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 RGAI RHVVGCSGVGNLPDNI A ERQK KRAMELLKP LDPCPV
 Q R RGPLRAVTGRALVANLPAHVCERMAAHARYLLEQAGAKI $G K V \square G F E G D S H A T N L P A H V A E R Q A R A A R E R L R E P V E D A$

 ERGEVQERRVVA RVANLPAHIAAREAEAAAKVLGWEPRCF




 GRPKSAHATALVAAVTNNVAQRELLTLLQDELSSELLGEV $E R G R L T R L R I V S A V G N L A G S I A Q R Q L Q S A L A A L R G R L E$
 E R G R L L R I T G F S A V G N L P L S I A Q R E R S S A L L L L L R Q E D L E V


| E | $Y$ | $S$ | $R$ | $I$ | $I$ | $K$ | $I$ | $E$ | $G$ | $I$ | $S$ | $H$ | $A$ | $T$ |
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| E | $N$ | $L$ | $P$ |  |  |  |  |  |  |  |  |  |  |  |
| $E$ | $R$ | $R$ | $E$ | $L$ | $V$ | $K$ | $V$ | $E$ | $G$ | $L$ | S | $H$ | $A$ | $T$ |


$R G T \square R D \square A$ AV G S V G GLLP F GI A E R QVA A L R E R GF Y S HA A N QVTAIVSAIPKSVGQRECDTIRRKTNWDPDCV
$E \square G$
EPRPC


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## ERGKLI

 QCNEAFA A VLLN N L L S PRGCEI ETLISSGVSRSI AT REIT ATRKKLGWFDAQK





 D R G EVVLQQN AVA L L L A H L P R H I A D R R E L E T A S N I L GL L A P E S T ERPQLTKVSIHAYTSRLPA


 E R | $G$ | $E$ | $L$ | $Q$ | $V$ | $I$ | $G$ | $I$ | $A$ | $H$ | $V$ | $S$ | $S$ |
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| $G$ | $L$ | $P$ |  |  |  |  |  |  |  |  |  |  |


ERGNIVQMRGEVLLAAGVM
ERGDLVEMGGTSFTQDLP


EKGSLEGFVGISHVSSLPVHIADRQKSSAEK\|LDKIDDRD

 EF G R L L
R G ELL NHS R LTA Y C Y N I P

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UniRef90_EOSPE

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 ETTAESACPGSALVLRIDHGTGMAGFSALGERGTPAERVG EATVTSPSPGSAIVLRLDHGTGUAGFSALGERGTPAERVG RILKNSAGPGNALMIEVQTERHTETFTAFGKVG\|S DETREEDDPGAGIFVAGEFDTDRIGVDKLGEKGVPAEKVG TDVRQGESKGSG| ALAADGEKSIDGADSLGERGKRAEVVGG DGKDPHLGPGSGIVVYAETENSVLGGDSLGAKGKPAERVG ETYPPHLGPGSGIVLWAEDDQGRIGADALGEKGKPAEVVG ELLOTPAGKGAGLFAFAYYGDVVAGFSALGEVGKRAETVA ETTAASPSPGSALVVRDDHGTGIAGFTALGERGKPAERVG DVRINESEGTGI ThAATGE STMGADSLGEKGKRAEKVG EVLQRDPDPGTGLLVLVELDNLRMGFDALGEKGVPAEKVA ETYEQHLGPGSGIVLWAVSKGLVKGADALGERGKPAEVVG HNLPRDQGPGNTVSLEVESENITERF
EDENNALGPGSGLVLWTEVKNKRVGSSSLGEPGKRAEVVG RTERASGSPGAGIILYAKFRNTVLGADALGERGVPSEKVG VDVQQSGGPGNVVMIELGFDNDSELIDGFGKVGVKAEQVAA DGYYPTQCPGNQVCLVVEFENTVIGTDNLGKLGKRAEDVG DVREGEISKGSGICLSAIGKYGIIGADALGERGKRAETVG EFLHDKQCNGNGILVARTMDNDTFGASALGEKDKPAELVA ADDREGESVGSGITLAAYGKSVMGSDSLGEKGKRAEIVG VDWP SLGQGAAVSLSATYGQIPATFVGLGERGKPAEVVA EGRPDHDGPGSGIVVWALTENSVLGGDSLGEKGKPAERVG KEEYYEPGPGSGIVVWANTDVLRLGGDALGERGKPAEVVG

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| UniRef90-D2NBK1 | A QLVKEV |
| UniRef90- ${ }^{\text {B4D } 8 \mathrm{H} 6}$ | DGVID CV RH |
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 VR L $G R V L S V G G L S H C V R L P S H V A V R Q A R A A E E V L$


VRGVSHCSNLPEHVPVRQAETAREHGYEAEVDV RGELKKI KIFSVAHKLPSHIAKRQAERLQGILYETEIED E R G S V K R V N A VI L N C H L P P E V A E R E K K V L L N RL G L T E D S V


E
$E \square H C$
$V R G V$ S HC Q N L P G H V A E R Q A S S A R N F L E E R G D RA

RGRI ESGEGISHAVKLPSHVAVRQAKAAKQVIERAYPNI
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EHGGVVAVRGVSHAVRLPKHVAERQASSAARLGIKPADDLD DAGPVRAVRARALVANLASGIGRRELAEVRAVLDWPEQAV


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$K K V K V L S V V T E L P S H I R T R Q A K A L A E K G F E P E V K L$
 $S H C V K$
 RSTAIRVVYAEAAALADRNVARRQAEGALERLDARDERS

 $R G P V E R L S V Y A L A S D D E A S V A E R D A E T V R E R I D G S E G E V$

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

 E H S E DK KV E GI A Y A Q NL T D DI P K R M R K S C S E L L Y L P N $\quad$ K L ERGGVK S ERGGP GS $\quad$ RKR ERGEI K E I K G


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LRA Y STEAAAALAE Q DVVA H R Q A A GA L N R L G L E S ER I ERGPVIAVNGRAYVAGLPTHLAASMRDGAAA L ERGDRQSLTAYSVADDTDAEVAERQLQGV
QR GAVKVI HGRS YVA GLP K SLAA AM RVGGAINVLAES GDAD

QR GNV T KL Y GRA F V A G L P Y H L A K DMA SAATARCLQRED DQV
$P \vee K H T C A E V V V A G L D P D I G K R K A A V L L R D L G G L E A E P T$
ERGAFVEKEAHLDMRNLMMHVVERMREKLVKG KMV ERGAVTADRGEARVGGLDLSLAKRMKEAGHQKLPADIIQQ R G S L S G I DVR S VAS GAD A DV A E R Q A D A A R E S L G E R D A PV

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QHSDDGFGPGSS\|VLWMD GKTR\|IGGSAl| GEPGKRAE\|VIG GKVNVVCGRGSGIVLWARVGEGVVGSDALGERGKPAEDVG CEVRRDFSTGSALTVRVDHGTGTAGFDALGERGKRAEDVG EHYEPHDGPGSGITLWAITERSILGGDSLGERGKPAEQVG HNLPRDQGPGNTVSLEVESENITERFFVVGEKRVSAEVVA VVTEPAYSPGSALLLEATYRESLAGFDALGERGTSSEAVA LEKARAKSPGTVVFLAYNEQEKRAGFFALGKKGKPAEKVA VTTARSDSPGSVIGCRLDFETGMAGTDALGERGKPAERVG ETTAASDCPGSAVVLRLEHAGGLAGFSSLGERGKPAERVG EVEHYHDGPGSGITLWADTERSILGGDSLGERGKPAEQVG IGOSNGDSDGAGLFLYTEYENTVFGVDALGRKGLSSEKVA VEAP SPGPGTMLFLLSQYEHTSAGFTGYGRDRYPA ETTAESPSPGSALVIRVDHAAGLAGFSSLGERGTPAERVG EEVVNEGSRGTGIVLSA HGLSIMGASSLGEKGITAENVG ATYTETASPGAVLTVVADCGDSRAGYGVLGERGVPAESVA ETTAESACPGSAIVLRLEYETGLAGFTALGERGTPAERVG 1 TTHSHDGEGNSCYAQVTHEYHAEVFTLLGEKRSSAEKI G IIEHVQAKGPGNTLHLLSKSDTHQUMDENTGKVKKSAEKVA VCNQPADGKGTGIVLWTRMGDGII GSDSLGEKGKPAEEVG EVTDRTDSTGTVALVGLEYENGVIGADALGEPGKPAEDVA KSDDDNHGPGSGLLLWSEVKNKCVGASSKGKPGKKAEDVG VCIDENLSTGSGITLWSEYKGVEGASYLGKKSLPAEKVG EDASGPVGRGSGUTLWAE GNTRLGAVSLGKPGKRAEKVG MTTRSNIGEGNTCYAQVTHKQHHEMFTLLGEKRSSAENMG VSAVESSSPGTGVVVVAQSGETVAGFDAYGERGVPAEAVG ELVERSESPGSAVVLVLESWGSLAGFGAFGERGVPAERVG DEVRREFSTGSGITVWCGYK WHTQGSSGGEKGKRAEDVG FGKSHVSTGSGITLWCPS TGSSALGRRGLPAETVG DEKNHELSPGTSISIDAEAKESILGGDSLGKKGKPAEKVG TVDSNHADPGNAVLIRTAFESGTSVFSELGRPRLSAESVA LEVTKAYSTGSGITLWSGYK GGSALGEKGKRAENVG EEVLKGLSTGSGIVLWSGYK VTGGGSALGERGKRAEVVG HEDDEVGSKGSGAVVVAVGDSLMGGSALGERGVMAEVVG LDVRSDASTGSSVIL WANTRGMMGGSALGERGKPAEKVG ETYPPHLGPGSGVLVYAEAEGVRLGSDSLGEKGKPAEKVG TEVSQYASTGSGINLWSGFKDVGAVSIGKKGLPAEKVG EFYEHHLGPGSGIVLYAETRSGTLGADSLGARGKPAERVG PESDTHDGPGSGVLVYVEEPVRLGGDSGGEKGKPAEKVG DAVQRHKAHGNGTGIQVMAETTTGCASALGRKGVPSEQVA ESLREKPGSGSGIVLWAEYEGCILGGSALGRKGTDAAHVG EVTERADSTGTIALLVLAYDNGVIGADALGEPGKPAEDVA RVDVSSSSTGSGALLVLKGYNGVIGADALGEPGKPAEDVA EYLRESPGAGSGILLWAETEHGCDGGSAIGKKGSDAADLG EKAWAK SPGTVVFVADSEGAKRAGFFSLGKKGKPAEKVA

 FEYYQTQCPGSQICLIVEFENTVIGTDNLGKLGKRAEDVG ETYVQTLISPGSAVVLWADCAKTLLGGDALGERGVPAEKVG GEVRDD STGSSLTLSGF HGGSALGERGLPAEKVG DKATSLSTGTGMTVWTQTRSAMGATVLGERGLPAEKI G LDDRNTSDGSSDTLY KGLAGGDALGERGKPAEKVG VTETETDCPGAVVTLVADCGTSRAGFDALGRRGVPAEDVA QFRLNGISQGNTVYVKVEYQLHI QLFTALGEMRKSAEQIA ERNDNTAGAGSGIVLWAELDGGI LGGSAVGKKGASAASKG FHL HGMSQGNTAYVKVEHENHVQLFTALGEMRKSAEQDA

 EPNSLSLGGGSGIVLWAELEGGMLGGSAVGRKGLAPEKVG QAVQEPKGNGTGQIVVAETTTGCCTSTALGRKGRQAEQVG SSYVESDSPGTAVVLAARCGDIVAGFDAYGERGVPAESVG
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| UniRef90 F6D7W8 | REAAERL |
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| UniRef90-L9XIJ3 | EDAADAA |
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| UniRef90-D7E5T9 K K A A D K V |  |
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| UniRef90-D1Z1E5 R E A A S |  |
| $\begin{aligned} & \text { UniRef90-E4NL63 } \\ & \text { UniRef90 J4IB06 } \end{aligned}$ |  |
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| UniRef90 ${ }^{\text {- N9RSL8 }}$ |  |
| UniRef900-D8PW35 |  |
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| UniRef90-Q2Y720 |  |
| UniRef90-Q64B10 |  |
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| iRef90 A7HC85 | E E AlvR DF R A Y L\|E G G A |



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| UniRef90-B5ICB5 | R $\square$ A VEKMEKERNS |
| UniRef90-O66884 | A EAVKKLHEDWSSGA |
| UniRef90-V2X011 | KEAATELLKAl ${ }^{\text {P A G }}$ |
| UniRef90-C3YTD9 | REAAQMLVRNMQHG |
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| UniRef90-R7TZB6 | QTAAEMLLQNLQHEA |
| UniRef90-H0WSG8 | I EAAEMLLANLRHG |
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| UniRef90-M5GBM7 | EEAARELGK |
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| UniRef90_A9V0E9 | RAAAQELLAG】 |
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| UniRef90-U9SVD1 | K NAAEKFIRNIKHG |
| UniRef90-U1NKN0 | HLLAACNLL NQI Y S G |
| UniRef90-14CBD7 | DFVT R S FLe ELK S GA |
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| UniRef90-W5LVF1 | IEAAEMLLR |
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| UniRef90-X0Т9M5 | S Y VA N NLIEDINS GA |
| UniRef90_G6D3T0 | GS A GRLL RQVID S G |

[^1]jpssm
jpssm $\quad 40 \Rightarrow 60 \Longrightarrow 70 \quad-\quad 40$


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