDFLDPQEDFFEHFANPADLAGREVAIIDDLSAWSQ




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|  |  | | $P P P N L E W M P G I D A V E T F D A Y H E A L N D A D V V F V V D A N D A D R$ |  |
| :--- | :--- |
| $D E P S L T W M$ | $T$ | $\square P G N L G F \square P G S R C I S Q \square$ NPQPKTGLEFV

NQHNKKVIL
VNSFTQYVDDYFGVEAPEDIENVRTQVKDDEDVDHNEMSQ $V P \square R F A F L D P D G \square I$ EHWDSSRHFHDPELGIIIVDTSDECM IPSTFYRI KGTDEILHEDDESKHYDLF VLDCGDTGRLEF MNHNLKKLLGEMRFITPSEASEHATSDTLLVVVDTHKPVV LINDIGESMLKTNFRNYPLVDENGKYVRKKVILVVDHNEFAQ $\square N K Q T R Y \square L E R F G \nabla A A P R F \square R D V H P R \nabla R D A D W A H C N T P M R$ L NGS VT R LM F Y E HF LT PEEVATKMTEK SLLI IVDTH K P N L TVDHLEYLATMQE IADEVYQDSLVIVTD RFHLFNYRKKQVVVDHNEMSQ
 I NPDVQKLMEEVGDHDPEEALDDDTRHTLLVVVDTHKPSM


$\qquad$ V DHNERAQ PFVVPRTLRFLPGQDLLVAPGDLGDVPELVVTLDAGSEER
 YAANLRWLS GMEHVLVYEKPSEQGKCKKKICCL
 HDTSLSFL AEPDQLADAVYENALVIVTDTANTER LDASVIRLMEFRHFDTPDEALGUITMRTLLVIVDTHRPNF
 VNPS ILKNIVVRME E EQPEYLDDILLEPE EAIVMVDRSSFTE HPHSDNYQTDKDHDISPVEALEKATNNSLLVMVDHAKRTI LD TGVVRMMSYSRFI TPEDAYELATDDTLLVIVDTHKPSM
 DSVYEGALVIVCDTANQAR

## DEPS LS W L A LMDK V

NDEDYENALVIVT

SEPS LLEF GGE LDNDEKKPDVT DEVYQNALVII HEESLDFL D $\square$ D T TLERVMAEDDEKPDQKTDDQYEGALVIVT D $\square D S T L E R V M A E \square D E K P D L K E R F \square T S E E A W H E V D T A N T E R$
 MSKDLQYLNQMDRVKEEDFQD

$G E \prod Q F \square P$
AL $T$ L S SLQ LANAKNLIFCL VHSDI QRLDDQDKI DS P E EA EDASLNYLARLDHLE GMS LDKFMANIKEFIGKDVA NFDSFKWLGTADDI SDDQYKDALVIVVD

 PPSKFDY DGF DWLGKT DEDS DE QYAEAGVIVVVDT VTSSVRPMMERFMNNPDYP DDRTGUGE DQ


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 UniR UniRef90_R6H0S5 UniRef90_SOFRLS UniRef90-R5H3T3 UniRef90-14X4L2 UniRef90_R6NWJ9 UniRef90_Q894A3 UniRer90-F7PD8 UniRef90-M7NV54 UniRef90-K2A3X6 UniRef90_D5U5T2 UniRet90_M1Z519
UniRef90_R6P5L7 UniRef90-F8DR50 UniRef90_UPI0002FB03F8 UniRef90_UPIO004687691 UniRef90-Q8EKX0 UniRef90_UPI000360842D UniRef90_H7ELPO UniRef90 V711K5 UniRef90-UPIO002FEF2AF UniRef90_UPIO0047512DC UniRef90_A0A033UTD3 UniRef90_C2FWG1 UniRef90_K8Z764 UniRef90-Q0AYI6 UniRef90_UPI00041FDF4B UniRef90_C6VIH9 UniRef90_UPIO00376EF0B UniRef90-R5YTX3 UniRef90_G9ZT41 UniRef90_C2XHB4 UniRef90-W7CIF3 UniRef90-R7BL34 UniRef90_R5LGE9 UniRef90-H1LJN2 UniRef90-A0A011AEX5 UniRef90_G5IMM9 UniRef90_E5V3Y9
UniRef90_UPIO0047E5E38 UniRef90_U7UCW3 UniRef90-G9QJH8 UniRef90-UPI00047B4CF UniRef90-N1ZM81 UniRef90-SOKLV5 UniRef90-W8T4D1 UniRef90-R5XJB1 UniRef90-I7LE90
UniRef90 F7KBA7 UniRef90-UPI00041AAA7E UniRef90-U7UE47 UniRef90_Y5P271 UniRef90_UPI0002491AA4 UniRef90-L9W5M8 UniRef90_U4TMJ8 UniRef90-R6GI80 UniRef90_UPI0003F53E29 UniRef90-E1L710 UniRef90_UPIOOO478752C UniRef90_W0JEK3



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| :---: | :---: |
| UniRef90_U5P744 |  |
| UniRet90-K2BNN1 | TLKIASNLVAK GADYNR\\|VKNQFHS |
| UniRef90-UPI00047BAE65 | TFDAASYLRAH GA |
| UniRef90-wolvc6 | TFTDAAELVSR GAD |
| UniRef90 UPIO | TFEAASFLRNDGGDTIEEV |
| UniRef90-UPIOOOO376EA66 | TFAVSQLRQF DFDFAAISRQM |
| UniRef90-J7IUG0 |  |
| UniRef90-R7GCR5 | DRG\| AKVLAE:ANLDIDA |
| UniRet90-81ZUY4 | D\\|LA WLAE |
| UniRef90-D6DE12 UniRef90-F8FOE2 | TFETA LLLVQSGADPHETYRDपFES |
| UniRef90-R6SJD5 | A A ELLLETG |
| UniRef90-D6Y1K2 | FDAASY R |
| $\begin{aligned} & \text { UniRef90-G9XCG3 } \\ & \hline \text { UniRef90 C6LB29 } \end{aligned}$ |  |
| UniRef90-E6W1M4 |  |
| UniRef90-R5RJ95 | E $\square$ A A $\square$ A G $\square \mathrm{K}$ T Q D Y A MEMFA A |
| UniRefgo-X2H2G0 UniRe90 S1R919 | TGEAASSF |
| UniRef90-UPIO00305 | DRQGEELARDARDDLD ${ }^{\text {R }}$ |
| UniRef90-UP10004 | EVCARLFEE DFDWQELYNNMYES |
| UniRef90-UP10004 | TFDAASFLKSHG |
|  | DLINYVAFLLPATSSDL |
| UniRef90-8815 | DELAASRLAK |
| UniRef90-R6HOS5 | VF SLAAKLMEK GADAYNVNCALYRS |
| UniRet90-S0FRL5 |  |
| UniRef90- R5H3T3 | TLRAAAKLLAY GFDFSKL |
| UniRef90-14X4L2 | Al AGELIKY DFDRNALHNGMYE |
| R61 | TMNIAGRLMEM GIL |
|  | Llavadlm RTGF |
| UniRef90-Q894A3 | DKYıLKRLAEDAALDVEDFAEQMFKEG |
| UniRet90-7PID8 | E |
| UniRef90-X2GRB9 | A A |
| UniRef90-M7N54 | TFEAASY MNH |
| UniRef90-K2A3X6 | LUASKKLM |
| UniRef90-M1Z519 | E |
| UniRef90-R6P5L7 | A A A A A A K I A EVDIEELAKKMFEAG |
| UniRef90-F8DR50 | TFDAASYLRS AGAD |
| UniRet90-UP10002FB0 |  |
| UniRet90_UP100046 |  |
|  | MDAASYLRAQ G |
| UniRef90-H7ELPO | DRDVAEYLSSTTEDDDESLGKD\ISAG |
| UniRet90_G5KE62 | TFRUAGEL RLYQFDFSAMAR |
| (1)K5 |  |
| UniRet90-UPIOOO2FEF2 | TFEAAGDMKY NFDRT |
| UniRef90-A0AO33UTD3 | TFDAASFLRSH |
| UniRef90-C2FW | VHEDISKLIRSGAR |
|  | EVVSELVKQP FDVAKLN |
| UniRef90-QAYYI6 | TLRIAAELLNFASVNLARIS SLEES |
| Ref90-UP100041 |  |
| UniRer90-C6VIH9 | TFNAAQELRTYAGADRKTL |
| UniRef90-R5 | TFDAAAY RRCGVD\IKV KKWFQS |
|  | VA A |
| UniRef90 - 2 XHB4 UniRef90 C2KYU5 |  |
| UniRei90 W7CIF3 | AAA RRCGADTR RKVF |
| UniRef90-R7BL34 |  |
| UniRet90-R5LGE9 | YL KKYG』DLTEV KQ |
| UniRef90_H1LJN2 |  |
| UniRef90-A0A011AEX5 | MEIAGKLMEK GПDFSK |
| UniRef90_G5IMM |  |
| UniRef90-UPI00047E5E38 | LYHAIDAHLLEAGDDKEMVHREVFHS |
| UniRef90-U7UCW3 | TLLTAAALVDAGALDNVISEHL |
| UniRet90-G90JH8 |  |
| UniRef90-UP100047B4CF | A LLAAGVNPEEMYRR】YA |
| UniRet90-A0AO16QLE9 |  |
| UniRet90-SOKLV5 |  |
| UniRef90-W8T4D1 | MACEMK GTDKDSTVKNLFQS |
| UniRef90 R5XJB1 | EAAAF RRCGAD |
| UniRef90_17LE90 | A A K |
| UniRef90 F7KBA7 <br>  | TLRAAA ${ }_{\text {T }}$ |
| UniRef90-U7UE47 | T FEVAGKLLSL G ${ }^{\text {a }}$ |
| UniRef90-Y5P271 | TMNVASR |
| UniRef90-CPIOOO2491 | TFDAASY |
| UniRef90-U4TM ${ }^{\text {d }}$ | TF ${ }^{\text {da }}$ ASASLCSVGA |
| UniRef90-R6G180 | SYR\\|AADMIDCGANAFQINKIMF |
| UniRef90-UP10003F53E29 | May |
| UniRer90 E1L710 | F |
| (efo-W0JKK | iarlia sovor |

UniRef90_R6RXX4
UniRef90-R5N615
UniRef90 R RKI4 UniRef90-UPIO004787FOA UniRef90- J1F411 UniRef90-F2KMU0 UniRef90-UPI0003AAEBOB UniRef90-13VWD9 UniRef90-10HGP3 UniRef90-10GLTO UniRef90-R6BCJ6 UniRef90-B9Y4M2 UniRef90_W4QPX9
UniRef90-G8UZU5
UniRef90-D2MNE2 UniRef90-F5VXV5 UniRef90-UPlooo289622F UniRef90-B2A4Y6 UniRef90-F8FKR7 UniRef90-F2MSQ2
UniRef90-U2ALS2
UniRef90-MOMEJ9
UniRet90- XoQTK6
UniRef90-K1YFG9
UniRef90 R5UZG4
UniRef90-R6VYB5
UniRef90-B4S7K0
UniRef90_UPIOO0299F486
UniRef90-D3QC64
UniRef90-R5ZKN5
UniRef90-X1BQN3
UniRef90 E6LHL6
UniRef90-F4BNH6
UniRef90-UPIOOO262809D
UniRef90-KONX71
UniRef90_UPIO0028869E3 UniRef90-R7P737
UniRef90-V2Q7N5 UniRee90-UPI0003B42833 UniRef90 B8LCC5
UniRef90
R6V817 UniRef90-R6V817
UniRef90-UP1000471DD0B UniRef90-C0B777 UniRef90-E1X5P4
UniRef90 18 RAM8 UniRef90-14BWB1 UniRet90_UPIO001C373A5 UniRef90-G1EBB2 UniRef90-A9KKB4 UniRef90-J8T8F3 UniRef90-UPIOOO36AE214 UniRef90-M0MJS2 UniRef90-R6T935 UniRef90-R7GDH4 UniRef90-R6J588
UniRef90-UPIO0037DFD66 UniRef90-17LP94 UniRef90-K8EOC1 UniRef90_UPIOO04664B54 UniRef90-R6Z8W6 UniRef90-W6AB15 UniRef90_G2T4Z0
UniRef90 R6R4B7 UniRef90-UPIOOO378BB71 UniRet90-FORTJ8 UniRef90-S5MC79 UniRef90-R5X0X4 UniRef90-F4LV66
UniRef90
R5TY95 UniRef90-RTFSW3 UniRef90-U2Q7C7 UniRef90-UPIO003746A88 UniRef90-BoRZP7 UniRef90-092BE0 0 UniRef90-E4KWN6 UniRef90-G4D1F8 UniRef90-UP100037B23CF UniRef90-D1AYS2 UniRet90-F4KX33 UniRef90-G4KVU6
UniRef90 U2WJ40 UniRef90-M5S1TO UniRef90-B3QNM6 UniRef90-X81Q13 UniRef90 ${ }^{-}$R7BWSO UniRef90 R7JGUO UniRef90-DOBLJ4
UniRef90 D7UUY8 UniRef90-R6FU77 UniRef90_WOEYP9 UniRef90_R5H9W 5

D N V I I M G H M N G DMD S $\square$ G S S M G V Y R L S K T L G K E A K I I N E T T

 DTI II HRHQRPDPDAYGSQCGLAAILLRANFPQKKI YQVGG



 D T I I I HR H VR P D P D A Y G S Q L G L K Y Y I Q Q K F P Q K Q V F A V G E


DKFVLF DHK DPDGDAMGS LLAVFCLLKKWRKNVEDA WDNE RII I HRHMRPDPDALGSQVGLAELLRSSYPEKEIYQVGG



 IA T K I S L S N Y $\square K N \square N \square N K N P V T V N N$
$K T \square G \square G G H \square R P D G D C V G S T M A L Y L Y L K K N Y P D L K V V F L E K$ VFVGHLVT DLDSVGGA $\square$ GAAAL

YGGRAALASD
ETIILHRHIIPDGDAYGSQLGLKYLIKENYPDKEVLAVGLD TI AL G GHVRPDGDCAGSCMGLYNYVRENFPEKEIVVLEE
 DRILVVYRHTNPDPDDA, GA QFGLVADLSSAAYPDKTVVAMAQ

DK V V IM GHS $\square$ G D VD SF GA A $\square$ GMYR $\square$ A K T L G K K A H V V I N E K T I I HRHQRPDPDALGS QI GLKKLIQALDPTKHVYAVGE

 K VLIMMHTNP D IDDALGSAMMGMYRFVKNMNKNGYGIDSEN
$K N \prod A \square T S H L R P D G D S \square C T S D A L Y F M G K Q M G K N M S \square H \square K D N$ ETMI H H HQRRPDPDAFGSQLGLKA L LQASFPEKKI YAVGK II T T HVVNTDLDGLASMVA A Q K L Y P GAELTFPGK


 QTIIIQRHVNPDGDAYGSQFGLKHLIENNFKDKKVYVVG KHI AI LA HTNPDGDA IGGSSLAWAKVLRSLGHDVQCLVPNK

 QS L L V T A H A R P D G D A V G S V L A C GMML L K Q L G K Q V E MA F S D R
 E NVYIM GHKNPDMDADGAA IGCLLRATLNRNKE GFIV L L E K

 RKAVI LTHRNPDGDA $\quad$ GGSSLALLYHLLDKMGHSPVVVCPSE
Q NVVLTAHVNPDGDADGSSLGLMHLLRGLGKEAAVLLDDD E S F VV L V S H I R P D C D A L G S E L G M A E V L R T I G K K V R I I N A H R $H \square L L S T H E N S D G D G L G S Q V A L A D V L R A L G K E V V I I N P T I$
 QNIVIVSHTNPDGDAVGSSLAWREALLEMGHRVTCIVPNK




K 70 70

80 $G \square G \square E K F L E T A K K T E E Y A D C F D T R Q P N T L L V V T D T N N Y V E$ TVESVRPLYNEDVESPAYED DYDTDNTMVIVVDTNKPQE
 EKVHGLAWI A EPE EVVADELYRDALVIVTDTANQPR

 $\qquad$
 F D 1


DLPTLTWLAKMDEVEDQE
DLPTLTWLAKMDEVEDQE FEGALAIICDTANTAR
 L N Q NVR Y S L Y K D T F S F VEER PP GKLMETDYEDEKLNRWF ITPEQAMQI TNVDTHKASM



 $\square P E$
$Y P Y$ Y A F L
$Y$
 AEPSLLSFDGDLDS I

 $P V G D L S Y L G T E M D D V S D E Y Q E A L V I V T D T A$ D DPAL E F L A SMDED

E N DVGGDGDSWI NQMDEVVK D E D Y Q G A L L V I T T
 DPESYKIIEATAEVKS DFKTDVDSYD IFFAMDDHNEATQQ D C GERLG V N S E T A F ALLE E WGVEVP PR R DE DKENP DAK】CLVDHQQTS Q




 A A A LDD S F KEVLDAK E E E Y E DVLIDSKEVALDENDEDTKN YVVE VDHNERSQ
 SVP GLA WMSET EPFMDTDPDAAYNKALVIVVTDTANAPR LS R NV E E F LDA LH K D NVRNDKD DNDE HVKRLI MVD TK SP GR




 QSPSVDS LLMQKNFIGETEALNKITKKTLVVVVDTHRPSM
 DSPSLCFLF

E D
V P L I YR WLL P CAQRIR
 EKPDYKKYFVVKNAFAKENCNSNSLVI







DARRFSFM
D GSKMDTVDDAAYK GALLA VLDT SAK S LI Y P Y F L D WMLVLF KT DE A GVAR R AVE E S DLI F F L D F NAVSR
 I N A I E Y Y L E Q L K K D S S Y D N M E K Y IIN D K S L L I I V D V H N Y V K WA N WL $N$ N WMP V L


A


 VDDQRYLNGKALVKIDHHPNEDPYGEPCWVKT DASSCSE
 MGKAKELLRKVSINDDHHDSNTLYATMNYVDTNAAS SSE LGDRLAAPRSVVLDHHASNTGF GEVRLVDPRAAATSV VADLLERVPQVVVDDHHRRSENFDKS PLLVYDPRASSTSVE
 VDDKRNGAFLVKI DHH PNEEPYGDLVWVDPSFSSTS
 IDD KRYLNAETI K KDDHHPNDEEYGDLVWVDT TSSSASE

TPELLQQTGRKVVVDHHRRSEDFIQDATLVYMEPASSTCE
 SPELYDKDQRTVII DHHRRGQEFPENPILVYIDPASSTCE





 A AKYFESSAEHTI CVVDHHVSNQNF A EHNYIFPDAASSTTCE






 V VD H HRVA NFETA S PL Y M R LE P VG S A S S CPELLLELTKTVVI L DHHRQT GEAVENAVLSYIIEPASSSSE SDDRY QL G DKLI KI DHHPPEDQY

## V

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$V A K C V$ QADACINI DHHRTNA AEGDTYLDAPDRAATAE L G D MI R S S RADKIVLD HHVGEDELGATMYKDYQ A EATGH








| UniRef90_R6RXX4 |  |
| :---: | :---: |
| UniRef90-R5N615 |  |
| UniRef90-R5QKI4 |  |
| UniRef90_UPI0004787F0A | TMEDAAKLIA Y GFDFGSLDD HVFF |
| UniRef90-J1F4I1 | T L NVAA QL I E H D F D A A Q I NR RL |
| UniRef90_F2KMU0 | DFTAAAYLYPFVDHELIE |
| UniRef90_UPI0003AAEB0B | T F DAAS FLRSK GA DVQKYFKE |
| UniRef90_I3VWD9 | THEVVAGDLINN GASVDK\S |
| UniRef90-IOHGP3 | V H ELA A R L I A T G $\square$ R P GEISRRII F D S |
| UniRef90-I0GLT0 | TF D A A Y L R R G ADPV MVRHLFRS |
| UniRef90-R6BCJ6 | TFEAAAFL RKCGVD\\|IGV K K WFQ S |
| UniRef90-B9Y4M2 | D R DT A EKL A Q $\square$ S GVV R Q T L S E E L |
| UniRef90_W4QPX9 | T L R R T S LLIE Q NFDQ T K F Y S NLH K |
| UniRef90-G8UZU5 | TME\AGKLIGH D I D H N ALLNKMME |
| UniRef90 ${ }^{-}$D2MNE2 |  |
| UniRef90 F5VXV5 | TLRIIAS QL REY DFDYAKLT R H M |
| UniRef90_UPI000289622F | TFEAAS Y L R $\square$ N GA D TVV L V Q N M L K |
| UniRef90_B2A4Y6 | DVRAVAAQLLE WGA DVD |
| UniRef90_F8FKR7 |  |
| UniRef90-F2MSQ2 | T L A VA A QLRT F NFNAADLNRE |
| UniRef90_U2ALS2 | TLRAAAKLIS Y GF DFSRLIEET F |
| UniRef90-M0MEJ9 | DFDAAAFLLPYADED L L E |
| UniRef90-X0QTK6 | T F D A A S L |
| UniRef90-K1YFG9 | TFKMAGEILDD S GVDKE!IQ |
| UniRef90-R5UZG4 | TLR\VADLMEFPEI HYA WI N R A MFA |
| UniRef90-R6VYB5 | L F R AVAVLLE K G I S $\square$ P EI H N S V Y N A |
| UniRef90_B4S7K0 |  |
| UniRef90_UPI000299F486 | V Y R I A A DL I DL GAEHWKIH Q AVY |
| UniRef90- D3QC64 | T M K V A S F L L |
| UniRef90-R5ZKN5 | D R L L K E RL EK EY G L D F D A M A K E LF E |
| UniRef90-X1BQN3 |  |
| UniRef90-E6LHL6 | T L S L A A KLRT F E F D A S KL N R Q |
| UniRef90-F4BNH6 | TMRIVA DLMEFP FKPDEINRKM |
| UniRef90-UPI000262809D | TFQHAAELVT Y DFDRPSLYD G $\square$ Y |
| UniRef90-K0NX71 |  |
| UniRef90_R5HLQ0 |  |
| UniRef90_UPI00028869E3 | T F D A S Y R R A GADT |
| UniRef90-R7P737 |  |
| UniRef90-V2Q7N5 |  |
| UniRef90-UPI0003B42833 |  |
| UniRef90-B8LCC5 |  |
| UniRef90-R6V817 |  |
| UniRef90_UPI000471DD0B | T LEV VA A HL LK S GFDL N A L H LE M Y |
| UniRef90_C0B777 | TMRAAAAL MEK G $\mathrm{T}_{\text {M }} \mathrm{F}$ T K I I TETF |
| UniRef90-E1X5P4 | THRLDAKLMD A GVKPPEAFN |
| UniRef90-I8RAM8 | T LaA I A S ELA A T Gl D $\square$ A A L H HEM |
| UniRef90 ${ }^{\text {- }}$ [BWB1 |  |
| UniRef90_UPI0001C373A5 | A HEI A A EMMRSYDINFSRINRYMF |
| UniRef90-G1EBB2 |  |
| UniRef90_A9KKB4 | T F EAAA Y L R R S GADVTR |
| UniRef90-J8T8F3 | THLRTGKLVE A G $\square$ D Q P K F Y S A L |
| UniRef90_UPI00036AE214 | T M A V A GKL M |
| UniRef90-M0MJS2 | D LT A A S Y L Y P F A D D T LE |
| UniRef90_R6T935 | THRAAAELLD A GAENAF $\mathrm{T}^{\text {A }}$ D HMLYES |
| UniRef90-R7GDH4 | TFEAAA Y L R R CGVD\I RVVKKWFQS |
| UniRef90-R6J588 | DQDTAKRLAEQAGID AEAFAMEVLRHG |
| UniRef90_UPI00037DFD66 |  |
| UniRef90_17LP94 | T FRVVSELEKY HFDYETV H H H M |
| UniRef90-K8E0C1 | D $\square$ R A A A F L L E |
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| UniRef90_R6Z8W6 | TFEFAAELVRK GAKLKE |
| UniRef90-W6AB15 |  |
| UniRef90_G2T4Z0 | TFEAAAYL R R A G AEVTTRVGRKMLR |
| UniRef90_R6R4B7 | T M Q $\square$ A G K L M D K G $\square$ D F T S I I D D T F |
| UniRef90_UPI000378BB71 | T F D A A Y L R R S GADP |
| UniRef90-F0RTJ8 | D Y T A V Q DL L $\square$ ¢ Q VD M M T FGQ T M F A S G |
| UniRef90-S5MC79 | TFEVASVLLK T GFDLFALYK K L |
| UniRef90_R5X0X4 | LF R A VA GL I E K G $\square$ N I P D I N S K V Y N S |
| UniRef90-F4LV66 | TFEAASYL R RAGADPTMVY KLLFQ |
| UniRef90-R5TY95 | TFEAAAYL R R CGAEVTRV R K M L R |
| UniRef90-R7FSW3 | T F S LA S F L M E T G Y $\square$ T T A R I FR N L Y |
| UniRef90-U2Q7C7 | T LR R A S ELIK Y N F N M S KLLD K M |
| UniRef90_UPI0003746A88 | TFSLA HEVVRLL GARPGPI A Q DV |
| UniRef90-B0RZP7 | TFEAAS IL KRQGADSVRV K Q L F K |
| UniRef90_Q92BE0 | T L R L S A HL VT F P F D R P A L Y R ELY E |
| UniRef90_E4KWN6 | T FEAASIL K R A G A NMLKV K A L F Q |
| UniRef90-G4D1F8 | T FEAASIL K R A GADMIKV K L L F Q |
| UniRef90_UPI00037B23CF | DFKAGGWL R SK GMDINTISE |
| UniRef90_D1AYS2 | TFDVAS KLMKV GVDNREITNULF |
| UniRef90-F4KX33 | L Y R TVA RLL VEL |
| UniRef90-G4KVU6 | DID M A N R M AR I A K $\square$ S LDELLGHMDF |
| UniRef90_U2WJ40 | VMRAAAHLMD CGAEPHIVSEAL |
| UniRef90-M5S1T0 | TYRVVAR L I D A GVVPSEVY A D L Y E |
| UniRef90-B3QNM6 |  |
| UniRef90_X8IQ13 |  |
| UniRef90-R7BWS0 | TFELLASFLLSK GFNPGE\YANLYA |
| UniRef90-R7JGU0 |  |
| UniRef90-D0BLJ4 | TFDAAS YL K SVVGA T |
| UniRef90-D7UUY8 | TFDAASYLRSLGADT |
| UniRef90-R6FU77 | TFDAAAFLREL GADTLEV K K M A A |
| UniRef90-W0EYP9 | VHRMVA NLMEK G $\square$ N H PKI F S Q L Y |
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## UniRef90 U2LHB9

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UniRef90_C0ZYA8 UniRef90-G2MH24 UniRef90-R7M684 UniRef90-FOS2H1
UniRef90 X 5 JNN 1 UniRef90-R5QP82 UniRef90-J4U9K8 UniRef90_R5QH26
UniRef90 U2D5SO UniRef90_UPIO0047C8E00 UniRet90-N9QZK7 UniRef90-WOJAE5 UniRef90-R6QG33 UniRef90-U2ROQ4 UniRef90-XOPEA7 UniRef90_UPI000408CB93 UniRef90_C8NEX7 UniRef90- 3 JJBL 1 UniRef90_UPIOOO2197A11 UniRef90-R5DR13 UniRef90-M2C658 UniRef90-R6CZ56
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UniRef90-U2WH80 UniRef90-D4KWE0 UniRef90-14C649 UniRef90-W8A2L1 Uniinefol V6Z6L6 UniRef90-GOVQ98 UniRef90_D9TRG11
UniRef90_R5B810

dr!ITHRHNNPDGDATGSQVGLKHLILENFKDKEVYaVGD QNIVLTTHENSDGDGLGSEVALAGVLKALGKEVAIVNPTE DKFFLFAHSRPDGDALGSLFGLADILQAQGKKVWCFVEAE DQVFMGHVNEDYDALGAADGVAKMALT LNKSCCIVASGQ KTVGIGGHIRPDGDCVGSCMALYLYDRKYFPDIDVNVYDD RHIVITCHMSPDGDAMGSSLALARILRAKKDDVTVVTPDE RRVVLSGHVMPDGDCLGSVTALGLGLDKLGKEVTLASPDP QR LVVLSHVNPDGDAGGSMLATMHVLRALGKEAIAVASS DQVLI MGHKLGDSDSFGAATGIYKIAASMEVKAGIVIJND DNLILCHKNPDGDTMGCGSALYCALKALDKNVAVLCSDA DSIVIFHH|RPDGDCLGSQFGLKELLETNYPNKKVYADGD KTAAIAGHIRPDGDCVGSCLATYNYDTTYYPQUEVLYLDQP VVITHVVNDFDAFASMVA VGKAKKLYPDAAVAFPGS
 RVVI DCHVHPDADTVGSGLALGQALVAKGVDVQ VVFGE DKILLTAHVSPDGDAI GSGLALWHWLQLQGKKAVMVIDDD NVLVMGHNFMDFDSLGAA GMYRCAVSLGKEAKIILDKS

## UniRef90 U2LHB9

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UniRef90_G2MH24 UniRef90_R7M684 UniRef90_F0S2H1 UniRef90_X5JNN1 UniRef90_R5QP82 UniRef90_J4U9K8
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UniRef90-V6Z6L6 UniRef90-V6Z6L6 UniRef90_D9TRG1 UniRef90_R5B810


 I P E NLLK F LIPN LDDLLL








 1 P WY F Q E F E E V V E I L S Y E K IDM E A N F N P DVIV LI Lid A S S P D R





 HGKNAQF LQ SLLIYPF LEEAEHVDNS DDTLIVVVDTHSSKR




 A HPPVVRDFLALLHRDE YPERRSVNPHTVVRSLIVPDTQQRVR PAPEYDF I Q G IDDQ I T DDTKPFTYDVMIVVDSPERCG VNPSAK PMDEK F K F DS E E K A V N S $\square T$ N E S L V V V VV DVVNRPS $\square$


 $\frac{\square}{\square}$






 $V$ V R $\quad$ P
 EHYAPKYDVI P GK HLVVKEAVAKA DLGLALDCGDEGR
 $L$ H P AVR D F L
PANGYA A L


 VP P N Y T F LIK Q E G N I N K D E EA I Q E V VL A DVV V L L D A N L R E R

 P N H NLE II PGFRTVAPPNRVKRAFESADVIFCLDY HRVDR

 I T A S L K P L Y N E F K E N D H Y P E D M FVV D S QE A L R L V D D N T M T E I PNRYAFTNAHMFKGEFEPQTVVAVDVASVQLFGKN

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## UniRef90 U2LHB9

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UniRef90-C8X0G4 UniRef90-G2RZ64 UniRet90-×5EOY3 UniRef90-×0RMC5 UniRef90-ㄴBA14 UniRef90-A7HJP8 UniRef90-G5JYU4 UniRef90-O30WI8 UniRef90-UPIO0036BC079 UniRef90-16U5N3 UniRef90-UPIOOO3464323 UniRef90-UP10003757A7D UniRef90-13DJS4 UniRef90-LORUL9 UniRef90_G9RYU3 UniRef90-R5PAT6 UniRef90-S662TO UniRef90_F2LX26 UniRef90-UP100041B087C UniRef90-D5EQH1 UniRef90-I5AVF1
UniRef90_C0ZYA8 UniRef90-G2MH24 UniRef90-R7M684 UniRef90-FOS2H1
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UniRef90 Govo98 UniRef90-D9TRG1
UniRef90_R5B810
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A
L


 NY円 PQASSASE GDVNIVKKGYSSTCE AEYYDLRNDVGATAT NNSIPEDDTVSIVIDHHPAENVE NVTFFKAENVAVIDHHRVSGELPAMNRVMSYM SDISTKTAWIPVIDDHERLLGIVTLSDUTNNYMDALDNNT
 VGGEKSTAYKAMIDHHLHPADF LDAMAAAMDRYVLIDHHTNPRIPGALALSFPEM DGRVGEDCKAPI YNDDHHDSNSHFAAGLYLLPEFAASST VHTPREASSTVVNIDHHRRGEEFVTDAVLVYLEPYASSACE IDESRWNLAKIVVKDDHHPNRDVYGDVMWVDPDYCATSEM DSDKRYRLGKKVLKDDHHPDEDNYGDSNWVDTSMSSTSEM SEKVGELFMALKLPWATDDHHDLPGKKEFCVDPSYAATAE

 LAAADSTFPVVNVDHHGTNLRRADAG SVVVPSKPAAAM SPDLYDKLNRLMVDDHHRRGEEFPENPMLVYDEPASSTCE LLYQNKTTAKLRIDHHPNDADTMYDYNYDDDKFVAA AE

 VTKDSTCAEALELDDEHDVRALPVVDP WLTNDPQASSASE

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 VGELISGFNYIIIDHHATNTE KSDTSLIMPEAPSTTY
 VA GGTFSGPVVNLDHHGTNLRQATAG VVDPAKPAAAM


L
LA P Y T T E SKARRAMIDDHHLDP D DSVGDWAVSKPQRSSTCS
$\begin{array}{ll}A G A F L N N R P L I V V D H H A T N D G G G T & V S V I Q P Q D P S C A ~ E ~\end{array}$
CEELLGMVKTIAAVLDHHRQGSKA DENAVLVYVEPAS STCENGMTQFSRHVDLCIDDH A GNSGYADFTLLNGSAAAAAE
R AVVE DK KLSSK K S I N DID H H V S N T E H A D F N Y VA A KY F E HAKK T A CIDDHAVSN E H A D F N YVED

$L G Q L A Q S T P V L V I \quad D H H V S N E L F G T A N \quad Y V D \square A A D D S T A E M$





| UniRef90_U2LHB9 | $\square Y F \\| \rrbracket G Q \mid L \square_{-\lfloor K G L D K D K \\| Y R N D F}^{180}$ |
| :---: | :---: |
| UniRef90_H4Gl19 | TLLAVA G A L M E H |
| UniRef90-R5FJS0 |  |
| UniRef90_G2T334 | TME $\square$ A GA LME C G $\square$ N Y P K I V D D T |
| UniRef90-D6SAN5 | TLLAKAS KLVEY GADMMKI NELIMYQS |
| UniRef90-D3RYY7 | D F LAA A F L Y P FVD NELIEK M |
| UniRef90_C4ZB71 | THSLD R D L R D E A F D |
| UniRef90_K4KZP2 |  |
| UniRef90-E31913 | T F DAASYLRAQ GADT■ LVQKLLK |
| UniRef90-V8BL09 | TMEAAA QLMRK GVDTAKI TDRTY |
| UniRef90-H6RE83 |  |
| UniRef90-N6VXT0 |  |
| UniRef90_U2P758 |  |
| UniRef90_R9IPR9 | TMNAAGILMEK GIIDF TKIVDDTF |
| UniRef90-R5BEU2 | $T$ L NMAA CVVKNGAKPNVISSEHV |
| UniRef90-R9LD31 | T FEAAAFL R R NGAD T |
| UniRef90-C8X0G4 | T LR L A A DIVE A G $\square$ D P S R I |
| UniRef90_G2RZ64 | T FRLAA F L L E Q GFDLSELYQ M M Q |
| UniRef90-X5E0Y3 | TFKVVS GLL N Y E $\square$ N T D K I Q S S VF |
| UniRef90-X0RMC5 | TLSRAGKLVVEK GFDQTHFYSQ |
| UniRef90-14BAI4 |  |
| UniRef90-A7HJP8 | VFSDATKLVSLGG |
| UniRef90_G5JYU4 | TLA ${ }^{\text {a }}$ A S KLRTY NFDFA A M S R R M |
| UniRef90_Q30WI8 | VLEEI A A DI L R C GLDLGDFGPKM |
| UniRef90_UPI00036BC079 | T FKIA S DLT T S G GI K P H L I A A N $\square \mathrm{Y}$ |
| UniRef90-16U5N3 |  |
| UniRef90_UPI0003464323 | T F A CAARLRER |
| UniRef90_UPI0003757A7D | TFDAAS Y R A L G |
| UniRef90-I3DJS4 | $T L K A A Q F L V E Q \quad G A D N A L I V R N F \square K$ |
| UniRef90_L0RUL9 | TYELVAFLMEN GFNPQDILREL |
| UniRef90_G9RYU3 | TFEAAAYLRRM |
| UniRef90_R5PAT6 |  |
| UniRef90_S6F2T0 | TFDAASFLRALL GADTDEV K K M F |
| UniRef90-F2LX26 | D $\square$ K A A A FLLEK GA DLETV KEVLE |
| UniRef90_UPI00041B087C | TFDAASFLRKM GAETTEVKKMF |
| UniRef90_D5EQH1 |  |
| UniRef90-I5AVF1 | TMR\A A G L M K K GVP F NRIID K T F |
| UniRef90_C0ZYA8 | $P H V L A A R L L A T G U D G D A I A R K L L$ |
| UniRef90_G2MH24 | DLTAAA Y L Y P F A D HETL |
| UniRef90_R7M684 |  |
| UniRef90-F0S2H1 | DF LIA A A Y V V $\square$ G AN $\square$ E |
| UniRef90 X5JNN1 | DASALA WL MA |
| UniRef90-R5QP82 |  |
| UniRef90-J4U9K8 | TFEAAAFL $\quad$ K R C GADVT RVVRKMFR |
| UniRef90-R5QH26 | T HK $\square$ A A K L $\square \mathrm{E}$ R G V N HA S I C R D L F E |
| UniRef90_U2D5S0 | TFEAASFLRRLGAIDDKKLF |
| UniRef90_UPI00047C8E00 | TFEAASFL R RS GADTTAV R Q LF Q |
| UniRef90-N9QZK7 | THFLTSF【FE T GFNYLLIHERL |
| UniRef90_W0JAE5 |  |
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| UniRef90-D7CW79 |  |
| UniRef90-U2R0Q4 | T F E I C S KLIKK A GVNNHKIANIL |
| UniRef90-X0PEA7 | T F RIIA A ELTSSF DFALD KVVSQHM |
| UniRef90_UPI000408CB93 | T FEAAAFLLRRNGADVTRV R K L F R |
| UniRef90_C8NEX7 | TFALVSKLIQH DVDLS GI A D R M |
| UniRef90-J3JBL1 | T F NV A GELVVK A DFDPTVINRNL |
| UniRef90_UPI000219 | TMRVGGKFIALL GVDTAAINNKM |
| UniRef90_R5DR13 | TFEAAAFLRRH GADVTRVVRKMLR |
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| UniRef90-R6CZ56 | TFEAAAYLRRM GADTVEV K RLIFAS |
| UniRef90_R1DRM5 | DKLLM T M L C F L G K V P NVLA Q D MFR A |
| UniRef90_C1CV95 | A F ETAARLRSH |
| UniRef90_UPI00047E2DAF | TFEAAAFLRRH GADVIRV |
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| UniRef90-K8GCG8 | DA WALLA WLMEQ GAS LKA TAE |
| UniRef90_UPI0003606E8F | QHLIAARLDEAGASVARISHLVF |
| UniRef90-K9YER9 | D A I A L A WL MEV GANINVIA D |
| UniRef90-R6BP24 | TFEAAAFL R RCGADVTRV R K MFR |
| UniRef90_UPI0003B3777D | DK D L A K R I EKEHG $\square$ D F D A M A K E L F A |
| UniRef90-R5Q477 | TFALLA A F L M SV D F S T A D I Y RELY A |
| UniRef90_A1BGN3 | VYRLA G DLVEK GADASLI Y DLV Y C S |
| UniRef90-Q6AJY6 | THVIA GELLA L G V L P D QVGSHLY |
| UniRef90-D2RN25 |  |
| UniRef90_R7D9T1 | TMRIA GELMK T G IPPFSRI DDESF |
| UniRef90-R7IY97 | D Y R I TAA L L E K GV D K N A L WRALLF |
| UniRef90-F6CNN6 | THRRVARLLMEEGVDAARLNVLLIE |
| UniRef90-15BVW7 | VHLITTAELIGL GADNSKI S RLI I Y |
| UniRef90_A9WGP9 | TMRRAAMLLEAGAAKQPVDD AVF |
| UniRef90_UPI00037381D6 | THTLAERLLA T G $\square$ L GAEI SRELL |
| UniRef90_UPI000467EA33 | T FEAA A F L R R N G A DVTKIIFRDDLEA |
| UniRef90-E2ZMA7 |  |
| UniRef90-F9QDS7 | T F KL V A HLYE |
| UniRef90-U2WH80 |  |
| UniRef90_D4KWE0 | TMEAA GVLMGM G $\square$ M F P K V V Q T F |
| UniRef90-14C649 | DFEAA A WL LQK GANLLNIVSNMM |
| UniRef90-W8A2L1 | TFDAASFLRAN GAD T ALVQKLLK |
| UniRef90_V6Z6L6 | GHR L A A RLL D L G GVN】T R T F M D |
| UniRef90_G0VQ98 | T LRMAA ILVDH GARPDFIS E H L |
| UniRef90-D9TRG1 | TFEAAS YL R RK GAD $\quad$ T I SVKML |
| UniRef90_R5B810 |  |


 KKIYIARH IGGPDPDAFGSQMALKESIVITTPSKEVYAVGT



DRПFVYRHTNPDPDA TGTQYGLVQGLQTSFPSKTIITMDA


 IILCHTTADFDALGAAVGLTCLK PGSKIVLTGG


QRFLI LLHQKPDGDA $\square G S A V A L G K G L K Q L N K T V D Y Y D D L P$ K N A A TGHVSPDGDCTGSTLGLYNYITENFEDKNVVCLEK KKI I I LR HQRPDGDCDGASLGLREII KNSYPEKEVVYAND




## UniRef90 L9YGJ1

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$74728 B$
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9
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 Y S H D I K K L M E V I K I V N P E M A E A LI T E N T L V I I V D V S K P CA NNAAHPMLRRLQALPEYDDAFLRVQPETLLVVVDTNRPVE SHPAVRDFLALHRDEYPERRAVHPEQDRSLVVVDTQKRDR
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 I S S Y A K R L L Q F A E V V E K N P KVV E E


 PSMKFSFMNGFELI SEDPFMEADLLVSLDAS DRER YSKDLNF LIDSEDENTDNNYNDALII IVDTANLER D S S E YLS F LGGSVGAPLSAE EHKGAL AIVI DTATYDR


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$A G A D L S V F E G K T I N I D H H G T N R R Q A D A L L V D P A R P A ~ A A M$ LTELLEKKEVA IHVYDHHPPGPDDVTPAMEVFKSYGATTMT
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| UniRef90-R5C3N7 | TFEAAAFL R R CGADVTRV RKMDR |
| UniRef90-L7V678 | GLRLDAARLVDI GVDNAAI SRSLM |
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| UniRef90-U2YR87 | D LT A A A Y L Y P F A H DVL |
| UniRef90-A0A024HYD9 | TYKMTYEL $\quad$ K T GFNRLLVHDAVY |
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| UniRef90_C7HV29 | T FEAASIL K R WGAD S I I IKRMFK |
| UniRef90_UPI00035F4315 | $\mathrm{D} A \Pi \mathrm{~A} \Pi \mathrm{~A} \overline{\mathrm{~W} \mid \mathrm{L}} \mathrm{\square} \mathrm{Q}$ |



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 K K I GI S F H T S P D G D A I G S S L S L L N A L R L L G K D S Y I I S R DV D QIV V F R HVRPD GDA YGS QL GL REVI LDDTFPEKEVVVVGE
E
$E \square V T T H D G A D F D S L A S M V A \quad A K K L Y G E G V L C F S G S$
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 TI TI F R HVVFA DMDA G G S Q F GLLK Y YL E S A Y P D K K I Y C L L G S





 EKSAVITHRNADPDAVGAALVVREVLRALRMNPCLVSPEG $R Q V N I L A H V N P D A D A I G G A C A L S L G L R Q L G D S S R M F V E K S$




D S L L I IT H D N P D P D A L S S A VA L S M $\square$ A Q NA G L K T T $\square G Y G G E$ L L L C H H N A D P D S Li G S A l A F S RLL L R W L G F E R $V$ V

D S $\square A$

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 TI AVI GH DR P DADAI GS IAAAVVSGARFLGKEAN GY IGQ H V Y I L M M H N Y P D Q D A L A S A L G L Q V L L Q A R G K Y A T I I Y H G I

 $\square V V A A H E N L D F D A L G S M V \quad L A G R L Y P G S V L A L V G G$
 $D \square I I L A R H \square G P D P D A L G S T I G L K D \square I K A T F P K K E V Y T I G A$ D EVVAV L M H P N P D P D A MA A A I $G$ GV A CLLAC Q V G T T P T I Q F A G Q

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UniRef90_D3FVG6

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## G

 GVPPR I Y IS DNFSFLSFSEEIDGNTLQP DLDDT DLVIVLDDCGNVER ESEYLRFLGAMDEV TNDF DKNSLAIIVDTANASR VLAKL Q A LIPEYAGFTSSGAEAFLVMRPGALVIVVDTNRPDE
 GS S KF S Y I G K L D K L E E LLE HA L L L I V
 L L
Y
Y YTK K YE E DMU DT GDEAKELVDENTVLV
 I T T S L R R P I V D LTY K N S S D Y D K D L F V V N S E E A L T K V T A NT Y T E




 FVLLP DSLGWLPGADELVPPARVPAEVDVVVISLDAASPGR I S H DVK R A I E RLLQ Y DTVVKEA LN NVT GNSLLI MV D H S QLT L

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

 VTNNNVK K F M A L Y K I T T I K H S R D I D K A K V
 $\mathrm{V} A \mathrm{~K}$ E V S Q F DCVV Y G L Q D V A V K K V N L D T V D R L I L V D T R W I N R




 VHSRVPH











 LVETVEKAGNTGMFLSPREALSLITDRSLLIIVDTHSFVE L P K Y L R Y VK G WD RVVE PREA $\square \mathrm{I}$ I R Y L R Y VK G WD R V
 ID K N T L K ML E L L S IVEIMP L Q DVS LVVPEDEIIIVVDGQNGNI
 VEGNENLFDFLNFKFDKIPNDEILLKESLGIVVDANSSNR
 A H P TVVREFLGGLYRDQFPEHRADNAE QLRS SITVVDA QRRQL



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UniRef90 12 J 699 UniRef90－UPIO002D8AD04 UniRef90－C9RFX8 UniRef90－F9UKC2
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UniRef90－ UniRef90－B0R9M7 UniRef90－D2AXT3 UniRef90－F5ZLB1 UniRef90－F6BDE3 UniRef90－R6POJ3
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UniRef90－W6VMC8 UniRef90－BoCos9 UniRef90－R6YIP9
UniRef90－MOIZ16
UniRef90＿D3FVG6


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## L

 TYSDRRLKNRIIVIDDHHRRGEEFPENPMLLTYVEPYA S SAC E







 LDED K L K E C DVVLIDDHHKK TNLVNLCKFY IVDEKS PSTCE
 ， NMADTNGRQVIACILDHHQ NMAD N GQVIACIDHHQLQNTACY



 UniRef90＿R5M3U0
UniRef90＿UPI0004624CB1 UniRef90＿UPI0003B3068C UniRef90＿UPI000367B8C1 UniRef90＿M5J5G6 UniRef90－A5UX62 UniRef90－C2CNX1 UniRef90＿UPI00047C7A7C UniRef90＿R5HAW2 UniRef90＿UPI00047E2659 UniRef90－W7SQK7 UniRef90＿Q0EZ76 UniRef90－R5WT86 UniRef90＿F7PVK2 UniRef90＿R6YEN6 UniRef90＿G7V5C0 UniRef90＿U2S0B5 UniRef90＿R5RX38
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UniRef90＿I4FGH2 UniRef90＿UPI0003625AD9 UniRef90＿R9M2D5 UniRef90－I3ZRW2 UniRef90＿X1P889 UniRef90＿R2RH33 UniRef90＿12J699 UniRef90＿UPI0002D8AD04 UniRef90＿C9RFX8 UniRef90＿F9UKC2 UniRef90－V5X9N9 UniRef90＿S5DZIO UniRef90＿D1PL43 UniRef90＿UPIO00465E0FA UniRef90＿D4JF48 UniRef90＿D5A120
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UniRef90＿W6VMC8 UniRef90＿B0C0S9 UniRef90＿R6YIP9
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| UniRef90＿UPI00034BC971 | $\text { D A I\|A\|L A W\|L M Q Q } \quad \text { G } V{ }^{170} \mathrm{~N} L \mathbb{V L} A^{180}$ |
| :---: | :---: |
| UniRef90－R5M3U0 | THDVAEKLDDK GASPD FVVNRLDA |
| UniRef90－UPI0004624CB1 | T F DVAS Y L R T R GS D L E I |
| UniRef90＿UPI0003B3068C | TMAAVS GLLMTF DF D WFKIN Q H M |
| UniRef90－UPI000367B8C1 | TMQLA GELMRY |
| UniRef90－M5J5G6 | TMEVVTA QLLM HTG $\square$ A A A A $\square \mathrm{NRKLL}$ |
| UniRef90－A5UX62 | D A A CAA WL LER GAR】EAVGE |
| UniRef90－C2CNX1 | M H D I A RLM F Y GLD TKQl A V L L M S |
| UniRef90－UPI00047C7A7C | SFAl A ARLTE A GVDAARWSRTLLD S |
| UniRef90－R5HAW2 | TFETAAFL RKS GADTAQVNK |
| UniRef90＿UPI00047E2659 |  |
| UniRef90＿W7SQK7 | THRLTARLLEAGVDGPGLDRSLMDS |
| UniRef90＿Q0EZ76 | VY RMA A DLVE A GAEPWPI SVQVYES |
| UniRef90＿R5WT86 | TMRDAGEL MK T GFEFNRI I D Q SF |
| UniRef90－U5MPM0 | T H TI A GELIELL GVKNSMVHSNLF |
| UniRef90－F7PVK2 | T L K L A S Y L L $\quad$ Y K F SVGG L Y N D L Y |
| UniRef90－R6YEN6 | TFEAVAFL R R C GADI SRII RKLLR |
| UniRef90 ${ }^{-}$G7V5C0 |  |
| UniRef90＿U2S0B5 | TFEAAAFLGRRAGADTTDV QRLFQS |
| UniRef90＿R5RX38 | TFEAAA L L R R A GVDTA DV QRLF Q |
| UniRef90－R6SPY5 | TFELLT S I Y L E K Y K F D $\square$ KELY Y Q M M |
| UniRef90＿R6PB14 | TFEAAAFLLKKNGADTISV R R LIFKS |
| UniRef90＿B7CD34 | TFDAAKYL FEQ GVDVTKV |
| UniRef90－J8TCD3 | DLEAAS YLF HHGLDLS I I |
| UniRef90＿UPI00047BAA8D |  |
| UniRef90＿E3BS46 | T F D A A Y L R S $\square$ GAD |
| UniRef90－R5RQV4 | TF EAMAYL R R N GADAVRRI |
| UniRef90－F9D0C3 |  |
| UniRef90－E4U8C7 | DLEV GA WLL L E H |
| UniRef90－R6R4N1 | TFEAAA F $\square$ R R N GAD $\triangle$ D V R K L L R S |
| UniRef90 ${ }^{-}$W8NSI1 | DLK A I E F LAG K VD Y E |
| UniRef90＿Q9YC14 | S FEA A A HLLS M GADYGKV |
| UniRef90－U2GQY2 | MHTMAAELMKF GLD TK Q I A E DL |
| UniRef90＿G5KGN3 | T F DVAA S Y L R S $\square$ S A I D F D E Y |
| UniRef90＿R6E0S7 | $T \square A M A S G L L A A A G V N R D R \square L Q D \square Y N S$ |
| UniRef90＿UPI00037A96DC | DDGALQFL FPLLADKN】 |
| UniRef90＿C3J8D1 | L Y E LVAVLL R R GADKDLIVD K I |
| UniRef90－A8B5X6 | DKKMCDYLSQUVGVSRHELSQEI FTA |
| UniRef90＿A4QEZ0 | M H D M A ELMEF GLD $\square$ R AI S S ALL |
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| UniRef90－G8M212 | D A Y A L A Y L L K K |
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| UniRef90－B8FAQ4 | D A M A VA Y L L H A DLNVLE |
| UniRef90＿R6AN97 | T L L M A S QLVAM GADPSY $\square$ S NHL |
| UniRef90－F9HEH3 | T F DVA S Y L |
| UniRef90－M0CX44 | D F A A A G Y L Y P GVDE DVP EVSK EVVLE |
| UniRef90－I6RZV6 | T F DVAS Y L |
| UniRef90＿I4FGH2 | D A Y ALLA WL M $\square$ CAAN $\square \mathrm{K}$ T $\square \mathrm{AQ}$ |
| UniRef90＿UPI0003625AD9 | D A K AVA Y L L Q G ANL |
| UniRef90－R9M2D5 | THRVAA ALLMEM G I D CRTVNKVFFR |
| UniRef90－I3ZRW2 | T FKAVSEMLE R F PVQ M G E I F Q |
| UniRef90－X1P889 | DLEAA G F L L S |
| UniRef90－A6NTY3 | THRVA A DLLD T G $\square$ D Y R S V V K R H F R |
| UniRef90－R2RH33 | T F DIA S Y L |
| UniRef90－12J699 | TFDVASYLREMAATDFDEY |
| UniRef90－UPI0002D8AD04 | $D L K A F \square T$ F N Q $\square$ A D L D |
| UniRef90－C9RFX8 | TFD I I S Y L DK Gld F Q K |
| UniRef90＿F9UKC2 | TFEAAS WLQSK GAD |
| UniRef90－V5X9N9 | A HR\LASRLLD T G L D NAG |
| UniRef90－Q30ZX7 | DFA A A GWL K TQGMDLL T I S E |
| UniRef90＿S5DZI0 | TFDAASYLRS $\square$ GAD |
| UniRef90＿D1PL43 | T F EAA A WLRSR |
| UniRef90＿UPI000465E0FA | T H R L A ERLL $\square$ S T G $\quad$ D GA G $\square$ T R T L M |
| UniRef90＿D4JF48 | TY DAAKYLYSQ GVDVIE |
| UniRef90＿D5A120 | D A $\square$ A L A WL ME K |
| UniRef90－A8ZXT1 | DF SAAA F FLLEK GAS $\square$ NT $\square$ A N |
| UniRef90－UPI0003B34596 | D H I A A G Y LFS $\quad$ GANPE |
| UniRef90－K1XWK1 |  |
| UniRef90＿UPI00029A9221 | DLLKA E F L A G K V N Y El |
| UniRef90－F8AI29 | T FRTVGEI LS L Y D $\square$ PM ME |
| UniRef90－I2F2H3 | DLSTAA WL I DL GARPDDLG |
| UniRef90＿R6CFP0 | DVEVVFAKLFSIA D |
| UniRef90＿UPI0003B6C779 | SLI T A A AVV S I N EA HIVDIA R K HF |
| UniRef90＿B0R9M7 | HAAACVLHPHADHN』E L L T S VF |
| UniRef90＿B7C9X8 | TFEAAAAL |
| UniRef90－D2AXT3 | V H LMA A R L VA T G L N P E E $\square$ A R E L |
| UniRef90＿F5ZLB1 | T F DVA S Y R R K |
| UniRef90－F6BDE3 |  |
| UniRef90－R6P0J3 | TFEAAAFLRRK GADTVEV |
| UniRef90－V5RX71 | S Y R $\square$ A A E L T E L |
| UniRef90＿UPI00037A6E09 | M HEMA $\mathrm{M}_{\text {S }}$ L M Q Y G $\square \mathrm{D} \square \mathrm{D}$ Q $\square \mathrm{AS} \mathrm{D} \mathrm{L}$ |
| UniRef90－A9KJ29 |  |
| UniRef90－M0P6X7 | DF AAAA YVYP GVDQDRL |
| UniRef90－U7M2A0 | $\square H \mathrm{DVA}$ T R L M H Y GL D T K Q I A T DLLD A |
| UniRef90＿UPI0003B341EB | THNLVA WLET S NFDFFSLHKQL |
| UniRef90－F6DG89 | D L E A A H L LR |
| UniRef90＿W6VMC8 | DIEEAYE L L A P R A N L P P E Q Y F LE C Q A A |
| UniRef90＿B0C0S9 | D A A A LT WLMTQ GANQRA\A E |
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UniRef90_E7F6P6
 DQVFVMGHARGDRDSMGAALGVRRIAKMVDKPAWIVSDPD VITHKTPDFDAVAGACAARFLLVLTATSYEPNVDKF VGHSYTDFDAVGAAVGLAYAARSMDVPAYVATDEP EHVYICHTTADFDALGAAVGLSRLDAARPGSKIVLTGG EHVYVQTHNFPDPDALASAYGLQRLLAARGLRSTIVCKGK , GV v KNVVI YGHVFPDADTIGAGLALALVLDRCGKQVQVAAPAV DHVVIMGHRMSDLDAM GAAEGVLRUCKICDVPAVI AVAAS NVVI MGHKFSDLDSVGAAYGMYKAALALGKDAKIVVNRK QVSIVVHTHPDGDA\| GSAVALSYLMHRTGAQVMIVVPDR VTI LCHVRPDADT GSGLALGLADRRGVDVEVAYPG D KLAI LTHDNPDPDSIAASAAALQAILAAEYDVEADILYDGE KVFIMGHKDVDDDAGAADGMCCYAFSKNRTSYII LDDK NLLVMAHQNPDFDAVAASVGMARLALFLGKRVNIVTDLK DSLTIVCHDNPDPDCLASALALKRIAQQHEVDEIIVYGGE KRLILLPHPHPDGDALGSSLALLLYLRKLKHDVDLVSPTE DDVAVLMHPNPDPDAMACAMGVEATADSVDTETTLQFSGE

DEVAVLMHPNPDPDAMGCAMAVAADADSVSTESTDQFSGE RVLLVCHVNPDGDALGSMLGFALGLRRLGVRRLQATFPG DSLLIL $\quad$ DADPDS IASALALKRLLRGH LTRIISPDR DNVIVMGHKYADFDAFGSCLADVQLAKFCGVKAYVVTDGC RVI LYGHHNADPDA:IASAIALVKYLINKYNPNADCIVYDS VI TTH $\square G A D F D S L A S M W A \quad A L K L Y G D G V M C F S G A$ RRVLIMGHRFGDLDS GSATGLCCALRKLVSECFVVVDDY LI LTHVRPDGDTVGCAAALCTALREQGKEAYVL WTVVMGNQAGDLDSLASSVAFSQLSATLLASRVVPLVLT DKVLIMGHRFGDLDSVGSATGFCCAIRNMVKEAYVVVDPE KRPLLCGHTMPDGDSLGSVLALGLGLRRLGKEVTMVSSDP IVTTHVNSDFDALASMVAASFL YPGVTRMVPSQV VMGHSFPDMDAFGAAVGVSSUTRALGUDAYUALDGA【I। LSHQFDDFD DSLATVSHDNPDLDSGLGSM|LAFYKIANNNYEHYI:CDEGK TVITCHSNADWDALLSSMIGMSMI THAYDSIMIFPGS $V \vee L G N E A C D L D S M V S A L A F A Y F L A K T T A N P A V V P V L N$ IMFGHSNMDLDCFGS LSMARYL YPGHLMVRSGR DSLAMACDNPDPDCASALALET ADEAGDDVTIAYGGE

 NFII I GHKDPD F D C I G S S L A L S S F L S R GKNS ILLNEGP LVAHRRPDADAIGSAVALGEGLKANGRRGVAVRVV ERVLQ TNADPA A A A GM VFLKANGVESVGCHGK


DNVLFLCHKNADADSFGSAYALMRL
FGGtVGVEDG INADPDALGSALLALKRIMTRRVNAAAI AQINE KVVI NADPDAAGSAMAVKRLLWRRVSEVAVAHFNR Lehradpoavs saral seal rakw RVVI QTHDFPDHDAMASAFALSQLLERFGFAPKLLYRGI NVIVMGHRFADFDAFASCLAVARLATTCGVKVNIVSDPC TVAVVGHVHPDADAVGSVCAVVRALQQRGDAA VGMDGQ
 ERVTGHANADFDCLAALA YOAGKLYGALLFGS EKVAIVTHKRADADALACARVLELVLTKLGVKVVAIV
KILMLFFGSPDPDAUASS ALAKLFPKQVIPTYASTAKV QWT V AGNEAGDLDSMAAVGFAYLASQRGSKRKYVRDHY $D E \| V I V C H D N P D A D A M A C G Y A V L L Y L Q K Y G K S P S L V Y G G N$


## UniRef90_G2T0X8

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 D D R S T G K L V

 VKK K I E Q Y S K S L Ni I K S K G $\square$ D E L L D D K S L L V I V D V N S L L Q


 $\square R H$ Q E N R A FR TVVGLDDLE S I E S S S S E L A A D T V V L V D H N T P R G


 DETTTRKVLRNNGF ISARKATKLNDDNTLVILTDVADENR ASRNVRDFLKRNRAHVRVLTPKQKEADSTLVVVDARSLGR ID DN EQQDMAYY
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 MEKP LLNQFFNEFLYTFKNIVKEDDHASVKRVVVVDT QIRSR I R P E N T F L LR E A GLD E DDLLQ A L H R T G RLLA L T T V D H N I LP R I H PVVA K NL Y Y R D H L E M I T A K E L K K H S I D E VVVI MD T R Q Y D R
 V S N N V K K F V T L Y Q D F I S K T K E I D F D Q V E K L I V V D T A K V S R






 ID H S D SVN
$\square S A \square A E A L A E R \square S V S V A \square R P D$ P S K Y G L T V V V D D A S M V Q
L S A A QY DKFALVD S P H H





 L
 LRRPENVVWAL E QVGGLDPAEHP QP IVDS LGVQRAALVDHNK $\mathrm{N} I \mathrm{R}$ Q S E L R L R S D S V D QLD L R A L QRA S RL R LT L V D H NVLP S
 LRKTLE LIF QDRVKQKILKKQEVDFSKVKKAFVVDSQT QEQSVVRRFLDSLSKDK IQVES EKTCDFSDDDRLVVDTRHRSR

 S H P L D




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| UniRef90-A0A059MSN8 | HRLLERLLLA T G $\square$ D GAA $\square$ T R R L L |
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| UniRef90_UPI0003B6EDC7 | T F A A S LLEDWGASVE |
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| UniRef90-R5BI76 | TFEMSSKLID A GVDRDD 1 L I H L Y |
| UniRef90-M0QS58 | SFRVAARLLE A GVD |
| UniRef90-R5UKQ2 | VHPLDRDLRDEANFDP A $\square$ M R K L R N A |
| UniRef90-E4NTP2 | DLT A A A Y Y P F A D H T L E |
| UniRef90-R5TMT5 | TYHAAYYLAK CGAD |
| UniRef90-R6VX21 | TFSAAVYLRSEGG_NPGK A Q ALLFKS |
| UniRef90-B5ZBR4 | TYE $\square$ MA WFFKN NVKHYQ $\square$ Y Q Q L Y E |
| UniRef90_W0JQR4 | EYEAALAVYPEADLEML |
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| UniRef90-A8M749 | V H QFAARLLA TG\\|STADワS R R $\square$ T |
| UniRef90-F2NET0 | DMRAFHFLFRYTRIESTELS LEMLE |
| UniRef90-R5PVR1 | T F G S ALY ${ }^{\text {L }}$ |
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| UniRef90_UPIO004665D54 | TFYACS LLEEWGADAQKI S LKM |
| UniRef90-H0US82 | EYLVMSELKKR GADLPP |
| UniRef90-E6UI83 | TFETAAFL KKMGADT $\square$ AV KQMFA |
| UniRef90_Q3A2Y4 | D R R A Y L Q L P L V N |
| UniRef90-F4X9K5 | THAVAAALLE T G I D F Y P $\square$ NRRHFR |
| UniRef90-E6RAT6 | D Y DAAAFLYS $\square$ S P |
| UniRef90-R6SV80 | TFEAAAFLKKK GADT $\square$ AV V K K LIFA |
| UniRef90_C8X518 | DVKAFRYLSKYAN |
| UniRef90-F6DUM2 | THQKVARLID H GVPVSKLSNLIF |
| UniRef90-D3RNK4 | D A RMTAYLLEN GADLNVVA |
| UniRef90-R6IXJ1 | TFEAAAFL |
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| UniRef90-K4KTK0 | D L L A A A Y L VE |
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| UniRef90-W5MLQ5 | DS QYVALLEAR |
| UniRef90-V5WKH3 | DFQAAQYLMEH GASLNAVGK |
| UniRef90-LOK467 | E YETALA Y PRADLELDQLYGSAFSA |
| UniRef90-M0AXC0 | EYEAALTVYPDAELDVLE |
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| UniRef90_UPI00036F60E4 | T F DVAS Y L R |
| UniRef90-K4JAN2 | PFEMVARLVSK GlS LKEVY |
| UniRef90-KOYIJ2 | MHLIAAELMGF GLDVRRIAAEL |
| UniRef90-R5E2V1 | D I A MF GYL H K $\square$ A D |
| UniRef90-D6SQA4 | DI RAFRHLTKFYN I I R S EFHREW |
| UniRef90-B6WW37 | DLRAYQWL IK HADA |
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| UniRef90-R7EZY7 | TFRKVAELLETYNLDDPSLYEKLY |
| UniRef90-C3YDU9 | DEDILGRLKDFCEVDEGELFQSIQEA |
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| UniRef90-A8UST1 |  |
| UniRef90_W0JL29 | DLKMLQWLCEKASIIDYQTFS |
| UniRef90-H818D8 | TFEAVARILRDGCIELSS S |
| UniRef90-F0JBW5 | DMAAFKYLSKFADISRSEFHLDWMR |
| UniRef90-S0G6U6 | D $\square$ RAFQYLYKFADNN】 |
| UniRef90-Q46FZ6 | T FRTVSKi IENS GVEYGEV LDDMA |
| UniRef90_G5F5E2 | AFSVAS L V V A A A S S EVSLNVYQ |
| UniRef90_UPI0002554F0D | DLD AL HRI F F IA D |
| UniRef90-R7FS01 | T FSSALYY RGE GASPTD AENLFKTG |
| UniRef90-L1MH04 |  |
| UniRef90_W6RXG8 |  |
| UniRef90-K2F8M2 | T L QVA SKLVDLL GADRAFIIKNLYQ |
| UniRef90-G7Q3T6 | DLA |
| UniRef90-K9YSE6 | D FLLA A Y ¢ L S F Y DVEL |
| UniRef90-A1RSS3 | T LQULLS YL LekTG |
| UniRef90-K1YT74 | D S Y M M Y Y Y K K VD |
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| UniRef90_13IZ22 | DS QYA AVLENRFPALPPALFQELHKA |
| UniRef90-R5YWP9 | V HPLDD K DL R DEANVD |
| UniRef90-G1USV5 | DLRAYQWLSQHAD |
| UniRef90-C1DVH1 | DLLKA Y N Y L L N $\square$ G $\square$ DLLVK L |
| UniRef90-X0SXU4 |  |
| UniRef90-X1VD80 | D Y EAA A WLLEQ GAS L $\quad$ T T $\square$ S D |
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| UniRef90-N9VAX5 | SMFLVAWL WS K GAKKDLIFENM |
| UniRef90-R9T4J5 | MMRSFADLLDEAGDEMKDV |
| UniRef90-D5E5M4 | AFMAASWLQSK |
| UniRef90_UPI000371E1EF | $S H Q \square A A R L L G T G L R P D Q \square S R Q L$ |
| UniRef90_UPI00034C31BD | D A L A L A WL MQ |
| UniRef90_E7F6P6 | D S Q Y A I F $\mathrm{L}_{\text {\| E Q R }}$ |

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UniRef90 $\mathrm{LBLXO7}$ UniRef90 ${ }^{-}$K8Gl61 UniRef90-UP100036E2EBB UniRef90-R7IUN2 UniRet90-C4QZM9 UniRef90-Q4TAJ5 UniRef90-G1UNZ0 UniRef90-W0DG97 UniRef90_X7XD73 UniRef90-10A2X7
UniRef90 V2YD26 UniRef90- V4XHC6 UniRef90-AoZMQ6 UniRef90-W7C1H0 UniRef90-E1M4Z8 UniRef90-R1FA36 UniRef90-HOR224 UniRef90-K9RNP4 UniRef90-U9TXN1 UniRef90-C2WF63 UniRef90_S7TZ13 UniRef90-S6E786 UniRef90 R6FEC4
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1
 VFFMGHRNPDTDTVISSSAYRNY VLNPD $\square$ Y $\square P \mathrm{~V} V \mathrm{~V} Q \mathrm{Q}$


VIILEEGADDDALSCAYGVLLLYQ DAYLLKPSL $R V V: I C H V H P D A D T V G S G L A L G Q A L V A K G V D V Q V V S G E E$
 DEVVVLTHPTPDPDAMASAMGVGTLAEQVGADVTLQYSGS ERHLLVILQDFPDPDALSCAWTYQLIVQQYDDKCEIIYAGT

TN S DE
DAVTLLCHVRPDADTDGSGLGLGLALRRLGLDVEVSFPGD DTLLIVMHDNPDPDCMASASALALIAQSVGLKTQIVYGGD ERQLII DQDFPDPDALSSAWTYQLIAEQYDIKCDUTYAGT



ILIHRSPDGDCTGSGYALAEALRQMGKRAAVLCSDP TVVMGNEGGDMDSIVGSDYLAYFFEHKYKDQNPVPADN VTVLAHVSPDPD ALGSALALGLALRARGATVRVSFG TFVVGNESADLDS LC SAVLYAYFALHDPLSNLPLADLA VVLGNQSCDLDSAVCALGLSEYVKDYRIKTEVVYWLR KSFLVLGHNNPDADCHASQVAFALLLRKLGKEAAVEISEP DALLITMHDNPDPDSMASAAALKAIAQNFGLKALLVYGGE EWTVVEGNEGGDMDSMTAALTWAYHLKADALLQTPSHALD RSFLILGHQSPDEDCYASTVAGALLLRKFNKHVSDFLESVV

Q


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UniRef90-UPIOOO4 UniRef90_UPI0004652D93 UniRef90-I7D287 UniRef90-XOSEQ3 UniRef90-M1PNZ5 UniRef90-EOVEZ7
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 $V P A M Y Q F L P G Y E E I R R P V$ R THHDGVDLLVVLDASDEER LPDEVGYLGDDKELDKEIYEAAHNSGQANWI LVDHNES MDEVSDSDYDGALVIVTDTANTPR $\square$ $\square T K S N L V F L I N E L H D P D E F V$ V VNPNVKAFLSUHKDIF DMYSK DDFDKVKKLIVVDTNNWNR






 I TPDN LAMMRYLRIPMVKLTPTVAAQFDRFAVVD SQPHH LRPENLRVLAHCGUDPAHLCCVDELPKTCVVLVDHN LSHQENIALVKLLTNLPAQRWTPQNVCYQGFVLI DNQSQLL VRPDNLSMIRYLRDPTEFYDPEKAREYNKFALVDSQPHHH

 $V$ S VKEGETYVKGDFGWDMKQFEK DGENEKRLQFLVEHFETVGH
 NURQSELVLRSDNVDQLDLLALHRAGRLRLTLVADHNLLPS
DSRRASEVFKRFKERFREAADLRWEDFDRLVLVDTRQRSR
 $L S H Q E N \square A L W T S Q V L K S K D L S S Y Q G C \square L I D N Q V T T S Q L V T$
$C D T A N T E R$
CDTANTAR

P NPETAWVLEYFGDPKPPDKHDND\PFPVFGTVDTNNVAE | $T P G P D G L S E L P G V E L L V A S D D V V V G Y D T V V A V D A A T L G R$ |
| :--- |
| $T H H Q N R A M V N I L G L E F R R V S R G S Y E D K R H S I V$ |


$\square S H Q Q N \square A L V R L L G \square D L I R Y E P N L D P Y S G A V F L D T Q T A T A$ IPDVVRTLGKLHITEDLLFFTEDLKRYKTRYNVDHNE DE D NKANLTLMVEKLGIPDKYLAHPGEEPVDGLITVDCQYGAG





$\square P R S E L V L R T E M D G L T D S E D P D L K P E E T Q W L L V D H N A L E T G$





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UniRet90_WOIR UniRef90-Q0TZC4 UniRef90-S3K8P7 UniRef90-R5ZEY1 UniRef90-K9VFK1 UniRef90-B2WM67 UniRef90-UP10003F48FDC UniRef90 UPIOOO302F190 UniRef90-E9B795 UniRef90-H9GAR5 UniRet90-ROK445 UniRef90-WOTA54 UniRet90-A5DDII UniRef90-GOV6V0 UniRef90_M2Y161
UniRef90_A4S2K8

TVKTV GGll LKGVTDHHPPRAKSTAAFTDIN PEMGACCS -GRVKEMVRAPVLNIDHHTSNTKFADYWYVDSQAAATGE DDERYTKGDCLIKIDHHPNEDVY NVKKFPAKEVAVIDHHQVYS TLPKLLNEVNTNAS俍 LDALSARKDLEI LWDHHTCDGNINAAWKCHEETMGSNDT FTGAQTVEPI AVVDHHPGNGAGTQFTDVRTD DYGAAST DGKTYEIFKIVNVDHHKSNENYGSTNYVDYSTSSVG ADQELSS SVVEITDHRPVVPDLDNTSNDVTI EPVGSCCT SDAALEEA VAEVLDH RPIEQKYCPPCHVSVEHVGSCAT PPLGQYDNQVDGILDHHVDEHLYESAP RRRVEMVGGCVT FDPVVVLDQVCEVIDHHPGFEDHWAQKLDADIRPIGAAAT VVQQAGMTLVAVIDHHTLQGDLKSEAFFVDIRPARATAT FGDRLGEVKPQVVDDHHPCKTVWHASLADVRYRGYGALST HPLFRDLSFSLVIDHHPLSEKNPVIADFKEDRTEYGSNST ATGPFRDANVVRIDDHHNDEHAHGEAGRTVYAPDAGSCAS NPGQQAGMPLVAVIDHHSDQTELKSEYVDVRPY VRATAT NVTKIAADTVALVDHHQV EDDGVPLSLIVPALGSCCT FIQEAEDP VVVLVDHHSDQGNUQKAEFSDRRPHINATAT TFGGNDVLPTIIVDHHSPSKNFNGNADMKDCASCTAS EVAKSRLTHVVGIIDHHQDEQKYLDSAPRVIEECGSCSSL DPEAFDKALIIFI LDHHRVSPENDEYKNTFIDTGSSSACE SDHSLEEAVVEVIDHHLLDPERPSPTCSVTVETVGSCAT LPGVKE GYIFDHHPKAPKGFKGKVD LGQLAQSTPVLVIDHHVSNELFGTAN YVDTAADSTTM LIN FEGDDGVEPVAVVDHH PGSGGGEAFTDVRTDYGAAAS AVQQAGIPLIAVIDHHTLQAEHKSEDFVDVRPDVRATST 1 DDARYTLGKELVKDDHHPNDDAYGDYSWVDT AASSCSE
DDDRYSQGDFLIKIDHHPNDDVY GDVSWVDTSSSSASE MPPGAADVQUSIVDHHKLTGLVTDNPDEVDVRPDGSAGA LACLAEATRSIVIDHHVSNTGFGSID CLYVDPGADCTAV A $\triangle Q E A G \ P L I V I V D H H N L Q G D L K S E$ FVDIRPVRATAT PWSEKFNDKIDTI LDHHQDERLYLNDKCRQIEFVGSATSL KLLHKDENVVVIDHHRRGEDFIEDPLLVYMEPASSTAE LVKALAEAKDIVVVDHHETQAELNVEFKDVR RNDGSTAS NVTVIPAEEIAVIDHH DSCEVDFDKTITLGIDHHDSNDRYCKYNFVDGGASSTGE
 NTTKDPAEHVGIDDHHQMEARNDPDSLILSDF EDTELQSSVVDVSDH RPLEREWAPSCQLTVELVGSCAT LVLEAGDPLISV1DHHSDQGELKPEFA DVRPNVRATAT
 AKADIP VVVGMIDHHVDENVDGKAEFSDLRPHPCGSCMS KWGDARVLSIFDHHQDKGAAPAAKPRVFEKVASCTTL SGSEQNREQVVG| 1 DHHADEEVFKDANPRLIQPNGSCTCL EQRSLCERVVGVIDHHFDEKLYMDSSSQFRRIEPTGSACT
 DGENLQPVYGECVDDDHHDSHRQFAGALCLD GSAAAACQ
 LGVLAELVPVVVDHHVANTRFGTDHLL EDDAGKPLVIKIIDHRPDNPDWSWPDTLLNIKLAGSCVSL LLAANPHLKKIELDHHLGSDSRYDGSQGYTLVSQAASCCE LT LEEDIIIDHHQLLQSLKEKDPSDAFVDIRPEVNSTSS DAANTPSDPKLEVDHHFDSDAAYDGDPAYSLVLHASSTCE LTEYULAAGVPVVDDHHNLQGEDKAEFTDLRPQDRASAT QLGKVYSGRVAGVIDHHDDEEKVPSNDEPRVIIKSGSCTS
 NQSDFASRVVGVVDHHFDEKQYLETTSKLRLLRTVGSACT
$R D A V L E E A V V E V L D H R P L E R E R G P P C K V T A E L V G S C A T$ QLGSMYGTRVEGVIDHHDDEGKETGDEPRIDDKCGSCTSL DIADENKLQDDTVUDHHEDENVAKDADPRIVTKSGSCSSL

UniRef90_S6A3F9
UniRef90_A1HSB6
UniRef90_K1YUM6
UniRef90_T0UGH5
UniRef90_E0RUX9
UniRef90_E1YHT5
UniRef90_UPI0004652D93
UniRef90_I7D287
UniRef90_X0SEQ3
UniRef90_M1PNZ5
UniRef90_E0VEZ7

I I WS Y WKEAGKEY DGTTAAA|L|MTG|I QLLDT NF LISRHVVRRE I VFE LLKMLNLPVDAVVACCLFTAIATDCGFFRYANTTAT

 V I WN LI K DE D I DI D E NDA T AL Y Y GL Y S DT NAF S E M S H P L LMVRRLKKEKKK SPRQATLFLTGLYEDTGHLLSFSSTTAE I MAEYLRGLRDRPGKLLATALVYGUKTDTQSFERHFVGEA | 1 | $I$ | $Y$ | $E$ | $L$ | $L$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $L$ | $V$ | $A$ | $M$ |  |  |

LVAMEFEKKGVAFSEALAVLLGGTVLLDTLSRKVGRVTDG LVAERLLQGAPEDDRQTAFLLYGTIILDCVNMKVGKATLK







 $V L N Y W Y D L I G E D V G E C A T L L A S A l M I D T T N F T Q R$

 $\stackrel{L}{M} \vee V Q L L D A W G V D$ I $\operatorname{T} P R W R I A C$

 $1 V$ AEHLSDVGVPVPPDVATGLLYGLLSDT




 LVFDFWRKFNSNSAK EL A MLLLMGAALLDTSNNFQYAKVEEX
 $\| V F D V I K N L G Q E L D Q D I A K$
I V S E I L Q H A P ELL L N K QL A H L F R G T I L LDD SVNMETGKVT SK $V \vee W K L L C E E Q F D P N P D L A A T A L Y Y G L Y Y S D T$








 | 1 |  |
| :--- | :--- |
| V | $\mathrm{H} A$ |
| V | Y |
| V | V |

LVAE LTYRDEDMTVP
CP $\square L L S A P D I Q D T V N F E Q K K V T P A$
 LVVLSSQCQQQSHQEEVDEELAARVAMAPPILDDTVVKLDTSKKTT D W $V G H D \| L K E N S K M L D S Q L A S L L R G P I L V D T Y N M K G G R V T T T$ L VA R WA QK Q GRFFFSRN FALAAI LTGIV GD S




| $\mid l$ | $L$ | $C$ | $R$ | $I$ | $C$ | $Y$ | $K$ | $L$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| I | $V$ | $A$ | $D$ | $M$ | $L$ | $F$ | $A$ | $S$ |





## V





| UniRef90 S6A3F9 | DMDA Y Y E\|LYF K K VDV |
| :---: | :---: |
| UniRef90_A1HSB6 | T L R Y A AELVEK GAQPH\ISENL |
| UniRef90-K1YUM6 |  |
| UniRef90-TOUGH5 | TFMLASKLREY DFDFSSLARQM |
| UniRef90-E0RUX9 | D R D M I E A |
| UniRef90-E1YHT5 | DAYAAGFLLEKAD $\square$ N |
| UniRef90-UPI0004652D93 | DVRAFSAMTKHADMTLSEYHRRWDK |
| UniRef90-17D287 | EFDACAAL F S G D |
| UniRef90_XOSEQ3 |  |
| UniRef90-M1PNZ5 |  |
| UniRef90_E0VEZ7 | D R QVIS SLLERKISVDRNRLF Q L I Y A |
| UniRef90-UPI0004549CCE | DSKYVEKLEAL |
| UniRef90_S2JMS3 | DVTVYHKL |
| UniRef90_UPI00031C2B58 | DI WAYEVLARRAGL |
| UniRef90-Q1D830 | DVDSYLWL F P R M D |
| UniRef90-UPI00047EEC95 | D F L A A A Y L R F Y D A |
| UniRef90_K1XPC7 |  |
| UniRef90-Q12ZB0 | T FKTFSE\IDS S GVEYAEVLD LM |
| UniRef90-W0K1N4 | DFQAASFLQEFAD |
| UniRef90-A1VGD0 | D LRAYRYLSKFSN |
| UniRef90-M5E8W2 | A CDLDA A |
| UniRef90-K9QH19 | DFMAAAYLSRFYDA |
| UniRef90-T2G8N3 | DVRAFRMLTPDAD |
| UniRef90-R6CA11 | DMDMRDDLAFDAGL |
| UniRef90-L8LX07 | DFLAMAYLSNYHDP QLFKA |
| UniRef90-K8G161 | DFLAAAYLSRFYD |
| UniRef90-UPI00036E2EBB | CLDDVITLVD T GAQWDEAYKE |
| UniRef90-R7IUN2 | EVEVAKKLANEYELDYD |
| UniRef90_C4QZM9 |  |
| UniRef90_Q6KIB7 | T F A A A SLLNE |
| UniRef90_Q4TAJ5 | DS R L A A A L ERR |
| UniRef90-G1UNZ0 | DFQAAAWLLGQ GMDVNQT |
| UniRef90-W0DG97 | DALDALDA WLLLKK GANLRTI |
| UniRef90-X7XD73 |  |
| UniRef90-10A2X7 | TF $\square$ C A S K L S S R CNYN |
| UniRef90_V2YD26 | A HRAAAELME T GF DPYP $\square$ NRVHFR |
| UniRef90-V4XHC6 |  |
| UniRef90-A0ZMQ6 | DFMAAAYLSRFYDA |
| UniRef90-W7C1H0 | T L R Y A A DLVVFP F DRTEDFTKMYE |
| UniRef90-E1M4Z8 | TLRLLAAYLREH NFDFAALTRKM |
| UniRef90-R1FA36 | DKTAVD ILAPPLAGID T M G WT K Q M Lie A |
| UniRef90_H0R224 | SLTIAARLLEAGVDGARWSRTLLDS |
| UniRef90-I3RC46 | DIK A I E FLT GKVVYDL |
| UniRef90-K9RNP4 | DFMAAAYLSRFYD |
| UniRef90-U9TXN1 |  |
| UniRef90-C2WF63 | TFDAASYLRSH GADTV LVQELLK |
| UniRef90-S7TZ13 | DFQAAAFLS RYKDADL |
| UniRef90-S6E786 | D L R A L K CYE E L D L D REEYYTQL |
| UniRef90_R6FEC4 | DMDMRESL |
| UniRef90-R7CHW6 | \F QAVADLMAM GVDHGR】MKTL |
| UniRef90-H7DCA4 |  |
| UniRef90-UPIO004572490 | DEE\VAALEER |
| UniRef90-R7N2M5 |  |
| UniRef90-M1RF02 | DFEVASYL C K M G G D $\square \mathrm{E}$ |
| UniRef90_UPI0003503AE3 | DVLCVSLLESR |
| UniRef90-V5GRW2 | D R DVVARLQALLELDTMDEVFKS LTNKA |
| UniRef90-K9TYU9 | DFQAAGFLSR |
| UniRef90-UPI0003D0FDF5 | DNEYVEKLEA |
| UniRef90-K2B9B4 | S L R $\triangle$ A SELMGK GADQQK $\quad 1 \mathrm{R}$ Y L Y K |
| UniRef90-G0RPH8 | DIRAAKYLHS |
| UniRef90-UPI000382B9DD | D WLA A A FLSRFCN |
| UniRef90-M4GF18 | DRRTAGRLLRRSDSDLDERMQAM |
| UniRef90_C4Y5S6 | DVEAFSRYE |
| UniRef90-G1X2E2 | DIVQVTELLERAGFDRNAFYDGLQAA |
| UniRef90-K4E5L8 | DI MLS Q WL I KQASVDPKKMFLEL |
| UniRef90-M3A431 | DI ETASRILARSRWSGRKLDEAM |
| UniRef90-E1RAA9 |  |
| UniRef90-K1XRQ2 | TLRTASKLM HAGADREK IVQELFR |
| UniRef90-R7F9J9 |  |
| UniRef90-S9UKT3 | DVSVYEWLEKTEK\DPKALHKKL |
| UniRef90-UPI00038031D8 | THAMAARLID A GVDPTAVTREL |
| UniRef90_B2ANR6 | DVNAAAYAEEK |
| UniRef90-E2C9R2 |  |
| UniRef90_F5Y933 |  |
| UniRef90-Q6CWI6 | D TVALLEEYKK L S QVD T NRLYQK $\square$ R E A |
| UniRef90_W012R6 | DLKALEFLLAEKVN |
| UniRef90_Q0TZC4 | DIETSKRVLARS |
| UniRef90_S3K8P7 |  |
| UniRef90-R5ZEY1 | DFYKVGRLI Y N G A D F Y K Y H S I |
| UniRef90_K9VFK1 | DFLAAAYLSRFYD |
| UniRef90-T1K7T3 |  |
| UniRef90-B2WM67 | D RQAVEYLEQLAGFDRASFYKEIDDA |
| UniRef90_UPI0003F48FDC | DNESAAFLYPLT |
| UniRef90-UPI000302F190 | DQLA Y A ALA D K A |
| UniRef90-E9B795 | D I A A Y EWL HAKEVADT |
| UniRef90-H9GAR5 | D DHYASLL |
| UniRef90-R0K445 | D REAVA Y L E AK |
| UniRef90-W0TA54 | DQAVFEQYKR\LGGFNTDSFYQQLRTA |
| UniRef90-A5DDI1 | DS VAFSR |
| UniRef90-G0V6V0 |  |
| UniRef90-M2YI61 | DK D $\square$ S QRVLDLS |
| UniRef90_A4S2K8 | D F A A A E S L R DUL G WD E D A |



[^1]


[^2]


[^3]


UniRef90_Q29JM0 UniRef90-C1MP03 UniRef90 R1G739 UniRef90_J9IMN3 UniRef90_A0A058ZCZ4
UniRef90-R5A429 UniRef90-G2YME9 UniRef90-E2AQE7 UniRef90-14DNQ3 UniRef90-V4J865 UniRef90-A6LKS4 UniRef90_K2S1H0 UniRef90-B7FYN7 UniRef90 G2R131 UniRef90_K3X7X1 UniRef90_L8H115 UniRef90 B0WDJ6 UniRef90-H8WZX3 UniRef90-E1C352 UniRef90 Q24465 UniRef90 ROKSF9 UniRef90_UPI0003C8CD09 UniRef90-U4UCA4 UniRef90_B9IOT9

170
180
$D V M V E Q M E R$
$D V A A V D A L L A P R V A A K V G D V A L$
DGHALAGASQHA IAEFGHARDSA DLNA YNY LVKVAE DDGKEYFDNLYNA DVSAARDL
D LLAANEE
DRAAVQFLEDLITKDPNT
D 1 SVLNA L E L GGL
DKEMVLFLETVLKPDDRENFRK
DAAAAAFLLDQADLHVASFFL'
DVAASGY LEAKVEFSKDKFYDEПNRA DAVA IQQSLLNGTNWDLSEKTKS ILQ


DHEMAA L DERSVADFGAYRKT LIF DVKAMDF
QEKVLSVLEEK
DEAMVQKLLNRKDAQRSSLFDELVAA
QEEVLS DLE EK DKYMATLLLNGAG

[^4]


[^0]:    
    
     D RLLI MGHKLS D DD S F GAAVGGYR DATSSLNKKANIVI NE
    
    
    
    
    
    
     TI I H R HVVRPDPDAL GS QA GL K ELI KA SYPEKRVVYVVGE
    
     $R L$ AVVMHDNPDPDABASAVGLVDI A A EVVGVDADACYF G T
    
    
     $L I V S H E R P D G D A \| G S A L A A A H I L T A L G G T W R F V A E G P$

[^1]:    lupas_21
    lupas_14
    lupas_28
    jnet conf sol25 sol5 sol0 jhmm
    jpssm

[^2]:    lupas_21
    lupas_14
    lupas_28
    jnet
    conf
    sol25
    sol5
    sol0
    jhmm
    jpssm

[^3]:    lupas_21
    lupas_14
    lupas_28
    jnet
    conf
    sol25
    sol5
    sol0
    jhmm
    jpssm

[^4]:    lupas_21
    lupas_14
    lupas_28
    jnet conf
    sol25 sol5 sol0
    jhmm
    jpssm

