## QUERY

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NFYGELVDLGVKEKLIDEA GA WYSYKGEKITGQGKANATAW SREGELI DMGVEHGFVRKAGAWYTYEGDRLGQGKENARAF
 SRLGEI I DLGVQAGIVEKSGAWYSYGGNRIGQGKDNVRGY SRHGELI DLGVKHGLVDKAGAWYSYNGDRIGQGKDNVRNF
 SREGSLI DMGVVDQGLI RKSGAWFTYEGEQLGQGKENARNF

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UniRef90＿D4JY91


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 SKEGELVDLAATELKI LEKS GTWFSYQNERLGQGRDNVKQF
 S R A GE I I E M G V T A NLI DK S GA WYSYK GERI GQGKDNA R L Y

 SRE GDI L DLAVANEVVQQK GAWFAYQGEKI GQGRENAKTY


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 S K M G E I L

 SRE GS I L D L A V D D L L L V Q K S GA WY A Y Q D T R L GQ GRENTRE F
 SREGELIDMGVELKLVDKAGAWYGYDGERLGQGKENARQY

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 SRELVDLGGVKHKLI EKA GAWYSYNGDKI GQGKANACNF SREGELLDMASEVDVVNKSGSWYSYNEERIGQGRENAKQF




RNGEI I DLGVQQGLVEKS GAWYAYK GSKI GQGKANAAKY
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| R |  |
| - |  |
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| UniRee90 ${ }^{\text {- }}$ Lof |  |
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| UniRef90-K2BT14 | LKEHPAIAQEIETK |
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UniRef9O_R5TDTO
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GELIDGGVKHKLVEKKA


SYEGELLDMGVEYGVVRKSGAWYAYESDRLGQGREAAKDF SYEGELVD GSDLNVVDKSGAWYSYEGTRIGQGKDNARNY SHLGEIVDLATEMGLIEKSGSWFSYNGEKIGQGREKVKDY
$\stackrel{S}{S}$ SREGDVLDLAAKCEVVDKSGAWYSYHGEKIGQGRENAKAF SKIGE:IDDLGVEHN:ITKSGSWFSYKESKLGQGRDAAKRL SKEGCILDMGVESGUVKKSGSWFNYDEERLGQGREAAKKS

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| UniRef90-U5S891 | FKENPELR | E Q |
| UniRef90-B1CBR0 | LA D P EI A E | E |
| UniRef90-C0Q190 | D NPEIFNQ | Q ARVR |
| UniRef90-R9LRY7 | LK A N P EVA | EA QVRDKLL |
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 NRTGELI ELGVK QKI I EKS GVWYSYQGDKI GQGRQKACQY




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 NREVVL D I G V
 SKEGELVVYGVKLDIVDKSGAWFSYGETKLGQGRENVKAK





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 S N IG CL L DLAA EDA D IVVVRKGAWYSYKGDNI GQGRENTI NY



S REGSSLI DMSSVDLAAVKK S GA WF TYE GEQLGGQGREKAK Y Y




S


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T T GCLVDLAEETGI I T K K G S WYSYNGDNIIGQGRETTIKY SKEGDILDDATSFDIVVKSGAWYSFKGERMGQGRENAKKF
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 S K E S ELVDDLGVQFE I EK S G S WF S Y G GQR L A Q GRD NVRVL

D TASELGV KKSGAWYSYGEDRLGQGRDQAKKF GELI E LGVKKHKLI EKA GAWYSYK GNKI GQGKANAS QY




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 S L E G E I I E O G V K L K K L I E K K A G A WY S H N G E K I G Q G K D N V R E Y
 S KVGGDLLDIAAADLDII KK S GA WY S Y NETRRLGQGRENVKK F SKEGNLLDVGAEMGVVEKSGAWYQFGKDKLGQGREAAKAF



 ST DGGCLVDMAAEAEVVIVRKGAWYSYEGDNIGGQGRENTDQY S Y EGEELI D Y GVV LDDV VEKS GA WF S Y LDDRKL GQGREAA KLT

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 S N I G C I I D L A E Q T NVI S R K G A WY S Y N G D NI S Q GR D N A V K Y






 SRS GEL I DL GL L A K KI I E Q S G S WF A F
 S K T G E L L T T A V N E D I V K K K A G A WF S Y N D E K I G Q G T E K A K I F

 S Y A G T L L DLA V S T GII E K S GA WF S Y G A ER L G Q GRENVVK



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| UniRef90-K9WIJ1 | L E ENAEFAANVDKQVREKL |
| UniRef90-A1ZUC7 | I S D N D L F E ELE |
| UniRef90-XOTXC7 | L M Q N N L M |
| UniRef90-E1ST08 | L K E NVA ${ }^{\text {a }}$ |
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| UniRef90-G8QW38 | L K ENPDI AVTLDK K R R |
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| UniRef90-D4LAG8 | L A NDPELMKEIEA |
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S
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 SKE GS L I DMGVVEHGFI RKS GSWFTYHGEQLGQGKENARNY

G E L L
SKEA EVV I DLGSKYKFI SKA GSFFKYNG QSSFHGKETAKT F SQS GDLL DTGVVKLEVI KK S GNSYAY GEEK LGTGREKAKA Y

 S Y VA E L L D L C V D N E IVVNK S G S WF S Y N GE K IA A Q GKE SAK A F S K V G E L V D L G A K A D $1 . V$ E K A G A WY A Y K G E K I G Q G R E N A K X Y S KVG E L L DI A $\square$ AT D D I K Q A G S WF S M G E K R L G Q GRE N






| UniRef90 D4G7M5 |  |
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| UniRef90-A0A024G1C3 | L E LHEDIA K Ki EQS L R D |
| UniRef90 Q8EVC7 |  |
| UniRef90 B3DW93 | LKTDVNLCAKLEAAAK |
| UniRef90-11L1J2 | LAESDGV QELATKLREK |
| UniRef90-A0A022QH | LSENETAREELVKKL |
| UniRef90_UPI0002D8A461 | LID D A A A A QVEA EVR |
| UniRef90_UPI00047901E9 | MKNNPEKLLALI ETK |
| UniRef90-R4U146 | LS L N P DVRITI K D K |
| UniRef90-P61500 | L R ERPELLEEI R T K V |
| UniRef90-H5SRP4 | LEEHKEVAEQLEQTI RQKM |
| UniRef90-B4UDA1 | L R A NPAAFERLVERI |
| UniRef90-G7SQU2 | LKEEKN\INEMQKNILNH |
| UniRef90_UPI0003B50E30 | L LETPALMEEDKKEILEK |
| UniRef90-P36203 | L K D P EIA GEI ER |
| UniRef90-K2FXE2 | LKENEKVA QKI F |
| UniRef90-K1ZT18 | LRENKDIFAKI RKMTEEK |
| UniRef90-D3L4Z4 | MEEQPELMEEI AQEVKS L L |
| UniRef90-G4EM56 | LT S HQDIFEEIKNKVTEQ |
| UniRef90_UPI00036AD5FD | LKGDPKMAQEI REKVLAQ |
| UniRef90-B5QRV4 | L DEHPEVSKE |
| UniRef90-A0A059CMT9 | LNGNVIECDELMMKL |
| UniRef90_K8FAV1 | AKEKEGLYEEIVRL |
| UniRef90-J4KRX5 | LKENAKVKNKLVKE |
| UniRef90-T5J204 | L ERLGI LEELYTKI |
| UniRef90-11HUA6 | L T G NESI AKELEMELRR |
| UniRef90-K2CHM9 | L E EKPELMKRI EKDI |
| UniRef90-K3ZIK6 | L A K NRDAQEDLMTMLREKMM |
| UniRef90_D1AV21 | LTTNDELFS KI E E EVMM KL |
| UniRef90-S5LTD4 | FKVNPEKYEEI Q N |
| UniRef90-V7ZQ31 | LKKNPQVMDEI E GKI RTVL |
| UniRef90-E8R324 | LKEHPELADEI A A K V |
| UniRef90-UPI00016C4E85 | L RENHAVRDEIVAAV |
| UniRef90-E0TL21 | L ENNNSLYEELRALVKEK L |
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| UniRef90-X1R440 | L EEDPKLANEIEAA |
| UniRef90-A5IYZ1 | L ENNLEFKQEIEKLV |
| UniRef90_P34716 | L RVKPEFPG\\|FEQGI |
| UniRef90_UPI00042B0B85 | L A ENDVLEKIVMDL |
| UniRef90-D7CRT4 | L LD NPHLI DAL RQRVVA A V |
| UniRef90_UPIO0039EA5AC | LESDDKLLKSVLSDVKT Y L |
| UniRef90-K2CVN5 | L R ERPDLMETI K K D |
| UniRef90-X1LLW0 | LKANPEI TKKIKKAlVEQV |
| UniRef90-M0XIP2 | L LENDAVADDI C S T MRSQL |
| UniRef90-A0A011A9R7 | 1 EEHPELMDEI TKEVL |
| UniRef90-11R2S8 | LAENKNVLESLMSMILKESIM |
| UniRef90_D1B781 | L MEHPELMEEITQE |
| UniRef90-A6DUF6 | 1 K A DEALESSTVLDRVKT L L |
| UniRef90-H0UJ18 | LDEHPDLKEEI KAAVLAKV |
| UniRef90-I1A7K1 | FKENHELKNKIL |
| UniRef90-D8LH04 | LKENQALRETLQDQVRAHLL |
| UniRef90-A6FZ21 | L R A E P ERCRELVEALK |
| UniRef90-EONSR4 | LS DNPELCEEI EAR |
| UniRef90-C5CES4 | L M A N S El |
| UniRef90-D8U914 | L R EDPDRCAAI ENAVRE\\|L |
| UniRef90-B6TNM4 | LTENKSVANDLETKLRRLM |
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| UniRef90-B91193 | LMENE GVHDQ! VAK L R E K L |
| UniRef90-K2F0H1 | VKDDQKLAKE |
| UniRef90-UPI000371F278 | LK A QPKMAHK】EKEIWEK |
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| UniRef90_A81670 | LREDAERTAAl E A AVRDVL |
| UniRef90_X1MPN2 | L K ENPEITKK |
| UniRef90-X0YGM0 | L R N NPEVMEEI K EAlVK M |
| UniRef90-K2FQH6 | L REDKKTADKI FKEI |
| UniRef90-P62218 | LNADEKRTNELIQQVKKI |
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| UniRef90-B7FQ63 | E T E VR L A L |
| UniRef90-M9WCW6 | L EQDQQRKEGFIKQVQEKM |
| UniRef90-V7PZW1 | L RENKK\ADGLLKEIR |
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| UniRef90-UPI00037AE344 | L R D N P TVLVDVVSKI R K A |
| UniRef90-M4EQL3 | L R LiNESVQEELMTKLKEKL |
| UniRef90-D1Y2L3 | LDKSPEMLAEI RKTVLDQ |
| UniRef90-B1AI69 |  |
| UniRef90-A9BEV2 |  |
| UniRef90-Q6KHC9 |  |
| UniRef90-UPI00031E1FCE | LRQHSDI EQQLYDRVMA |
| UniRef90-D3FH02 | LGESEELYKLI K TEVLN |
| UniRef90-H2J3E9 | LKENS Y L L D EIIE Y R I R K E |
|  |  |

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MKENPELILEE ENRLRAK
LLEEHPEEALAL|ETKLCNELL

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|  | UniRef90-Q4A5K2 |
|  | UniRef90-D4TSB5 |
|  | UniRef90-UPI0002555121 |
|  | UniRef90-A6H2L0 |
|  | UniRef90-Q1A7A8 |
|  | UniRef90-B8A939 |
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|  | UniRef90-17C7D1 |
|  | UniRef90-L1MMY0 |
|  | UniRef90-B9T6M8 |
|  | UniRef90-H6SHR2 |
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|  | UniRef90-A217K7 |
|  | UniRef90_UPI00032ACC44 |
|  | UniRef90-S8DSW0 |
|  | UniRef90-E8ZGK6 |
|  | UniRef90-W8GMG5 |
|  | UniRef90-K1YIV5 |
|  | UniRef90-D4CXD8 |
|  |  | UniRe90_A9G764 UniRef90-K1X163 640A Ref90 D7TB64 UniRef90_UPI0002B47E42 MiRefo- 4 A5K UniRef90-D4TSB5 UniRef90_UPIO002555121 UniRef90_A6H2L0 UniRef90 Q1A7A UniRef90-B8A939 UniRef90-17C7D1 UniRef90 L1MMY0 UniRef90_B9T6M8 UniRe90-H6SHR UniRef90-P0CD80 UniRef90-V7CY00 Uni UniRef90 ${ }^{-}$A0A059DH68 UniRef90_F0QS81 UniR90 UPI00046DA48 UniRef90-K8GN85 UniRef90_UPI0003A4D548 go UniRef90 I1JN96 UniRef90_C3WCHs UniRefo- A217K7 UniRef90 UPIO0032ACC44 UniRef90-S8DSW0 UR UniRef90-K1YIV5 UniRef90- X1KN13

[^1]| UniRef90_N9VCA4 |  |
| :---: | :---: |
| UniRef90_A9G764 | $L \mathrm{~L}$ GKPTLATSLRAAV |
| UniRef90-R5QIT3 |  |
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| UniRet90_UPI000465640A | $\sqrt{L}$ |
| UniRef90_UPI0002B47E42 |  |
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| UniRef90-Q4A5K2 | $\square E S N P E!I S E D Q D T L K$ |
| UniRef90_D4TSB5 | LEEKSDFAEKIKEQVRAK |
| UniRef90_UPIO002555121 | REAHGEFAAG】EKKLRT IML |
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| UniRef90_B8A939 | LRENAAVADETCGTMRRQFF |
| UniRef90-D5E501 | I EDNDDLK N D L M K L |
| UniRef90-17C7D1 | L NDEFKEEF QELKEKLF |
| UniRef90-L1MMY0 | L A D N S D R H D PEARI |
| UniRef90-B9T6M8 | LAENYKVHDRIVRTL R T HLF |
| UniRef90_H6SHR2 |  |
| UniRet9-K2EX19 |  |
| UniRef90-V7CY00 | LA Q N A I C D KFVK D MRRLYF |
| UniRef90-D7TSA5 | MAQNSGVLERIVSFLRSHLF |
| UniRef90-W3RQD4 | LA SKPELAAQI GAAVEA |
| UniRef90-A0A059DH68 | LA Q D GVLQKI T M $\mathrm{L}^{\text {L }}$ R S Y L L |
| UniRef90-F0QS81 | F QSEEMQKELE EIIKTAVL |
| UniRef90-UPIO0046DA48E | LA K N D A LF C K A M L R K M M F |
| UniRef90-K8GN85 | LKANPEIFNKL |
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| UniRef90-M4T1S7 | LE D N P E LVEK K E K QLA S K |
| UniRef90-IIJN96 | LA Q NDAVCDKL |
| UniRef90_C3WCH9 |  |
| UniRef90-L7TXN4 |  |
| UniRef90-A217K7 |  |
| UniRef90-UPI00032ACC44 | LAKNER】CDK\IMHMKRL |
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| UniRef90-E8ZGK6 | MRENKELEEGVKKKV |
| UniRef90_W8GMG5 | LKENESLLKEI F N K |
| UniRef90-K1YIV5 |  |
| UniRef90-D4CXD8 | LSENPDFY T ELKMLLLYSK |

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lupas_21
lupas_14
lupas_28
jnet
conf
sol25
sol5
sol0
jhmm
jpssm
```




[^0]:    

[^1]:    lupas 21
    lupas_14
    lupas_28
    jnet
    conf
    sol25
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    sol5
    jhmm
    jpssm

