```
                    10        20        30        40        50        60        70        80        90        100       110       120       130       140       150
                    |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
NP_3914531          ---MSLVVDTNKRKQKGKSFYTEEQKKVMIENTVIKCILKSLKNNLGSLELLISIDSEHQFLEDYQLFLKLKERRSGTESEFPLQNTGSLEYKTEINAHVLPMPVEMGQTYDFYVEFRKKYEDAEQEPLLKRLSAEVNSIERAFHVDQTT
YP_0038678531       ----------------------------------------------------------------------------------------------------------------------------------------------------
PS187_TagF          ----------------------------------------------------------------------------------------------------------------------------------------------------
NP_7655031          MNKLTIIVTYYNAEEYITGCLESIKQQRTQDFNLIIVNDGSTDQSKKLMDEAIKDYDKNIRFIDLDENSGHAHARNIALEEVETPYFMFLDADDELASYAITFYLEKFNNTDGLIAP--IHSFTTQRPQFVDLDRVR---VEYFNAKGNI

Prim.cons.          MNK2222V2222222222222222222222222I22222S2222222222I2222222222D2222222222R22222E22222222L2222E2222222222E22222D22222RK222222Q2P2222L2222NSI222F222222

                            160       170       180       190       200       210       220       230       240       250       260       270       280       290       300
                            |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
NP_3914531          ELLILPYTTDKGNFSIKVKREAKIIRFDQIEISSEEISITGYAGYLSSENQYRIKNLNLILKKGGETPIEEKFPIKLERKTHGLENMRADGFVPELYDFEVKVPLKEIPFSNEKRYVYRLFMEYICNDDEGTDIQFNSTALVLGDRKNKL
YP_0038678531       ----------------------------------------------------------------------------------------------------------------------------------------------------
PS187_TagF          ----------------------------------------------------------------------------------------------------------------------------------------------------
NP_7655031          NSFLRKQSACNIIFRTAIVRAHHIRFNENLNTYVDWSFVLEYMKYVN--KFVRIFNFPFYFRGEVYDPFETLTLSEQN------FDILFKDYVNSFYD-----AIKRATNPKVREFIVTKMGNKIANEFEPTRYDINERYQTHKDTLVEL

Prim.cons.          2222222222222F22222R222I22222222222222222Y22Y22SE222RI2N2222222222P2E22222222RKTHGL22222222V222YDFEVKV22K22222222222222222222I2N22E2T2222N2222222D2222L

                            310       320       330       340       350       360       370       380       390       400       410       420       430       440       450
                            |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
NP_3914531          KGLVSIIKTNNAPVRYEVFKKKKKQTLGIRVNDYSLKTRMKYFIKGKKKRLVSKIKKITKMRNKLITKTYKSLFMMASRMPVKRKTVIFESFNGKQYSCNPRAIYEYMRENHP--EYKMYWSVNKQYSAPFDEKGIPYINRLSLKWLFAM
YP_0038678531       ----------------------------------------------------MKSKILMKYR-SLLVRIYSIVFRIIGLLPRNEKLIIFESYSGKQFSCNPRAIFEYLEENKDKYDYQLIWSIDKRNKDLFDNSDVNYLRRFSLKWLWYM
PS187_TagF          ----------------------------------------------------MKVNHSIN-NFKHKVINNIFKLGSFFT-NENLVYFESFHGTQYSDNPKAIYEYLKKHSN---KKLIWGVKKGYESIFEENNVPYVRRFSIKWFLVM
NP_7655031          SKFLHVHLVKNQ----KLINKIETILLMNNETDKAFKVN-------QFRKTLRHVKNIVLRRKNKERSLYDLTDKEDNVKP---KTIVFESFGGKNYSDSPKYIYEYMQKYYP--NYRYIWSFKNPDKNVVPGS-AEKVKRNSAEYYQAY
                                                                                                *    . .    .    . .   : : ***: *.::* .*: *:**:.:      :  *...:  . . .    :.* * ::

Prim.cons.          2222222222N2PVRY2222K22222L22222D222K22MKYFIKG2222223K4K4I4K4R2NL44K4Y444FK44S44P2NEK22IFESF4GKQYS2NP2AIYEY242N4PKY3YKLIWSVKK4YK44FDES3VPYVRRFSLKWL4AM

                            460       470       480       490       500       510       520       530       540       550       560       570       580       590       600
                            |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
NP_3914531          ARAEYWVVNSRLPLWIPKPSHTTYLQTWHGTPLKRLAMDMEEVHMPGTNTKKYKRNFIKEASNWDYLISPNGYSTEIFTRAFQFNKT-MIESGYPRND-FLHNDNNEETISLIKSRLNIPRDKKVILYAPTWRDDQFYAKGRYKFDLDLD
YP_0038678531       ATAKYWVTNSRLPLWIPKPRNTTYVQTWHGTPLKKLANDMDEVHMPGTTTEQYKRNFLKEASKWDYLISPNAYSTEIFRSAFQFKKT-FIESGYPRND-FLHKKNRNEEMLKIKERLGINKDKKIILYAPTWRDNSFYAKGKYKFNMVLD
PS187_TagF          PRAGFWLINTRIPRWFYKSDKTIYLQTWHGTPLKKLGLDIENVQMPGTQTDLYRVNIVNESKRWDYLISPNDYATNIFERAFKVNRSKIIQTGYPRNDKLVNKKNDIEYIKKIKKSLKIPENKKVIMYTPTWRDDKFLRKGTYELELQFD
NP_7655031          SEASHWVSNARTPLYLNKKENQTYIQTWHGTPLKRLANDMKVVRMPGTTTPKYKRNFNRETSRWDYLISPNRYSTEIFRSAFWMDEERILEIGYPRNDVLVNRANDQKYLDEIRTHLNLPSDKKVIMYAPTWRDDEFVSKGKYLFELKID
                    . * .*: *:* * :: *  :  *:**********:*. *:. *:**** *  *: *: .*:..******* *:*:**  ** ...  ::: ****** :::. *  : :  *:  * :  :**:*:*:*****:.*  ** * ::: :*

Prim.cons.          ARA4YWV4NSRLPLWIPKP4NTTYLQTWHGTPLK2LANDMEEVHMPGTTT4KYKRNF4KEASRWDYLISPN4YSTEIFR2AFQFNKT2IIESGYPRND2222KKND4EYI4KIK4RLNIP4DKKVI2YAPTWRDD4FYAKGKYKFEL4LD

                            610       620       630       640       650       660       670       680       690       700       710       720       730       740       750
                            |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
NP_3914531          LHQLRQELGNEYIVILRMHYLVAENFDLGPFEGFAYDFSAYEDIRELYMVSDLLITDYSSVFFDFANLKRPMLFFVPDIETYRDKLRGFYFDFEKEAPGPLVKTTEETIEAIKQISSPDYKLPVSFGPFYDKFCYLESGRSSEKVVNTVF
YP_0038678531       LESLKNQLCNEYILILRMHYLVSENINLTEYKEFAYDFSDHNDIRELYLISDILITDYSSVFFDFAGLKRPILFYVPDIEFYRDNLRGFYYDFEKCAPGPLLKTTEKVIEAIHKTKN--YKQDENITSFYDQFCYLEKGDSSKKVVEELL
PS187_TagF          IEKLRENFSFEYVILLRMHYLVIS--RVNEKDDFIIDVSDYKDISDLYLISDVLITDYSSTMFDFAILKKPQIFYAFDLKDYSDRLRGFYMKYGDNLPGPIVSNEQGLIKEIEKIHTLKDRYAHQINNFYNEYCSLEDGQSTKRVVEILM
NP_7655031          LDNLYKELGDDYVILLRMHYLISNALDLSGYENFAIDVSNYNDVSELFLISDCLITDYSSVMFDYGILKRPQFFFAYDIDKYDKGLRGFYMNYMEDLPGPIYTEPYGLAKELKNLDKVQQQYQEKIDAFYDRFCSVDNGKASQYIGDLIH
                    :..* :::  :*:::******: .   :   . *  *.* ::*: :*:::** *******.:**:. **:* :*:. *:. * . ***** .: .  ***: .      : :.:  .   :   .:  **:.:* ::.* ::: : : :
Prim.cons.          LE4LR4ELGNEY2I2LRMHYLVSEN3DL4EYE4FA2D2SDYNDI2ELYLISD4LITDYSSV2FDFAILKRPQLF22PDIE4YRD4LRGFYMD2EK42PGP2VKTTEGLI22IKKI4433YKY4E4I44FYD4FC2LE4G4SSKKVVE4L4


NP_3914531          KAE---
YP_0038678531       G-----
PS187_TagF          D-----
NP_7655031          KDIKEQ

Prim.cons.          K22KEQ
```