

## query

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 GVLTLGLGKY GVMTLSFDD $P{ }^{-}$
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 $G \vee L T L V \square P E$ F K $\square$ GTYVINKQPPNKQ:I WL
 NVLTLEF ENGTKIIVNLQPPMQEIWIAAKSGG YHFRFV


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$\qquad$ NRSOVV
$\qquad$ GSKII NKQEAFHQU: WL

GVLTVTV NVMT TV KFGTYV EDRSQIVI NRQEPMHEIWLASRSGGFHFQYT GVLTHATAF | G | V | L | T | I | T |
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| D | L | T | L | D | L | NGSKlI I NKQEPDHQI WV SESTYVI NKQPPNKQI WL

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 QVLTIVFNQKTHVVVNSQAPLQEMWVAAPSGGF HYKFE NVLTVFAQNGTQQVVNSQAPLQEMWVAAPSGGFYHKFE GVLTLTDPPNGTYVINKQPPNKQIWLSSPDSGPKRYDLI HVLTLVFNNDDHQVVINSQAPMREIWVAARSGGFYHYRY GMI TLSFPARSQVVINLQKPLHEVWMAAKSGGYYYKFD GLLTMIFLNGTKII NKQPPLHQLWVATKFNGGHHFNFQ GMLTHTCETNGTQLIVSRQAAVGEIWLAAKSGGYYFKLQ GVLEITEENRSKMVINRHSAAREIWVAAKSGGFMHFRYD GVLTVNLGKNGTYVINKQTPNRQUWWSSPISGPKRFNYD GLLELIGFPDKSKIVINKQPPLHQLWVATKFNGMHEEGH NVLTLEFAERSQIVINKQEPMHEIWLASKSGGF NVLT EAGDGTQ NVLTMVFEDN THVVVNSQAAMQELWVAARSGGF HYR K GVMNLRCGVHGTWVINKQPPNKQIWLSSPKSGPKRFDYD

G
GVLTVRF GMITVEFA S GTFVLNKQAPNVQLWLSSPLSGP SMVTLEF ENGSKI LNRHGAAREVWLAAKSGG YHFRPE DGVINIKVNNKGAWVINKQTPSRQIWFSSPDTGPTHYMDQ GLLTLEFDNRSKLIINRQQPLQQVWLATVENGAHHYDHK

## 


 GVLQLEF QDKSKIVINKQEPLHQIWVAT QFGGYYFSYV G

## ${ }^{\top}$

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3
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## ${ }_{G}^{G}$


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$G \vee L$
$\mathrm{N} \vee \mathrm{V} \mid \mathrm{M}$

UniRef90 G8QKY1 UniRef90-V80X29
UniRef90_FOEYS5 UniRef90-H8X7A4 UniRef90 UPIO0035CC14A UniRef90-J1EIDO
UniRef90-JgVI UniRef90 ${ }^{-}$K7AA62 UniRef90 HOPWK3 UniRef90-Q1YSU6 UniRef90 R9PG34 UniRet90 UPI00036A6B2F UniRef90-A0A024GQQ3 UniRef90-D3BU32 UniRef90-Q2L201 UniRef90-L8DAT5 UniRef90-B6EP83 UniRef90-OEF5536 UniRet90_V9HMG1 UniRef90-R4XNG6
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DGLWIDDRSGAEFLSFLSKA $\backslash Y K Q S G E S \square V$
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GEQWDS TRNAE ELLGGLLRAE $L$ G
H
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UniRef90_Q21UC5 UniRef90-A8GN05 UniRef90-V4YUR0 UniRef90-F4HBQ9 UniRef90-D4B5K5 UniRef90-I9KQB7 UniRef90_Q68X49 UniRef90-W0NZD3 UniRef90_K1WNX2 UniRef90-UPI00021A44F3 UniRef90_A4SUZ5 UniRef90-J4U894 MNN AEYENLANETLGKLADYLDSNPDRFSCDGEYDVNSS MNNAEYVE AEALYEVVEDTLDNWSE PNGVALDYENAS LEESHFDALADPLLERLAEATEDGRD SNDDADAELEG
MTESEFNDRVDETLIT LEDLLEEA MKDSDFS ILIDKLLEDVEDKUNDL
 DSDLDVESHG FSSEVDTAKNG DS ARYHD MTELLEFNQLVDQTGQQLESLLENSA TEGDVDLENSG
 LTAHEYHRLADSTLHDVRASLDQAE MNDAEFHQNDDQIWDSIEEQLEN UDNADE MEESAF LT DTDRIFNQLDMQL D DA MTDTEFQAVVDATLVQVEEYI ESLVD MSNPNFHELVDDVFLSI EDSIED MNVAEFHQNI EQVWQKi E EALEN
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MNEARFHDLVALLQQQVEDAFDDSDLDLDL
LSEARFHDLVDTTQQAVEDULDDSDLDLDLL
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पTdGEYHEYAEHYपNV TQNEVEKVQEEGFDVECRSG


MENSEFRSLAAA $\square$ LDSLQQVDTWFQDL DVDVEGSRNG
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Re_s4U894

GVTAKI 50
50
 GVLTVDCEDTNTQVII SRQQATHQLWVAAKSGGF HLVHD
 GVLTVK G V L P I P

\section*{| $G M L$ | $T$ | $V C$ |
| :--- | :--- | :--- |
| $N V L$ | $S$ | $R$ |
| $N$ |  |  |} SGGTYVNKQTPNREIWLASPKSGAHHFVWR NVLEI EF I EN

E N
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F FYDE NGSKIIVNSQAPMQELWVAAKSGGF HFK AD NVLTVEAESGEQIIVNRHAATQELWIAAKSGGYHFACK $G V M T V R L G D K G T Y V L N K Q T P N R Q L W L S S P V S G P A R F D W N$
 AVLELEF NDGSQI I L NRQAPNQEMWVAARSGGF GVMTMAFG SKGTYVLNKQAPNQQMWLSSPASGPH AVFTlT F NVLEI EC ENRTQIVINKQEPLLELLWLASKLGGF HFSYK
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## N G N G S

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 H F A Y K GVLTVKLGGGHGTYVI NKQTPNRQIWLSSP
GVLTLSLGPDVGTYVINKQPPNKQIWLSSPKTGPKRYDYV NVLEI EF DS GDKVIVNRHAVNQEMWI AAKSGG YHFSRR NVLTLDF NGQQVVLNQQTPMKELWUASK SGAYHYKFD
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G
N
A DMLTLTVPERGGQVVNLQKPLQEIWLAAGEGGYHFRFD

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 $S M V T L V F S N N K S Q L V I N D Q K P G H E V W L A A K S G G Y Y H Y K F D$ DILNLD TDKGIYVI NKQSAAKEIWLSSPVSGPCHFFYE GVLQI TCRGGRTTVI NKHYATKQI WYASPISGGDYFDYS SVVTITF DDGSQLVVNKQEPDQELWLASKLGGYYHRRYQ
 NVMELEFADGSKIVNSQAPMQELWVAARAGGF D L N L D $\mathrm{Y} V \mathrm{MT}$ T $\mathrm{T} F \mathrm{~F}$ GVLTLAFPPN


80 PE
 A
C K。 , $H F S Y K$
$H F R R A$ H Y A K R A $H Y K R V$

$A R F S W Q$ MNLRCGV HGTWVI NKQPPNKQIWLSSP | $K$ | $G$ |
| :--- | :--- |
| $P K S G P$ | $Y$ | $\begin{array}{llll}R & F & D & Y \\ H & Y & R & F \\ H & V \\ H & S & F & K\end{array}$ GVVEVEFDDGSKIII NRHGVAREI WVAARSGGF HFKRQ GVLTVEVCPAGGKFVI NKQAPRRQLWLSSPVSGPHHYDFQ GVMTLLEVGA FGTYVI NKQPPNKQU WLASPGLSGPNRFDGL



 GILTLTF TNQHQLILSRQEPLKQLWLADRSGGFHFYDEQ NLLELEEFDNGAKI I I NRHDINKEIWVAAKSGGF HYAYC


$P^{A}$




[^0]





[^1]




UniRef90 UPI0001E47233 UniRef90- F3LE24 UniRef90_UPI0003D0CC04 UniRef90-H8FQH3 UniRef90 UPI000287E104 UniRef90-UPI000472E815 UniRef90-UPIOO0381446E UniRef90_M1LV30 UniRef90-A6T3G3 UniRef90-X2H9A2 UniRef90_A9TTP0 UniRef90_K5XG68 UniRef90-E6QSE2 UniRef90_UPI0003B5586B UniRef90_E9C262 UniRef90 ${ }^{-}$Q65QS 1 UniRef90_UPIO00372ED14 UniRef90_G1XFE7 UniRef90 A6GPJ6 UniRef90-UPI0003658E6A UniRef90-E1W3K6 UniRef90-P59463 UniRef90 A1KBR2 UniRef90-E5APR0 UniRef90-L8GRF3 UniRef90_Q9HTS5 UniRef90-N2J912 UniRef90-KOKJC5 UniRef90_C6AK42 UniRef90-W0VDZ2 UniRef90_UPI0003B5A057 UniRef90_G2QNF8 UniRef90-Q7P221 UniRef90_G4QAI2 UniRef90-K2LKX7 UniRef90_K1JYC1 UniRef90-A1 VK11 UniRef90-G2J270 UniRef90-AOAO31GPK5 UniRet90_A0A0310
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LA DAEY $\square R \square A H A A L A A \prod E T T \prod D R W L D E D$ LDDDDTHRTG LSTLGYNNASETTLENLADQLDGLAERLPTMKQLDADYSS
 $D \square H Y Q A A A D A L L S G L A E Q L Q E R Q D A E G \square D D$


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 MS QTSFA VFAENMFQAL DSAG EVLIDDED QDADVDVDGSG


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DVESDLEG
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 ID N E L N R F V Q Y VD IDD Y I Y Q N
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 MN DS E F H R L A D Q $M L L R T Y D S L S K S V M K R I V E V V D R T I D N$ MDSKEYSQRAEHVF RQVEQLLDRNEDLLDYDVSLRKD

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S DFQALSYNLLNTLTEMD S DF Q S L S Y N V L D T L V N M I MDEA RYNQLTSAAFKRILAAAD DL

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A WH F | YR |
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 EMI NLY YTVSTKQFVITGHTFARQAWLV
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$\qquad$ GSLVLMLAE NYLNLSM LEVFAELGPEVGTYWIKFDLLSTYQUCVMSPRSGPHRYDYD EALETKIPEISSVYLIHQHNALEQIWLSSPDSGGWHFVFN SVLRLEL GVVKIS



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    #### Abstract

    


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