QUERY
UniRef90_E4QYP7 UniRef90-E4QYP7
UniRef90-Q8GM77 UniRef90 Q8GM77 UniRef90_UPI00046DA758 UniRef90-UPIO0046DA758 UniRef90-UPI00046DA758 UniRef90-UPI00046DA758 UniRef90-E1POK9 UniRef90_E1P0K9 UniRef90_E1P0K9 UniRef90-Q8GM76

UniRef90 Q8GM76 UniRef90-I3DNP8 UniRef90-E4ZDP7 UniRef90-E4ZDP7 UniRef90_E4ZDP7 UniRef90-E4ZDP7 UniRef90-F9GUC2 UniRef90-F9GUC2 UniRef90_F9GYC3 UniRef90-F9GYC3 UniRef90-FgGYC3 UniRef90 Q4KTX9 UniRef90_Q4KTX9 UniRef90_Q4KTX9 UniRef90-Q8GM75 UniRef90_Q8GM75 UniRef90_T2BK94 UniRef90-T2BK94 UniRef90 T2BK94 UniRef90-COEPJ4 UniRef90 COEPJ4 UniRef90-E4ZDL8 UniRef90_E4ZDL8 UniRef90 E4ZDL8 UniRef90-F9GR46 UniRef90-F9GR46 UniRef90-F9GR46 UniRef90 F9GR46 UniRef90-F9GR4e UniRef90-F9GR46 UniRef90_E2PE13 UniRef90 E2PE13 UniRef90-E2PE13 UniRef90_UPIOOO3792293 UniRef90 UPI0003792293 UniRef90 E1POH9 UniRef90-E1P0Hs UniRef90_E1P0H9 UniRef90_F9N6N5 UniRef90-F9N6N5 UniRef90_F9N6N5 UniRef90-UPI00031FC986 UniRef90_UPI00031FC986 UniRef90-UPI00031FC986 UniRef90 DOW292 UniRef90-DOW292 UniRef90_DOW292 UniRef90_D0W292 UniRef90_F5TGX3 UniRef90-F5TGX3 UniRef90_F5TGX3 UniRef90 F5TGX3 UniRef90-F5TGX3 UniRef90_F5TGX3 UniRet90 F5TGX3 UniRef90_F5TGX3 UniRef90-F5TGX3 UniRef90_F5TGX3 UniRef90 F5TGX3 UniRef90-F5TGX3 UniRef90-F5TGX3 UniRef90_12NCP UniRef90_I2NCP2 UniRef90 I3DEX1 UniRef90 I3DEX1 UniRef90-I3DEX1 UniRef90_C9PNK0 UniRef90_C9PNK0 UniRef90 C9PNK0 UniRef90-F9MQG4 UniRef90_F9MQG4 UniRef90_F9MQG4 UniRef90_F9MQG4 UniRef90_F9MQG4 | $L$ | $T$ | $R$ | $T$ | $H$ | $T$ | $K$ | $C$ | $A$ | $S$ | $A$ | $T$ | $V$ | $A$ | $V$ | $A$ | $V$ | $L$ | $A$ | $T$ | $L$ | $L$ | $S$ | $A$ | $T$ | $V$ | $E$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | A $N$ N $N$



VGKLSVNLVSPTADSNKPTALGNLANGAKTFAAPT VGKLSVNLVSPTADSNKPTALGNLANGAKTFAAPT VGKLSVNLVSPTADSNKPTALGNLANGAKTFAAPT GGKKPVNFTTEKAKNASNNDEADKLTTALNDSSSDGKPTQ GGKKPVNFTTEKAKNASNNDEADKLTTALNISSSDGKPTQ GGKKPVNFTTEKAKNASNNDEADKLTTALNISSSDGKPTQ NNETGKEPATALKKISSDGKPAQ NNETGKEPATAALK SSSDGKPAQ

TTKDTNAGDTDTSAT

TTKKTNAGITITSAT

| $T$ | $T$ | $K$ | $T$ | $N$ | $A$ |
| :---: | :---: | :---: | :---: | :---: | :---: |

TGKNPVSLTEKGLNNGGNA
TGKNPVSLTEKGLNNGGNA
TGKNPVSLTEKGLNNGGNA
TGKNPVSLTEKGLNNGGNA
TGKNPVSLTEKGLNNGGNA
TGKNPVSLTEKGLNNGGNA NNETGKEPATALLKSSDGKPAQ NNETGKEPATALKISSDGKPAQ
TTKDTENGLTVSTTPANGGTATEVKIGSDGDSAGNKA TTKITENGLT-VSTTPANGGTATEVKIGSDGISAGNKA NNETGKEPETALKMSSDGKPAQ NNETGKEPETALKISSDGKPAQ VDKDGNVIKPDDTAKDPGKSNMVNPNVANTTEKP
 AGTIVNQDGNPVNATTGTAAQPVAQNDVVIKAKSTDPTN VNFTTDKATDASNNDAANKPTTALNI SSTGADAKPTQ
 $V N F T T D K A T D A S N N D A A N K P T T A L N I S S T G A D A K P T Q$ TNNGNKAEDQPTTALNVSSSDGKPTQ
 TNNGNKAEDQPTTALLNVSSSDGKPTQ

PANNNGTDKTPTTALNVSSSDGKPTQ PANNNGTDKTPTTALLVSSSDGKPTQ

K S AVENP QVNLVNDDGTATKPTQLGNVAAGANTWADKA K S AVENPQVNLVNI DGTATKPTQLGNVAAGANTIADKA K S AVE NP QVNLVNIDGTATKPTQLGNVAAGANTIADKA


## QUERY <br> UniRef90_E4QYP7 UniRef90-Q8GM77 UniRef90 ${ }^{-}$Q8GM77

 UniRef90_UPIO0046DA758 UniRef90-UPIO0046DA758 UniRef90_UPIO0046DA758 UniRef90_UPIO0046DA758 UniRef90-E1POK9 UniRef90-E1 POK9 UniRet90_E1POK9 UniRef90-Q8GM76UniRef90 O8GM76 UniRef90-l3DNP8 UniRef90-E4ZDP7 UniRef90-E4ZDP7 UniRef90-E4ZDP7 UniRef90-E4ZDP7 UniRef90-F9GUC2
UniRef90
F9GUC2 UniRef90-F9GUC2 UniRet90-F9GYC3 UniRef90-F9GYC3
UniRef90
FgGYC3 UniRef90-F9GYC3 UniRef90-Q4KTX9 UniRef90-Q4KTX9 UniRef90-Q4KTX9 UniRef90-Q8GM75 UniRef90-O8GM75 UniRef90-T2BK94 UniRet90-T2BK94 UniRef90-T2BK94
UniRef90-COEP 44 UniRef90-COEPJ4 UniRef90-COEPJ4 UniRef90-E4ZDL88
UniRef90 E4ZDL8 UniRef90 ${ }^{-}$E4ZDL8 UniRef90_-F9GR46 UniRef90-F9GR46 UniRef90-F9GR46 UniRef90-F9GR46 UniRef90-F9GR46 UniRef90-E2PE13 UniRet90-E2PE13 UniRef90-E2PE13 UniRef90-UPIOO03792293 UniRef90_UPI0003792293 UniRef90-E1POH9 UniRef90-E1POH9 UniRef90-F9N6N5 UniRef90-F9N6N5 UniRet90-F9N6N5 UniRef90_U4S001
UniRef90_UPIO0031FC986 UniRef90-UPIO0031FC986 UniRef90-UPI00031FC986 UniRef90-DOW292 UniRef90-DOW292
UniRef90 Dow292 UniRef90-DOW292 UniRet90-F5TGX3 UniRef90-F5TGX3 UniRet90_F5TGX3 UniRef90-FTGX3 UniRef90-F5TGX3 UniRef90_F5TGX3 UniRef90_F5TGX3 UniRef90-F5TGX3
UniRet90 F5TGX3 UniRef90-F5TGX3
UniRef90 F5TGX3 UniRef90-F5TGX3 UniRef90-F5TGX3 UniRef90-12NCP2 UniRef90-12NCP2 UniRef90 - $13 \mathrm{DEX1}$ UniRef90-13DEX1 UniRef90-13DEX1 UniRef90-C9PNK0 UniRef90-C9PNK0 UniRef90-F9MQG4
UniRef90
F9MQG4 UniRef90-F9MQG4 UniRef90-F9MQG4 UniRef90_F9MQG4

90
100 110
DEKGTDKQTPVVADNTAATVGDLRGLGWVIDSADKTTGGST NEKNASDKLLVEDNTAATVGNLRKLGWVLSSKNGTRRN NEKNAS DKLL LVEDNTAATVVGNLARLGWVLSSKNGTRRN NEKGADKSNFLVADNTTATVGNLARKLGWVLSSKNGTR N NEKGADKSNFLVADNTTATVGNLRKLGWVLSSKNGTR1N






 SKPATG TPAVPDTTAATVGDLRNMGWVVSSDKTTGDTK
 NEKGANKQ PLVAADSTAATVGDLRKLGWVLSSKNGTMNET NEKGANK PLVADSTAATVGDLRKLGWVLSSKNGTMNET D A P T LGNTANQVNPTNAATVVSDVLNAGWNI QGDG
 DAPTLGNTANQVNPTNAATVSDVLNAGWNI QGDG

VGTKDAPVNKNAAATVGDLQNMGWVVSTKDGNG
$V G T K D A P V N K N A A A T V G D L Q N M G W V V S T K D G N G$
$V G T K D A P V N K N A A A T V G D L Q N M G W V V S T K D G N G$
VGTKDAPVNKNAAATVGDLQNMGWVVSTKDGNG
$T K P A T G A A G N G A D D T T A A T V G D L R G L G W V L S A K K T A D E D K$ TKPATGAAGNGADDTTAATVVGDLRGLGWVLSAKKTADEDK TKPATGAAGNGADDTTAATVGDLRGLGWVLSAKKTADEDK NEKTGANKQLLVADSTAATVGDLRKLGWVVSTKNST NEKTGANKQLLVADSTAATVGDLRKLGWVVSTKNST P GKAGLADLANSTSSNAATVGDLKNLGWQI SVGDG PGKAGLADLANSTSSNAATVGDLKNLGWQISVGDG PGKAGLADLANSTSSNAATVGDLKNLGWQISVGDG L I D L A G T D K A P PVK K N A A A T VV G D L Q N M G WVVV S TM D G N G L I D L A GT DK A PVVKK NAAA TV G D L Q N M G WVVVSTKD GN G LIDLAAGTKAPVKKNAAATVGDLQNMGWVVSTKDGNG
 A GTK A A P V N K N A A A TVVGDLQ NMGWVV STKMCNG A G T K A A P V N K N A A A TVVG D L Q N M G WVVVSTK D GNG NPN N A A TVVGDVLNA GW

 $N$ LLQ GNN | $N$ |
| :--- | :--- |
| $N$ |
| $N$ | $\operatorname{LQGN} N$ $N$ L Q GN N $N$ L Q GNN $N L Q G N N$

A GTKAAP
A GTKAAPVNKNAAATVGDLQNMGWVVSTKDGNG
A GTKAAPVNKNAAATVGDLQNMGWVVSTKDGNG SQPNTGAAGTSVVATTAATVGDLXKDGWVLSSDKTTNDDT SQPNTGAAGTSVADTTAATVGDLRKLGWVLSSDKTTNDDT A GTKAAPVVNKNAAATVGDLQNMGWVVSTKDGNG
A GTKAAPVNKNAAATVGDLQNMGWVVSTKDGNG A GTKAAPVNKNAAATVGDLQNMGWVVSTKDGNG LP NGQPKENSNSNPNNAATVGDLQNLGWIVSAE L PNGQPKENSNSNPNNAATVGBLGQNLGWIV SAE LPNGQPKENSNSNPNNAATVGDLQNLGWIV SAE $\frac{L}{P} T$ TEETKKYNAKWESSAVTVGDVAKMGWVVSTKEGNG A GTDKAPVNKNAAATVGDLQNMGWVVSTKDGNG A GTV K A P VGTK DAPVVNKNAAA TVVGDLQNMGWVVSTKDGNG $V G T K D A P V N K N A A A T V G D L Q N M G W V V S T K D G N G$
$V G T K D A P V N K N A A A T V G D L Q N M G W V V S T K D G N G$
VGTKDAPVNKNAAATVGDLQNMGWVVSTKDGNG
T V
TGDPTDGLADLSKDSNVATVEDLRNLGFVI
$\left.\begin{array}{lllllllllllll}T & G & D & P & T & D & G & L & A & D & L & S & K \\ T & D & S & N & V & A & T & V & E & D & L & R & N\end{array}\right)$
T
$T$
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TTNED GS P L A A N EI LINSAATV GDLLANMGWVVSTK
T T NED GSPLAANE $\amalg L N S A A T V G D L A N M G W V V S T K D$ QK A LA GLA DLYGSKGTNATVEDARNLGWVVSAGD QKALA GLADLYGSKGTNATVEDARNLGWVVSAGD QKALAGLADLYGSKGTNATVEDARNLGWVVSAGD QKALAGLADLYGSKGTNATVEDARNLGWVVSAGD K P V D T A K A GLLA SNP T N A ITVVA D A K NL G WV I S A $\quad$ N G N
 K PVVDTAKA GLAS NPTNAITVADAAKNLGWVI SA NGN ANSKDTNGLSVADAKKLGFVIMK GKAADGTT A N S K D T N G L S V A D A K K L G F V V I K A N S K D T N GLSVADAKKLGFVI K


| $K$ | $G$ | $K$ | $A$ | $D$ | $D$ | $D$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $K$ | $S$ |  |  |  |  |  |
| $K$ | $G$ | $A$ | $D$ | $D$ | $D$ | $S$ |
| $K$ | $G$ | $K$ | $A$ | $D$ | $D$ | $D$ |


| $K$ | $G$ | $K$ | $A$ | $D$ | $D$ | $D$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $K$ | $S$ |  |  |  |  |  |
| $K$ | $G$ | $A$ | $D$ | $D$ | $D$ | $S$ |
| $K$ | $G$ | $K$ | $A$ | $D$ | $D$ | $D$ |
| $K$ | $S$ |  |  |  |  |  |
| $K$ | $G$ | $K$ | $A$ | $D$ | $D$ | $D$ |
| $K$ | $S$ |  |  |  |  |  |
| $K$ | $G$ | $A$ | $D$ | $D$ | $D$ | $S$ |
| $K$ | $K$ | $A$ | $D$ | $D$ | $D$ | $S$ |
| $K$ | $G$ | $K$ | $A$ | $D$ | $D$ | $D$ |
| $K$ | $S$ |  |  |  |  |  |
| $K$ | $K$ | $A$ | $D$ | $D$ | $D$ | $S$ |
| $K$ | $G$ | $K$ | $A$ | $D$ | $D$ | $D$ |
| $K$ | $S$ |  |  |  |  |  |
| $K$ | $K$ | $A$ | $D$ | $D$ | $D$ | $S$ |
| $K$ | $G$ | $K$ | $A$ | $D$ | $D$ | $D$ |
| $K$ | $S$ |  |  |  |  |  |
| $K$ | $K$ | $A$ | $D$ | $D$ | $D$ | $S$ |
| $K$ | $K$ | $A$ | $D$ | $D$ | $D$ | $S$ |
| $K$ | $D$ |  |  | $G$ | $N$ |  |
| $K$ | $D$ |  |  | $G$ | $N$ |  | GKAAD GTT

GKAADGTT


UniRef90 F9MQG4 UniRef90－F9MQG4 UniRef90－F9MQG44 UniRef90－F9MQG4 UniRef90－F9MQG4 UniRef90－F9MQG4 UniRef90 E4LA15 UniRef90－E4LA15 UniRef90－E4LA15 UniRef90－E4LA15 UniRef90 E4LA15 UniRef90－E4LA15 UniRef90－E4LA15 UniRef90－E4LA15 UniRef90 E4LA15 UniRef90－F9GSP6 UniRef90＿F9GSP6 UniRef90 Dow7J4 UniRef90－DOW7J4 UniRef90－DoW7J4 UniRef90－COEN42 UniRef90 COEN42 UniRef90－COEN42 UniRef90－UPIO0046DA6FB UniRef90－UPI00046DA6FB UniRef90 UPI00046DA6FB UniRef90－Dow293 UniRet90＿DOW293 UniRef90－D3LWG7 UniRef90－D3LWG7 UniRef90－D3LWG7 UniRef90－D3LWG7 UniRef90－D3LWG7 UniRef90－13DT52 UniRef90－W002E7 UniRet90＿WOQ2E7 UniRef90－F9N396 UniRef90－UPIOOO403822A UniRef90 DoW4H9 UniRef90－F9N6N6 UniRef90－F9N6N6 UniRef90＿H1LQ29 UniRef90＿H1LQ29 UniRef90－F2BGV3 UniRef90－A0A011MFQ6 UniRet90＿K7QVS8 UniRef90－F9N557 UniRef90－F9GUC1 UniRet90＿FgGUC1 UniRet90 F9GUC1 UniRef90－F9GUC1 UniRef90－13DR04 UniRef90＿H1LR73 UniRef90＿C9PNK1 UniRef90－C9PNK1 UniRef90＿C9PNK1 UniRef90 C9PNK1 UniRef90＿COEN44 UniRef90＿COEN4 UniRef90－UPI00035CF99E UniRef90 UPI00035CF99E UniRef90－COEN41 UniRef90＿C5S1V0 UniRef90 C5S1V0 UniRef90 E4L7L9 UniRef90－M4RGP3 UniRet90＿M4RGP3 UniRef90 M4RGP3 UniRet90－M4RGP3 UniRef90－M4RGP3 UniRef90 C8KZX2 UniRet90＿S5F6Jo UniRef90－s5F6Jo UniRet90－WOO6R2 UniRet90 F9GGU4 UniRef90＿M4R6R0 UniRef90＿M4R6RO Unire90－M4R6R UniRef90－ 12 NNU7 UniRef90－13DRW3 UniRef90＿LINSC4 UniRef90 C8L018 UniRef90－G2DRI5 UniRef90－A4NXH7 Unirego A0A011LY UniRef90 A0A011LYS5 UniRef90－A0A011LYS5 UniRef90＿I2NJT1 UniRef90－G4QBR4 UniRef90＿WOQC07 UniRef90＿woQC07

P V S P T D D T P N T K K G A PVSPTDDTPNTKKGA P V S P T D D T P N TKK G A $P \vee S P T D D T P N T K K G A$ $P \vee S P$ T D D T P NTKKGA PVVPTDDTPNTKKGA PVVSPTMDTPNTKKGAA $P \vee S P$ T D D TPNTKKGA PVSPTDDTPNTKKGA PATNNVAGKQPTTALNDTSSDGKPTQ PATNNVAGKQPTTALNITSSDGKPTQ NNETGKEPETALKISS DGKPAQ N NETGKEPETALKI S S D GKPAQ NNETGKEPETALKLISSDGKPAQ

VAGGNVTTVNPQVNFAREDAKPATNNGTDAKNQPSS VAGGNVTTVNPQVNFAREDAKPATNNGTDAKNQPSS $V A G G N V T T V N P Q V N F A R E D A K P A T N N G T D A K N Q P S S$ TNNGNKAEDAQPTTA L N N V S S S D GK P T Q

##  GDKVEPSDVIAASMQNADGNNTTKPMTLTNVANGTTTLN GDKVEPSDVIASMQNADGNNTTKPMTLTNVANGTTTLN STKVNKDGGKMVDDAGNVIDPGNTTNNPVK TS

N D GA GNKVNLAPTADGLK LGPAN
LDKDGNVIKPDDTAKDPLKSNMMVNPNVANTAAAP
L D K D G N V I K P I D T A K D P L K S S N M V N P NV A N TAADA P AVTK RDANGVDTTTVSVDVDTSALSLPKGANTINDKGEQ A V T K R D A N G V D T T TVV S V DVVI T S A L S L P K G A N TI N D K GE Q GNVTKVGGNGVTTTPK A A GK K P V V L LT S N G L N N G G N T DKNGNPVVKVNGKYYKVDANGSPTNEEVAA GDLV VNFKAEKATPANNNSKTNAPTTALNDTSADGKPTQ VD A DGNKLVKAND AGMYYPE GKVVKADGSDED GT T $V$ D A D GNKLVKAND GKYYPEGKVKADGSLIEDGTT VDADGNKLVKAND VDADGNKLVKAND

 NTA T P R A M A GATF A P
 NTTGTDDKPSLTLNGGQNSPVS
$K V D V N G N G T V I K A V T T R D K N G V D T T T V S V D V L S K$
 $K P T Q$ PAKNNATDAQPSSALNTTSKDGKPTQ P A K N N A T D A QP S S A L N T T S K D G K P T Q GDVVKATKPAVNMTKPATNNGNNQPSTALNITSADGKPTQ GDVVKATKPAVNMTKPATNNGNNQPSTALNITSADGKPTQ

 NTAQVNSTLTVGNNTASNPTVNFNTEAGSDTNVSNGGGD NTAQVNSTLTVGNNTASNPTVNFNTEAGSDTNVSNGGGD NTAQVNSTLTVGNNTASNPTVNFNTEAGSDTNVSNGGGD NTA QVNSTLTVGNNTASNPTVVNFNTEAGSDTNVSNGGGD $K T V V N N N G L T V T P K D G K D G K D G N V V S L T K D G L N N G G N Q$ K TVVNNNGLTVTPKDGKDGKDGNVVSLTKDGLNNGGNQ

VGADGNP
TVKHEANGNDTYATKDDVEFNTVKVGNNKDGKSPAAKP

 T EAAK P
TANKFTFKTVDNPEFKTLDLNDGAGN
 NPENLVTK VVNPTAQPNSVGGATTLGNDAAATGD GAKTEDTKDGLTITPANGAGTNNANIIISVTISGISACNKA K TVVNNNGVTITPKDGKDGKDGNVVSLTKDGLNNGGNQ KTVVNNNGVTITPKDGKDGKDGNVVSLTKDGLNNGGNQ
 P T T A L N I A A GN KPT QL K GVGSVVLNTA T TKワDGNGVDワS S S D TAVSLNATGLSVTK DGIDAGGRV
 $K T V V N N N G L T V T P K D G K D G K D G N V V S L T K D G L N N G G N Q$

## UniRef90 F9MQG4 UniRef90_F9MQG4 UniRef90_F9MQG4 UniRef90 F9MQG4 UniRef90_F9MQG4 UniRef90_F9MQG4 UniRef90_F9MQG4 UniRef90_E4LA15 UniRef90_E4LA15 UniRef90-E4LA15 UniRef90_E4LA15 UniRef90-E4LA15 UniRef90-E4LA15 UniRef90-E4LA15 UniRef90_F9GSP6 UniRef90_F9GSP6 UniRef90_DOW7J4 UniRef90-DOW7J4 UniRef90_C0EN42 UniRef90_C0EN42 UniRef90 C0EN42

 UniRef90_UPI00046DA6FB UniRef90_UPI00046DA6FB UniRef90_UPIO0046DA6FB UniRef90_D0W293 UniRef90_D0W293 UniRef90_D3LWG7 UniRef90_D3LWG7UniRef90 D3LWG7 UniRef90_D3LWG7 UniRef90_D3LWG7 UniRef90-I3DT52 UniRef90-W0Q2E7 UniRef90_W0Q2E7 UniRef90_F9N396
UniRef90 UPI0004 UniRef90 DOW $4 \mathrm{H9}$ UniRef90_F9N6N6 UniRef90_F9N6N6 UniRef90-H1LQ29 UniRef90_H1LQ29 UniRef90-F2BGV3 UniRef90_A0A011MFQ6 UniRef90_K7QVS8 UniRef90_F9N557 UniRef90-F9GUC1 UniRef90-F9GUC1
UniRef90-F9GUC1 UniRef90_F9GUC1 UniRef90-I3DR04 UniRef90_H1LR73 UniRef90_C9PNK1
UniRef90_C9PNK1 UniRef90_C9PNK1 UniRef90_C9PNK1 UniRef90_C0EN44 UniRef90_C0EN44 UniRef90_UPI00035CF99E UniRef90_UPI00035CF99E UniRef90_C0EN41 UniRef90_C5S1V0 UniRef90_C5S1V0 UniRef90_E4L7L9 UniRef90_M4RGP3 UniRef90-M4RGP3 UniRef90-M4RGP3 UniRef90_M4RGP3
UniRef90_M4RGP3 UniRef90_C8KZX2 UniRef90_S5F6J0
UniRef90 S5F6J0 UniRef90_W0Q6R2 UniRef90_F9GGU4 UniRef90_M4R6R0
UniRef90_M4R6R0 UniRef90_M4R6R0 UniRef90_I2NNU7 UniRef90-I3DRW3 UniRef90_L1NSC4 UniRef90_C8LO18
UniRef90_G2DRI5 UniRef90_A4NXH7 UniRef90_A0A011LYS5 UniRef90_A0A011LYS5 UniRef90_A0A011LYS5 UniRef90_I2NJT1 UniRef90-G4QBR4 UniRef90-W0QC07

50
G T|V $|R N| V|G| G \mid G T$ GTVLRNVGVGTATIAAPTDDKDIVGKAKEGLADL

 $G T V L R N V G V$ GTVLRNVGV | $G T$ | $V$ | $L$ | $R$ | $N$ | $V$ | $G$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $G T$ | $V$ | $V$ | $R$ | $N$ | $V$ | $G$ |

VEPAARM VEPAARMADVESHPT V PAARMADVESHPTVLSNNVKHGGADVINNKTGDPPTDGGLAD L
 V E P A A RMADVESHPTVLSNVKHGADVINKTGDPTDGLADL VEPAARMADVESHPTVLSNVKHGADVINKTGDPTDGLADL


 $V$ E PAARMADVVESPTVGDSNVKHGADVI I T G V A S S S L N K S P P V T T A P N G T G V A A S S L L N K S P V T T A P N G | $L$ | $V$ | $G$ | $A$ | $S$ | $V$ | $L$ | $N$ | $T$ | $S$ | $E$ | $V$ | $S$ | $T$ |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $L$ | $V$ | $G$ | $V$ | $A$ | $S$ | $V$ | $L$ | $N$ | $T$ | $S$ | $E$ | $V$ | $S$ | $T$ |
| $L$ | $V$ | $G$ | $V$ | $A$ | $S$ | $V$ | $L$ | $N$ | $T$ | $S$ | $E$ | $V$ | $S$ | $T$ | $L V G V A S V L N T S E V V T K P N G D D K K A D G$ $\begin{array}{llllll}K & P & N G D K K A D G \\ Y & P A & D V Q P N ~ G L D T P T\end{array}$ Y T P A DVVP N GL P TP TA QP Q D N A I N $Y T P A D V Q P N G L P T P T A Q P Q D N A L N$


 I VNVK S GI D G $\quad \mathrm{N}$ GQP G K D G

ATPN

$\square G$




 $\square T \mathrm{G} \bigvee \mathrm{G} S \mathrm{~S} \square \mathrm{~L}$ T T TVTTAPEGTGSTGS
LDGTNRGDQAATADN DQTP LGSELRKAYNGL ADL
TNVVA S G L N A Y G DTNF D A T A N S A T DL T R QF D GA Y D G L L N L
IVNVK S GII D GLDNGQN GK D GQP IT S



I S NVA A GVK P T D AVVVSSQLTKASNQLRGE\|EKRYQDA


UniRef90_F9MQG4
UniRef90_F9MQG4
UniRef90_F9MQG4
UniRef90_F9MQG4
UniRef90_F9MQG4
UniRef90_F9MQG4
UniRef90_F9MQG4
UniRef90_E4LA15
UniRef90_E4LA15
UniRef90_E4LA15
UniRef90_E4LA15
UniRef90_E4LA15
UniRef90_E4LA15
UniRef90_E4LA15
UniRef90_E4LA15
UniRef90_E4LA15
UniRef90_F9GSP6
UniRef90_F9GSP6
UniRef90_D0W7J4
UniRef90_D0W7J4
UniRef90_D0W7J4
UniRef90_C0EN42
UniRef90_C0EN42
UniRef90_C0EN42 UniRef90_UPI00046DA6FB UniRef90-UPI00046DA6FB UniRef90_UPI00046DA6FB UniRef90-DOW293 UniRef90-D0W293 UniRef90_D3LWG7 UniRef90_D3LWG7
UniRef90 UniRef90-D3LWG7 UniRef90_D3LWG7 UniRef90_I3DT52 UniRef90-W0Q2E7 UniRef90_W0Q2E7 UniRef90_F9N396 UniRef90_UPI000403822A UniRef90_DOW4H9 UniRef90_F9N6N6
UniRef90_F9N6N6 UniRef90-H1LQ29 UniRef90_H1LQ29 UniRef90_F2BGV3 UniRef90_A0A011MFQ6
UniRef90_K7QVS8 UniRef90_F9N557 UniRef90_F9GUC1 UniRef90_F9GUC1 UniRef90_F9GUC1 UniRef90_F9GUC1
UniRef90 I3DR04 UniRef90-H1LR73 UniRef90_C9PNK1 UniRef90_C9PNK1
UniRef90_C9PNK1 UniRef90-C9PNK1 UniRef90_C0EN44 UniRef90_C0EN44 UniRef90_UPI00035CF99E UniRef90_UPI00035CF99E UniRef90_C0EN41 UniRef90-C5S1V0 UniRef90_C5S1V0 UniRef90-E4L7L9 UniRef90_M4RGP3 UniRef90_M4RGP3 UniRef90_M4RGP3 UniRef90_M4RGP3 UniRef90-M4RGP3 UniRef90_C8KZX2 UniRef90_S5F6J0
UniRef90 S5F6J0 UniRef90_W0Q6R2 UniRef90_F9GGU4 UniRef90_M4R6R0 UniRef90-M4R6R0 UniRef90-_I2NNU7 UniRef90-I3DRW3 UniRef90_L1NSC4 UniRef90_C8L018 UniRef90_G2DRI5 UniRef90_A4NXH7 UniRef90_A0A011LYS5 UniRef90 A0A011LYS5 UniRef90-A0A011LYS5 UniRef90-I2NJT1 UniRef90_G4QBR4 UniRef90-W0QC07

130
140
150 D $V|T G Q| V|K H A N T| V|E F A G E D| L|A K| V I|T E S A N G| V|S K| V|T| V|V|$ DVTG QVVKHANTVEFAGEDLAKVITESANGVSKVTVVV
 DVT G QVKHANTVEFAGEDLAKVI

 A $V$ T G Q V K H A N TV $\operatorname{E} F A \operatorname{GED} \mathrm{D}$ L A K V I A V T G QV K H A N TVVEFA G E DLA A KV I AV T G QV K H A N TVVEFA GE DLA K V I AVTGQVKHANTVEFAGEDLAKVI AVTGQVKHANTVEFAGEDLAKVI
 AV T G QVKHANTVEFAGEDLAKVI AVTGQVKHANTVEFAGEDLAKVI AVTGQVKHANTVEFAGEDLAKVITT
 GYVDTVVKNANKVDFKA GAGISVTGKTKDGVREITI GI




| $Y$ | $T$ | $D$ | $V$ | $V$ | $K$ | $N A$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $Y$ | $T$ | $D$ | $V$ | $V$ | $K$ | $N A$ |

YTDVVKNA

AVSGQVRHA

| $A$ | $V$ | $S G Q$ | $R$ |
| :--- | :--- | :--- | :--- |
| $A$ | $V$ | $S$ | $G$ |

$A \vee S G Q R$ R A N TV E F A G D GL A K V I


 | $N$ | $Y$ | $A$ | $D$ | $D$ | $V$ | $R$ | $N$ | $A$ | $N$ | $E$ | $V$ | $R$ | $F$ | $V$ | $G$ | $K$ | $N$ | $G$ | $L$ | $D$ | $V$ | $M$ | $G$ | $E$ | $T$ | $D$ | $D$ | $G$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $N$ | $R$ | $R$ | $V$ | $I$ | $T$ | $V$ | $S$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $N$ | $A$ | $D$ | $D$ | $V$ | $R$ | $N$ | $A$ | $N$ | $E$ | $V$ | $R$ | $F$ | $V$ | $G$ | $K$ | $N$ | $G$ | $L$ | $D$ | $V$ | $M$ | $G$ | $E$ | $T$ | $D$ | $D$ | $G$ | $V$ |
| $R$ | $V$ | $I$ | $T$ | $V$ | $S$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |




 NKAAPVKNADVVDFKAEPG』TVKGDVKNGKMTVTVG
 TYTNSVKNANEVKFIGENGIVVSGKDTGDVREIVVV

YTVVVKNSNQVDFK GTGLATVKGETVNGVRTITVDV



 GY T D Q V R N T N N K V D D F Q G K N G l
 DYAADVRHANEVRFIGTNMATVTGETKDGVREITVVD K A A A PVK N A DVV DFKA E A GLLTVK GK S E NGKMTVVTVG K A A A PVK NADVVDFKAEAGLTVKGKSENGKMTVTVGG NYTNTVKNANKVDFVGGDAITVIGWNDGAVRKITV

 GYKDAVKNANQVDFVGTGLATVKGETTTG\|RTITVDV K F ADTGKDGNSVTVDGTDG

 QFTQAVRNANHVNFVAGNGVVVEGAVASGVYNVT

 AKEDNVKLGETVNYTSKDKNII TTVVSNAI
AKEDNVKLGETVNYTSKDKNII TTVVNNAI
NYTNTVKNANEVKF $\square$ GENGDTVTGATAGDVRNDTVK $Y \square A D V K N A N H V D F K A G P G I S V T G K T D C D I R E I T I G D$



Y I A DVVKN A N HVVDFKA G P GII S V T G K T D D GI R E I T I G V | $K$ | $Y$ | $V$ | $D$ | $T$ | $V$ | $K$ | $N$ | $A$ | $N$ | $K$ | $V$ | $D$ | $F$ | $K$ | $A$ | $G$ | $A$ | $G$ | $V$ | $S$ | $V$ | $T$ | $G$ | $K$ | $T$ | $N$ | $D$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $Q$ | $G$ | $R$ | $E$ | $I$ | $T$ | $A$ | $A$ | $V$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $Q$ | $S$ | $G$ | $Q$ | $V$ | $K$ | $N$ | $A$ | $G$ | $E$ | $V$ | $E$ | $F$ | $V$ | $G$ | $T$ | $G$ | $A$ | $A$ | $K$ | $V$ | $T$ | $A$ | $K$ | $T$ | $E$ | $N$ | $G$ |
| $K$ | $H$ | $T$ | $V$ | $T$ | $V$ | $G$ | $V$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |




GEADHVKLGE TVKYTSKDKNDITTVSDN GEAD HVKLGETVKYTSKMDKNI TTVVSDN
 N Y T NTVKNANKVEFKG

GE T D HVKLGGETVKY T S K D K NIITTVVDN GET DHVKLLGETVKYTSKDKNIITTVSDN


```
lupas_21
lupas_14
lupas_28
jnet
conf
sol25
sol5
sol0
jhmmm
```

UniRef90 A4N6S3 UniRef90_I2NKM9 UniRef90_UPI00047473DF UniRef90_G9YIH0 UniRef90-D0W534 UniRef90_UPIO0045758AF UniRef90-IOLDL1 UniRef90-M8BGF9 UniRef90-E9IWG9 UniRef90-F5TF77 UniRef90_S5PQM4


VIKNIVAAG EDSATSTDADNGSQLYAVAKGVVTNLLAGQVNK NPVKGTPATDEELEALAANPTLKSFVAYANAASGLANLL IT TNVAAGEADTDAVNFSQLTASGNTDQRAVKYDWTDATNG ITNVAAGEADTDAVNVSQLKKAAASATAKVADGKNTTVTS KVNNGEGGDGKDVADTVGLTVADGKVTAPDEADKKKLVNA VSRVATGTKPGTVTKSDTVTKPDTVNKP GTPQSGMVTK ETPTATGRPKLDVTKDDIATAGDTKSATKGDGTKGDGTKG VRNTAPGTGTPAVRNTAPGTGTPARNSLTGTGTP PARNL TENTVPTKNNNTENTVPTKNNNAKNDTPTNNNAKETLLNG TT GVAA GVQDTDAVNVKQLKEE!DKNRTTMQG


NYAASVT NAREDRFNGVNGVKVTGETDTGVRNDNDGL
 AQGGAVKDADEAK

K $\square$ TVTGKAGNKVVIDGSAGDEDKGANVK QAVT $\square$ T GETDHVKLGETVKYTSKDKNIITTVSDN

conf
sol25
sol5
solo
jhmm

