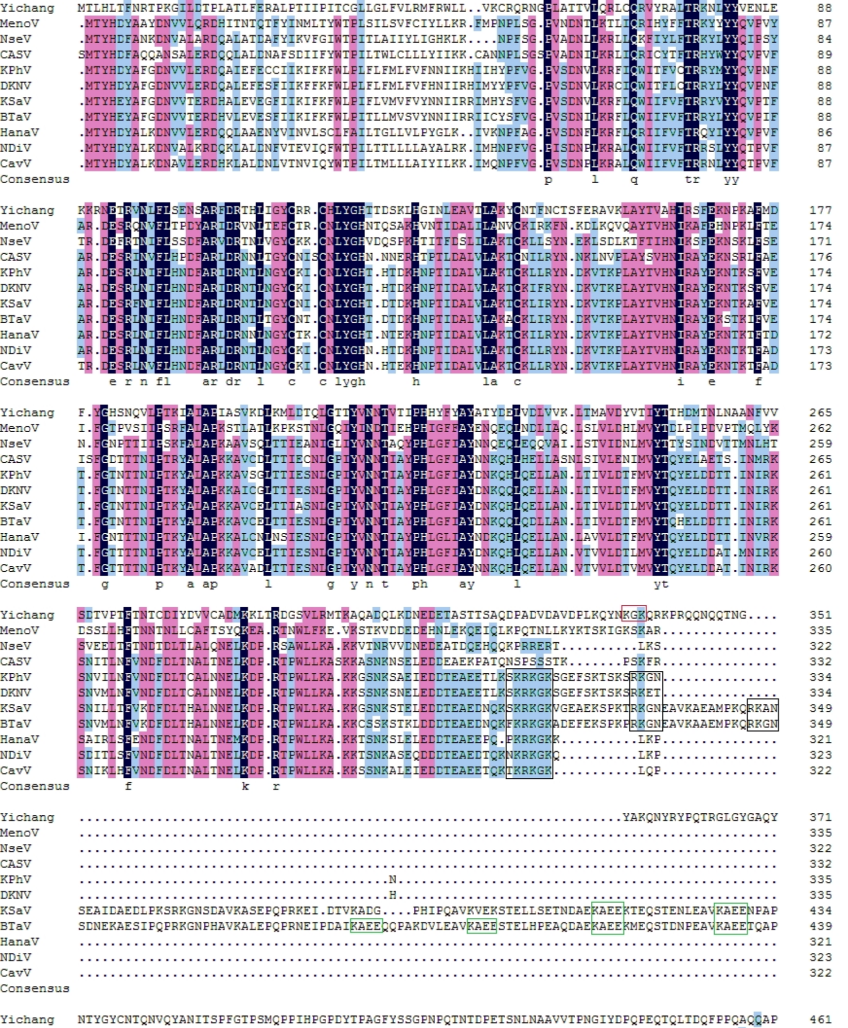

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Yichang    MTLHLTFNRTPKGILDTPLATLFERALPTIIPITCGLLGLFVLRMFRWLL..VKCRQRNGPLATTVLQRLCQRVYRALTRKNLYYVENLE    88
MenoV      .MTYHDYAAYDNVVLQRDHITNTQTFYINMLTYWTPLSILSVFCIYLLKR.FMPNPLSG.PVNDNTLKTLIQRIHYFFTRKYYYYQVPVY    87
NseV       .MTYHDFANKDNVALARDQALATDAFYIKVFGIWTPITLAIIYLIGHKLK....NPFSG.PVADNLLKRLLQKFIYLFTRKYLYYQIPSY    84
CASV       SMTYHDFAQQANSALERDQQLALDNAFSDIIFYWTPILTWLCLLLYIIKK.CANNPLSGSPVADNILKRLIQRICYTFTRHYWYYQVPVF    89
KPhV       .MTYHDYAFGDNVVLERDQAIEFECCIIKIFKFWLPLFLFMLFVFNNIIKHIIHYPFVG.PVSDNVLKRFIQWITFVCTRRYMYYQVPNF    88
DKNV       .MTYHDYAFGDNVVLERDQALEFESFIIKFFKFWLPLFLFMLFVFHNIIRHIMYYPFVG.PVSDNVLKRCIQWITFLCTRRYLYYQVPNF    88
KSaV       .MTYHEYAFGDNVVTERDHALEVEGFIIKIFKFWLPIFLVMVFVYNNIIRRIMHYSFVG.PVSDNVLKRFLQWIIFVFTRRYVYYQVPTF    88
BTaV       .MTYHEYAFGDNVVTERDHVLEVESFIIKIFKFWLPITLLMVSVYNNIIRRIICYSFVG.PVSDNILKRFLQWIIFVFTRRYLYYQVPIF    88
HanaV      .MTYHDYALKDNVVLERDQQLAAENYVINVLSCLFAILTGLLVLPYGLK..IVKNPFAG.PVSDNFLKRFLQRIIFVFTRQYIYYQVPVF    86
NDiV       .MTYHDYALKDNVALKRDQKLALDNFVTEVIQFWTPILTTLLLLAYALRK.IMHNPFVG.PISDNPLKRALQWIIFVFTRRSLYYQTPVF    87
CavV       .MTYHDYALKDNAVLERDHKLALDNLVTNVIQYWTPILTMLLLAIYILKK.IMQNPFVG.PVSDNPLKRALQWIIFVFTRRNLYYQTPVF    87
Consensus                                                              p     l    q      tr   yy

Yichang    KKRNETRVNLFLSENSARFDRTHLIGYCRR.CHLYGHTTDSKLHGINLEAVTLAKYCNTFNCTSFERAVKLAYTVAHIRSFEKNPKAFMD   177
MenoV      AR.DESRQNVFLTPDYARIDRVNLTEFCTR.CNLYGHNTQSAKHVNTIDALILANVCKIRKFN.KDLKQVQAYTVHNIKAFEHNPKLFTE   174
NseV       TR.DEFRTNIFLSSDFARVDRTNLVGYCKK.CNLYGHVDQSPKHTITFDSLILAKTCKLLSYN.EKLSDLKTFTIHNIKSFEKNSKLFSE   171
CASV       AR.DESRINVFIHPDFARLDRNNLTGYCNISCNLYGHN.NNERHTPTLDALVLAKTCNILRYN.NKLNVPLAYSVHNIRAYEKNSRLFAE   176
KPhV       AR.DESRLNIFLHNDFARIDRNTLNGYCKI.CNLYGHT.HTDKHNPTIDALVLAKTCKLLRYN.DKVTKPLAYTVHNIRAYEKNTKSFVE   174
DKNV       AR.DESRLNIFLHNDFARIDRNTLNGYCKI.CNLYGHT.HTDKHNPTIDALVLAKTCKIFRYN.DKVTKPLAYTVHNIRAYEKNTKSFVE   174
KSaV       AR.DESRFNIFLHNDFARLDRNTLNGYCNI.CNLYGHT.DTDKHNPTIDALVLAKTCKLIRYN.DKVTKPLAYTVHNIRAYEKNTKAFVE   174
BTaV       AR.DESRLNIFLHNDFARLDRNTLTGYCNT.CNLYGHT.DTDKHNPTIDALVLAKACKLIRYN.DKVTKPLAYTVHNIRAYEKSTKIFVE   174
HanaV      AR.DESRLNIFIHNDFARLDRNNLNGYCTK.CNLYGHT.NTEKHNPTIDALVLAKTCKILRYN.DKVTKPLAYTVHNIRAYEKNTKTFTD   172
NDiV       AR.DESRLNIFLHNDFARLDRNTLNGYCKI.CNLYGHN.HTDKHNPTIDALVLAKTCKLLRYN.DKVTKPLAYTVHNIRAYEKNTKTFAD   173
CavV       TR.DESRLNVFIHNDFARLDRNTLNGYCKI.CNLYGHN.HTEKHNPTIDALVLAKTCKLLRYN.DKVTKPLAYTVHNIRAYEKNTKTFAD   173
Consensus      e r n fl    ar dr  l   c   c lygh      h        la  c                    i   e     f

Yichang    F.YGHSNQVLPTKIAIAPIASVKDLKMLDTQLGTTYVNNTVTIPHHYFYAYATYDELVDLVVK.LTMAVDYVTIYTTHDMTNLNAANFVV   265
MenoV      I.FGTPVSIIPSRFALAPKSTLATLKPKSTNLGQIYINDTIEHPHIGFFAYENQEQINDLIAQ.LSLVLDHLMVYTDLPIPDVPTMQLYK   262
NseV       N.FGNPTTIIPSKFALAPKAAVSQLTTIEANIGLIYVNNTAQYPHLGFIAYNNQEQLEQQVAI.LSTVIDNLMVYTTYSINDVTTMNLHT   259
CASV       ISFGDTTTNIPTRYALAPKKAVCDLTTIECNLGPIYVNNTIAYPHLGFIAYNNKQHIHELLASNLSIVLENIMVYTQYELAETS.INMRK   265
KPhV       T.FGTNTTNIPTKYALAPKKAVSGLTTIESNLGPIYVNNTIAYPHLGFIAYDNKQHIQELLAN.LTIVLDTFMVYTQYELDDTT.INIRK   261
DKNV       T.FGTNTTNIPTKYALAPKKAICGLTTIESNLGPIYVNNTIAYPHLGFIAYDNKQQIQELLAN.LTIVLDTFMVYTQYELDDTT.INIRK   261
KSaV       T.FGTNTTNIPTKYALAPKKAVCELTTIASNLGPIYVNNTIAYPHLGFIAYDNKQHIQELLAN.LTIVLDTLMVYTQYELDDTT.INIRK   261
BTaV       T.FGTNTTNIPTKYALAPKKAVCELTTIESNLGPIYVNNTIAYPHLGFIAYDNKQQIQDLLAN.LTIVLDTFMVYTQHELDDTT.INIRK   261
HanaV      I.FGNTTTNIPTKYALAPKKALCNLNSIESNLGPIYVNNTIAYPHLGLIAYNDKQHIQELLAN.LAVVLDTFMVYTQYELDDTT.INVRK   259
NDiV       T.FGTTTTNIPTKYALAPKKAVCELTTIESNLGPIYVNNTIAYPHLGFIAYDNKQHIQELLAN.VTVVLDTLMVYTQYELDDAT.MNIRK   260
CavV       T.FGTTTTNIPTKYALAPKKAVADLTTIESNLGPIYVNNTIAYPHLGFIAYNNKQHIQELLAN.VTVVLDTVMVYTQYELDDAT.INIRK   260
Consensus     g      p   a ap      l       g  y n t   ph    ay     l                 yt

Yichang    SDTVPTFTNTCDIYDVVCADMKKLTRDGSVLRMTKAQADQLKDNEDETASTTSAQDPADVDAVDPLKQYNKGKQRKPRQQNQQTNG....   351
MenoV      DSSLLHFTNNTNLLCAFTSYQKEA.RTNWLFKE.VKSTKVDDEDEHNLEKQEIQLKPQTNLLKYKTSKIGKSKAR...............   335
NseV       SVEELTFTNDTDLTLALQNELKDP.RSAWLLKA.KKVTNRVVDNEDEATDQEHQQKPRRERT..........LKS...............   322
CASV       SNITLNFVNDFDLTNALTNELKDP.RTPWLLKASKKASNKNSELEDDEAEKPATQNSPSSSTK.......PSKFR...............   332
KPhV       SNVILNFVNDFDLTCALNNELKDP.RTPWLLKA.KKGSNKSAEIEDDTEAEETLKSKRKGKSGEFSKTSKSRKGN...............   334
DKNV       SNVMLNFVNDFDLTCALNNELKDP.RTPWLLKA.KKSSNKSNELEDDTEAEETLKSKRKGKSGEFSKTSKSRKET...............   334
KSaV       SNILLTFVKDFDLTHALNNELKDP.RTPWLLKA.KKGSNKSTELEDDTEAEDNQKSKRKGKVGEAEKSPKTRKGNEAVKAEAMPKQRKAN   349
BTaV       SNVMLNFVKDFDLTHALNNELKDP.RTPWLLKA.KKCSSKSTKLDDDTEAEDNQKFKRKGKADEFEKSPKPRKGNEAVKAAEMPKQRKGN   349
HanaV      SAIRLSFENDFDLTNALTNEMKDP.RTPWLLKA.KKTSNKSLELEDDTEAEEPQ.PKRKGKK..........LKP...............   321
NDiV       SDITLSFVNDFDLTNALTNELKDP.RTPWLLKA.KKTSNKASEQDDDTEAEDTQKNKRKGKQ..........LKP...............   323
CavV       SNIKLHFVNDFDLTNALTNELKDP.RTPWLLKA.KKSSNKALEIEDDTEAEETQKTKRKGK...........LQP...............   322
Consensus        f              k   r

Yichang    ......................................................................YAKQNYRYPQTRGLGYGAQY   371
MenoV      ..........................................................................................   335
NseV       ..........................................................................................   322
CASV       ..........................................................................................   332
KPhV       ........................................N.................................................   335
DKNV       ........................................H.................................................   335
KSaV       SEAIDAEDLPKSRKGNSDAVKASEPQPRKEI.DTVKADG....PHIPQAVKVEKSTELLSETNDAEKAEEKTEQSTENLEAVKAEENPAP   434
BTaV       SDNEKAESIPQPRKGNPHAVKALEPQPRNEIPDAIKAEEQQPAKDVLEAVKAEESTELHPEAQDAEKAEEKMEQSTDNPEAVKAEETQAP   439
HanaV      ..........................................................................................   321
NDiV       ..........................................................................................   323
CavV       ..........................................................................................   322
Consensus

Yichang    NTYGYCNTQNVQYANITSPFGTPSMQPPIHPGPDYTPAGFYSSGPNPQTNTDPETSNLNAAVVTPNGIYDPQPEQTQLTDQFPPQACQAP   461
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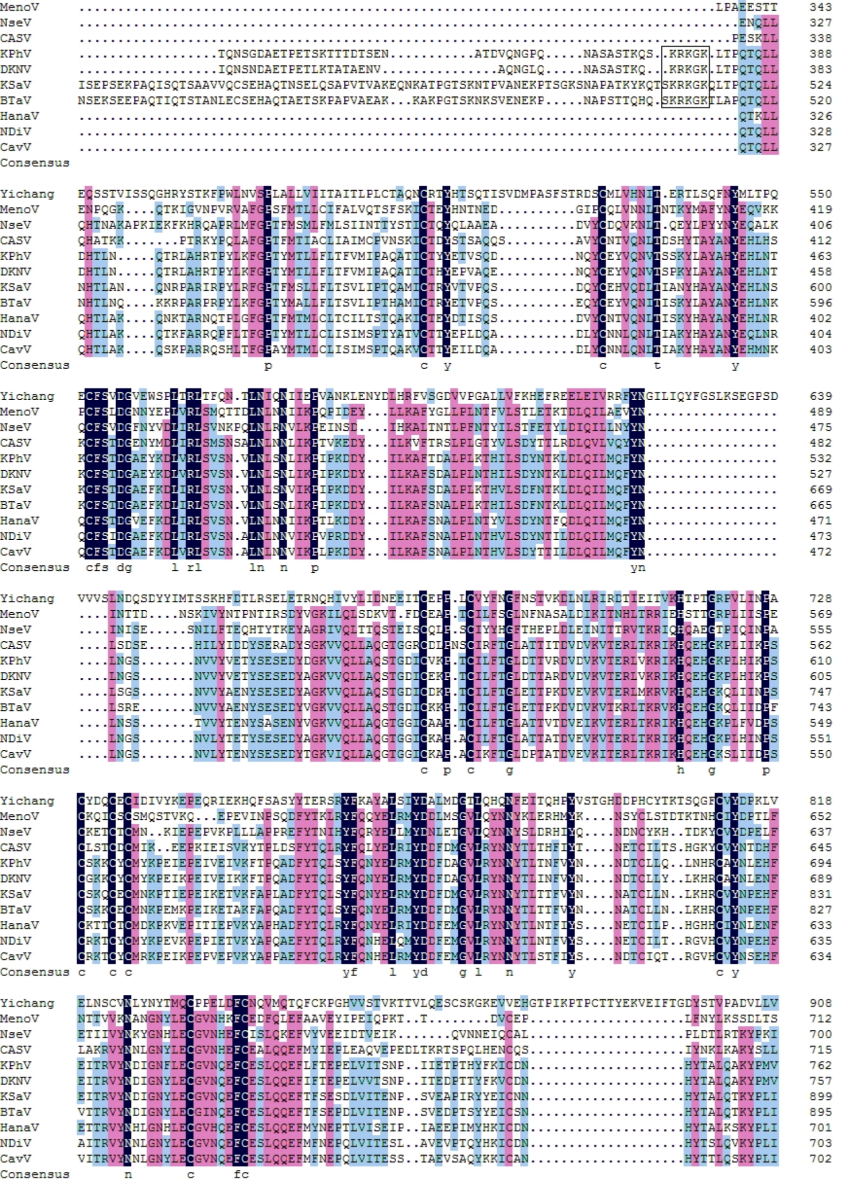

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MenoV       ..................................................................................LPAEESTT   343
NseV        .....................................................................................ENQLL   327
CASV        ....................................................................................PESKLL   338
KPhV        ..................TQNSGDAETPETSKTTTDTSEN...........ATDVQNGPQ.....NASASTKQS..KRKGK.LTPQTQLL   388
DKNV        ..................IQNSNDAETPETLKTATAENV...............AQNGLQ.....NASASTKQ...KRKGK.LTPQTQLL   383
KSaV        ISEPSEKPAQISQTSAAVVQCSEHAQTNSELQSAPVTVAKEQNKATPGTSKNTPVANEKPTSGKSNAPATKYKQTSKRKGKQLTPQTQLL   524
BTaV        NSEKSEEPAQTIQTSTANLECSEHAQTAETSKPAPVAEAK...KAKPGTSKNKSVENEKP.....NAPSTTQHQ.SKRKGKTLAPQTQLL   520
HanaV       .....................................................................................QTKLL   326
NDiV        .....................................................................................QTQLL   328
CavV        .....................................................................................QTQLL   327
Consensus

Yichang     EQSSTVISSQGHRYSTKFPWLNVSPLALLVIITAITLPLCTAQNCRTYHTSQTISVDMPASFSTRDSCMLVHNIT.ERTLSQFNYMLTPQ   550
MenoV       ENPQGK....QTKIGVNPVRVAFGPSFMTLLCIFALVQTSFSKICTEYHNTNED..........GIPCQLVNNLTNTKYMAFYNYEQVKK   419
NseV        QHTNAKAPKIEKFKHRQAPRLMFGPTFMSMLFMLSIINTTYSTICTQYQLAAEA..........DVYCDQVKNLT.QEYLPYYNYEQALK   406
CASV        QHATKK.......PTRKYPQLAFGPTFMTIACLIAIMCPVNSKICTDYSTSAQQS.........AVYCNTVQNLTDSHYTAYANYEHLHS   412
KPhV        DHTLN.....QTRLAHRTPYLKFGPTYMTLLFLTFVMIPAQATICTYYETVSQD..........NQYCEYVQNVTSSKYLAYAHYEHLNT   463
DKNV        DHTLN.....QTRLAHRTPYLKFGPTYMTLLFLTFVMIPAQATICTHYEPVAQE..........NQYCEYVQNVTSPKYLAYANYEHLNT   458
KSaV        NHTLAN....QNRPARIRPYLRFGPTFMSLLFLTSVLIPTQAMICTRYVTVPQS..........DQYCEHVQDLTIANYHAYANYEHLNS   600
BTaV        NHTLNQ....KKRPARPRPYLKFGPTYMALLFLTSVLIPTHAMICTRYETVPQS..........EQYCEYVQNITISKYLAYANYEHLNK   596
HanaV       QHTLAK....QNKTARNQTPLGFGPTFMTMLCLTCILTSTQAKICTEYDTISQS..........DVYCNTVQNLTISKYHAYANYEHLNR   402
NDiV        QHTLAK....QTKFARRQPFLTFGPTYMTLLCLISIMSPTYATVCTTYEPLDQA..........DLYCNNLQNLTIAKYHAYANYEQLNR   404
CavV        QHTLAK....QSKPARRQSHLTFGPAYMTMLCLISIMSPTQAKVCTTYEILDQA..........DLYCNNLQNLTIAKYHAYANYEHMNK   403
Consensus                               p                   c  y                   c      t         y

Yichang     ECFSVDGVEWSPLTRLTFQN.TLNIQNIIEPVANKLENYDLHRFVSGDVVPGALLVFKHEFREELEIVRRFYNGILIQYFGSLKSEGPSD   639
MenoV       PCFSLDGNNYEPLVRLSMQTTDLNLNNIIKPQPIDEY...LLKAFYGLLPLNTFVLSTLETKTDLQILAEVYN.................   489
NseV        QCFSVDGFNYVDLIRLSVNKPQLNLRNVLKPEINSD....IHKALTNTLPFNTYILSTFETYLDIQILLNYYN.................   475
CASV        KCFSTDGENYMDLIRLSMSNSALNLNNLIKPTVKEDY...ILKVFTRSLPLGTYVLSDYTTLRDLQVLVQYYN.................   482
KPhV        KCFSTDGAEYKDLVRLSVSN.VLNLSNLIKPIPKDDY...ILKAFTDALPLKTHILSDYNTKLDLQILMQFYN.................   532
DKNV        KCFSTDGAEYKDLVRLSVSN.VLNLSNLIKPIPKDDY...ILKAFSDALPLNTHILSDYNTKLDLQILMQFYN.................   527
KSaV        KCFSTDGAEFKDLIRLSVSN.VLNLSNVIKPIPKDDY...ILKAFSDALPLKTHVLSDFNTKLDLQILMQFYN.................   669
BTaV        KCFSTDGAEFKDLIRLSVSN.VLNLSNLIKPIPKDDY...ILKAFSNALPLKTHILSDFNTKLDLQILMQFYN.................   665
HanaV       QCFSTDGVEFKDLIRLSVSN.VLNLNNIIKPTLKDDY...ILKAFSNALPLNTYVLSDYNTFQDLQILMQFYN.................   471
NDiV        QCFSIDGAEFKDLIRLSVSN.ALNLNNVIKPVPRDDY...ILKAFSNALPLNTHVLSDYNTILDLQILMQFYN.................   473
CavV        QCFSTDGAEFKDIVRLSVSN.ALNLNNVIKPLPKDDY...ILKAFSNALPLNTHVLSDYTTILDLQILMQFYN.................   472
Consensus    cfs dg     l rl      ln  n   p                                        yn

Yichang     VVVSLNDQSDYYIMTSSKHFDTLRSELETRNQHIVYLIDNEEITCEPP.LCVYFNGFNSTVKDLNLRIRDTIEITVKHTPTGRPVLINPA   728
MenoV       ....INTTD....NSKIVYNTPNTIRSDYVGKILQLSDKVT.FDCEAP.TCILFSGLNFNASALDIKITNHLTRRIEHSTTGRPLIISPE   569
NseV        ....INISE.....SNILFTEQHTYTKEYAGRIVQLTTQSTEISCQLP.SCIYYHGFTHEPLDLEINITTRVTKRIQHQAEGTPIQINPA   555
CASV        ....LSDSE......HILYIDDYSERADYSGKVVQLLAQGTGGRCDLPNSCIRFTGLATTITDVDVKVTERLTKRIKHQEHGKPLIIKPS   562
KPhV        ....LNGS.......NVVYVETYSESEDYDGKVVQLLAQSTGDICVKP.TCILFTGLDTTVRDVDVKVTERLVKRIKHQEHGKPLHIKPS   610
DKNV        ....LNGS.......NVVYVETYSESEDYAGKVVQLLAQSTGDICEKP.TCILFTGLDTTARDVDVKVTERLVKRIKHQEHGKPLHIKPS   605
KSaV        ....LSGS.......NVVYAENYSESEDYAGKVVQLLAQSTGDICDKP.TCILFTGLETTPKDVEVKVTERLMKRVKHQEHGKQLIINPS   747
BTaV        ....LSRE.......NVVYAENYSESEDYVGKVVQLLAQSTGDICKKP.TCILFTGLETTPKDVDVKVTKRLTKRVKHQEHGKQLIIDPF   743
HanaV       ....LNSS.......TVVYTENYSASENYVGKVVQLLAQGTGGICAAP.TCILFTGLATTVTDVEIKVTERLTKRIKHQEHGKPLFVDPS   549
NDiV        ....LNGS.......NVLYTETYSESEDYAGKVVQLLAQGTGGICKAP.ACILFTGLATTATDVEVKVTERLTKRIKHQEHGKPLHINPS   551
CavV        ....LNGS.......NVLYTENYSESEDYTGKVIQLLAQGTGGICKAP.ACIKFTGLDPTATDVEVKITERLTKRIKHQEHGKSLIIDPS   550
Consensus                                               c  p  c    g                     h   g      p

Yichang     CYDQCECIDIVYKEPEQRIEKHQFSASYYTERSRYFKAYALSIYDALMDGTLQHQNFEITQHPYVSTGHDDPHCYTKTSQGFCVYDPKLV   818
MenoV       CKQICSCSMQSTVKQ...EPEVINPSQDFYTKLRYFQQYELRMYDDLMSGVLQYNNYKLERHMYK....NSYCLSTDTKTNHCIYDPTLF   652
NseV        CKETCTCMN..KIEPEPVKPLLLAPPREFYTNIHYFQRYELLMYDNLETGVLQYNNYSLDRHIYQ....NDNCYKH..TDKYCVYDPELF   637
CASV        CLSTCDCMIK..EEPKIEISVKYTPLDSFYTQLRYFQLYELRIYDDFDMGVLRYNNYTLTHFIYT....NETCILTS.HGKYCVYNTDHF   645
KPhV        CSKKCYCMYKPEIEPEIVEIVKFTPQADFYTQLSYFQNYELRMYDDFDAGVLRYNNYTLTNFVYN....NDTCLLQ..LNHRCAYNLEHF   694
DKNV        CGKKCYCMYKPEIKPEIVEIKKFTPQADFYTQLSYFQNYELRMYDDFDAGVLRYNNYTLINFVYN....NDTCLLY..LKHRCAYNLENF   689
KSaV        CSKQCECMNKPTIEPEIKETVKFAPLADFYTQLSYFQNYELRMYDDFDMGVLRYNNYTLTTFVYN....NATCLLN..LKHRCVYNPEHF   831
BTaV        CSKKCECMNKPEMKPEIKETAKFAPQADFYTQLSYFQNYELRMYDDFDMGVLRYNNYTLTTFVYN....NATCLLN..LKHRCVYNPEHF   827
HanaV       CKTTCTCMDKPKVEPITIEPVKYAPHADFYTQLRYFQNYELRIYDDFEMGVLRYNNYTLNTFIYS....NETCILP..HGHHCIYNLENF   633
NDiV        CRKTCYCMYKPEVKPEPIETVKYAPQAEFYTQLRYFQNHELQMYDDFEMGVLRYNNYTLNTFVYS....NETCILT..RGVHCVYNPEHF   635
CavV        CRKTCYCMRKPEIKPEPVEPVKYAPPAEFYTQLRYFQNHELRMYDDFEMGVLRYNNYTLSTFIYS....NDTCIQT..RGVHCVYNSEHF   634
Consensus   c   c c                           yf    l  yd    g l   n       y                  c y

Yichang     ELNSCVNLYNYTMQCPPELDFCNQVMQTQFCKPGHVVSTVKTTVLQESCSKGKEVVEHGTPIKPTPCTTYEKVEIFTGDYSTVPADVLLV   908
MenoV       NTTVVKNANGNYLECGVNHKFCEDFQLEFAAVEYIPEIQPKT..T........DVCEP....................LFNYLKSSDLTS   712
NseV        ETIIVYNKYGNHLECGVNHEFCISLQKEFVYVEEIDTVEIK.......QVNNEIQCAL....................PLDTLRTKYPKI   700
CASV        LAKRVYNNLGNYLECGVNHEFCEALQQEFMYIEPLEAQVEPEDLTKRTSPQLHENCQS....................IYNKLKAKYSLL   715
KPhV        EITRVYNDIGNFLECGVNQEFCESLQQEFLFTEPELVITSNP..IIETPTHYFKICDN....................HYTALQAKYPMV   762
DKNV        EITRVYNDIGNYLECGVNQEFCESLQQEFIFTEPELVVTSNP..ITEDPTTYFKVCDN....................HYTALQAKYPMV   757
KSaV        EITRVYNDIGNYLECGVNQEFCESLQQEFTFSESDLVITENP..SVEAPIRYYEICNN....................HYTALQTKYPLI   899
BTaV        VTTRVYNDIGNYLECGINQEFCESLQQEFTFSEPDLVITENP..SVEDPTSYYEICSN....................HYTALQTKYPLI   895
HanaV       ETTRVYNHLGNHLECGVHQEFCESLQQEFMYNEPTLVISEIP..IAEEPIMYHKICDN....................HYTALKSKYPLI   701
NDiV        AITRVYNNLGNYLECGVNQEFCESLQQEFMFNEPQLVITESL..AVEVPTQYHKICDN....................HYTSLQVKYPLI   703
CavV        VITRVYNNLGNYLECGVNQEFCESLQQEFMFNEPQLVITESS..TAEVSAQYKKICAN....................HYTTLQSKYPLI   702
Consensus         n       c     fc
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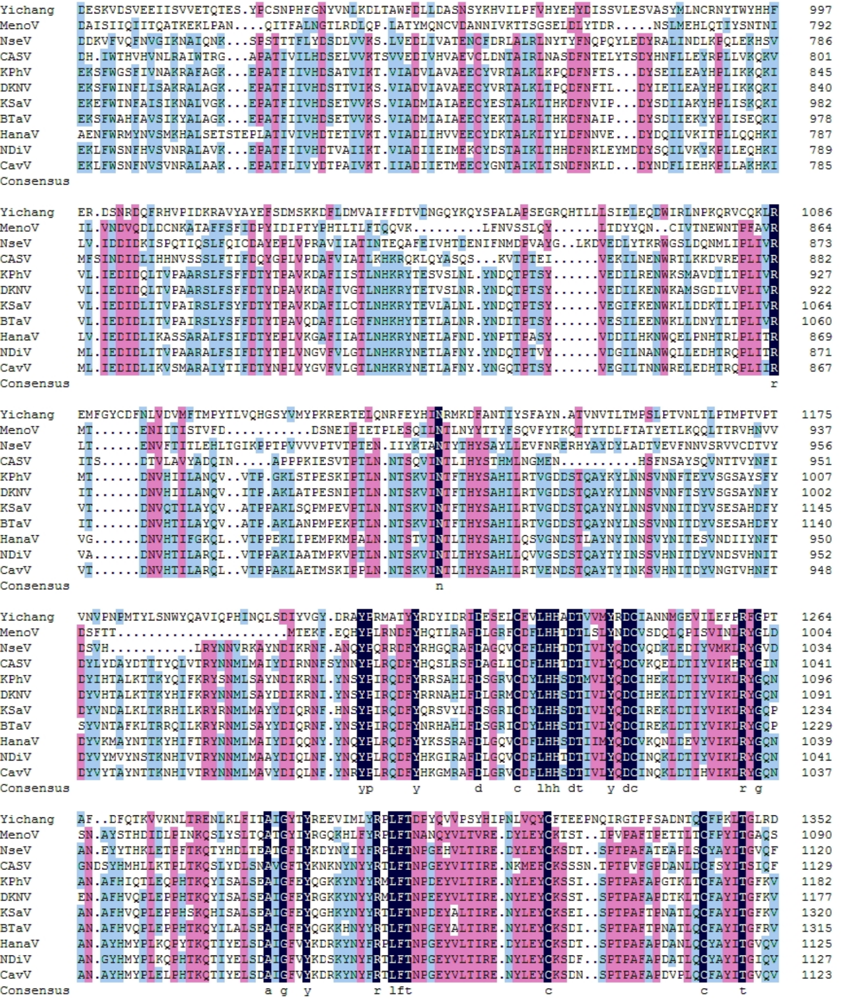

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Yichang   DESKVDSVEEIISVVETQTES.YPCSNPHFGNYVNLKDLTAWFDLLDASNSYKHVILPFVHYEHYDISSVLESVASYMLNCRNYTWYHHF   997
MenoV     DAISIIQIITQATKEKLPAN....QITFALNGTLRDLQP.LATYMQNCVDANNIVKTTSGSELDLYTDR.....NSLMEHLQTIYSNTNI   792
NseV      DDKVFVQFNVGIKNAIQNK...SPSTTTFLYDSDLVVKS.LVEDLIVATENCFDRLALRLNYTYFNQPQYLEDYRALINDLKPQLEKHSV   786
CASV      DH.IWTHVHVNLRAIWTRG...APATIVILHDSELVVKTSVVEDIVHVAEVCLDNTAIRLNASDFNTELYTSDYHNFLLEYRPLLVKQKV   801
KPhV      EKSFWGSFIVNAKRAFAGK...EPATFIIVHDSATVIKT.VIADVLAVAEECYVRTALKLKPQDFNFTS...DYSEILEAYHPLIKKQKI   845
DKNV      EKSFWINFLISAKRALAGK...EPATFIIVHDSTTVIKS.VIADVIAVAEECYVRTALKLTPQDFNFTL...DYIEILEAYHPLIKKQKI   840
KSaV      EKEFWTNFAISIKNALVGK...EPATFIIVHDSETVVKS.VIADMIAIAEECYESTALKLTHKDFNVIP...DYSDIIAKYHPLISKQKI   982
BTaV      EKSFWAHFAVSIKYALAGK...EPATFIIVHDSETVVKS.VIADMIAIAEECYEKTALRLTHKDFNAIP...DYSDIIEKYYPLISEQKI   978
HanaV     AENFWRMYNVSMKHALSETSTEPLATIVIVHDTETIVKT.VIADLIHVVEECYDKTALKLTYLDFNNVE...DYDQILVKITPLLQQHKI   787
NDiV      EKLFWSNFHVSVNRALAVK...EPATFIIVHDTVAIIKT.VIADIIEIMEKCYDSTAIKLTHHDFNKLEYMDDYSQILVKYKPLLEQHKI   789
CavV      EKLFWSNFNVSVNRALAAK...EPATFLIVYDTPAIVKT.IIADIIETMEECYGNTAIKLTSNDFNKLD...DYNDFLIEHKPLLAKHKI   785
Consensus

Yichang   ER.DSNRDQFRHVPIDKRAVYAYEFSDMSKKDFLDMVAIFFDTVDNGQYKQYSPALAPSEGRQHTLLLSIELEQDWIRLNPKQRVCQKLR  1086
MenoV     IL.VNDVQDLDCNKATAFFSFIDPYIDIPTYPHTLTLFTQQVK.........LFNVSSLQY......LTDYYQN..CIVTNEWNTPFAVR   864
NseV      LV.IDDIDKISPQTIQSLFQICDAYEPLVPRAVIIATINTEQAFEIVHTDENIFNMDPVAYG..LKDVEDLYTKRWGSLDQNMLIPLIVR   873
CASV      MFSINDIDLIHHNVSSSLFTIFDQYGPLVPDAFVIATLKHKRQKLQYASQS...KVTPTEI......VEKILNENWRTLKKDVREPLIVR   882
KPhV      VL.IEDIDQLTVPAARSLFSFFDTYTPAVKDAFIISTLNHKRYTESVSLNL.YNDQTPTSY......VEDILRENWKSMAVDTLTPLIVR   927
DKNV      VL.IEDIDQLTVPAARSLFSFFDTYDPAVKDAFIVGTLNHKRYTETVSLNR.YNDQTPTSY......VEDILKENWKAMSGDILVPLIVR   922
KSaV      VL.IEDIDLITVPAIRSLFSYFDTYTPAVKDAFILCTLNHKRYTEVLALNL.YNDQTPTSY......VEGIFKENWKLLDDKTLIPLIVR  1064
BTaV      VL.IEDIDLITVPAIRSLYSFFDTYTPAVQDAFILGTFNHKHYTETLALNR.YNDITPTSY......VESILEENWKLLDNYTLTPLIVR  1060
HanaV     LV.IEDIDLIKASSARALFSIFDTYEPLVKGAFIIATLNHKRYNETLAFND.YNPTTPASY......VDDILHKNWQELPNHTRLPLITR   869
NDiV      ML.IEDIDLITVPAARALFSIFDTYTPLVNGVFVLGTLNHKRYNETLAFNY.YNDQTPTVY......VDGILNANWQLLEDHTRQPLITR   871
CavV      ML.IEDIDLIKVSMARAIYTIFDTYNPLVYGVFVLGTLNHKRYNETLAFNY.YNGQTPTSY......VEGILTNNWRELEDHTRQPLIIR   867
Consensus                                                                                          r

Yichang   EMFGYCDFNLVDVMFTMPYTLVQHGSYVMYPKRERTELQNRFEYHINRMKDFANTIYSFAYN.ATVNVTLTMPSLPTVNLTLPTMPTVPT  1175
MenoV     MT......ENIITISTVFD............DSNEIPIETPLESQILNTLNYYTTYFSQVFYTKQTTYTDLFTATYETLKQQLTTRVHNVV   937
NseV      LT......ENVFTITLEHLTGIKPPTPVVVVPTVTPTEN.IIYKTANTYTHYSAYLLEVFNRERHYAYDYLADTVEVFNNVSRVVCDTVY   956
CASV      ITS.....DTVLAVYADQIN.....APPPKIESVTPTLN.NTSQVINTLIHYSTHMLNGMEN..........HSFNSAYSQVNTTVYNFI   951
KPhV      MT......DNVHIILANQV..VTP.GKLSTPESKIPTLN.NTSKVINTFTHYSAHILRTVGDDSTQAYKYLNNSVNNFTEYVSGSAYSFY  1007
DKNV      IT......DNVHIILANQV..ITP.AKLATPESNIPTLN.NTSKVINTFTHYSAHILRTVGDDSTQAYKYLNNSVNNFTSYVSGSAYNFY  1002
KSaV      VT......DNVQTILAYQV..ATPPAKLSQPMPEVPTLN.NTSKVINTFTHYSAHILRTVGDDSTQAYNYLNNSVNNITDYVSESAHDFY  1145
BTaV      IT......DNVHTILAYQV..ATP.AKLANPMPEKPTLN.NTSKVINTFTHYSAHILRTVGDDSTQAYNYLNSSVNNITDYVSESAHDFY  1140
HanaV     VG......DNVHTIFGKQL..VTPPEKLIPEMPKMPALN.NTSTVINTLTHYSAHILQSVGNDSTLAYNYINNSVYNITESVNDIIYNFT   950
NDiV      VA......DNVHTILARQL..VTPPAKIAATMPKVPTLN.NTSKVINTLTHYSAHLLQVVGSDSTQAYTYINSSVHNITDYVNDSVHNIT   952
CavV      VT......DNVHTILARQL..VTPPAKLAETMSKIPPLN.NTSKVINTLTHYSAHILRTVENDSTQAYTYINKSVHNITDYVNGTVHNFT   948
Consensus                                               n

Yichang   VNVPNPMTYLSNWYQAVIQPHINQLSDIYVGY.DRAYPRMATYYRDYIDRIDESELCEVLHHADTVVMYRDCIANNMGEVILEFPRFGPT  1264
MenoV     DSFTT......................MTEKF.EQHYPLRNDFYHQTLRAFDLGRFCDFLHHTDTLSLYNDCVSDQLQPISVINLRYGLD  1004
NseV      DSVH...........LRYNNVRKAYNDIKRNF.ANQYPQRRDFYRHGQRAFDAGQVCEFLHHTDTIVLYQDCVQDKLEDIYVMKLRYGVD  1034
CASV      DYLYDAYDTTTYQLVTRYNNMLMAIYDIRNNFSYNNYPLRQDFYHQSLRSFDAGLICDFLHHTDTIVLYQDCVKQELDTIYVIKHRYGIN  1041
KPhV      DYIHTALKTTKYQIFKRYSNMLSAYNDIKRNL.YNSYPIRQDFYRRSAHLFDSGRVCDYLHHSDTMVLYQDCIHEKLDTIYVIKLRYGQN  1096
DKNV      DYVHTALKTTKYHIFKRYNNMLSAYDDIKRNI.YNSYPIRQDFYRRNAHLFDLGRMCDYLHHSDTIVLYQDCIHEKLDTIYVIKLRYGQN  1091
KSaV      DYVNDALKLTKRHILKRYRNMLMAYYDIQRNF.HNSYPIRQDFYQRSVYLFDSGRICDYLHHSDTIVLYQDCIREKLDTIYVIKLRYGQP  1234
BTaV      SYVNTAFKLTRRQILKRYRNMLSAYYDIQRNF.YNSYPIRQDFYNRHAHLFDSGRICDYLHHSDTIVLYQDCIREKLDTIYVIKLRYGQP  1229
HanaV     DYVKMAYNTTKYHIFTRYNNMLMAIYDIQQNY.YNQYPLRQDFYYKSSRAFDLGQVCDFLHHSDTIIMYQDCVKQNLDEVYVIKLRYGQN  1039
NDiV      DYVYMVYNSTKNHIVTRYNNMLMAAYDIQLNF.YNQYPLRQDFYHKGIRAFDLGQVCDFLHHTDTIVLYQDCINQKLDTIYVIKLRYGQN  1041
CavV      DYVYTAYNTTKNHIVTRYNNMLMAVYDIQLNF.YNRYPLRQDFYHKGMRAFDLGRVCDFLHHSDTIVLYQDCINQKLDTIHVIKLRYGQN  1037
Consensus                                     yp     y       d    c  lhh dt   y dc             r g

Yichang   AF..DFQTKVVKNLTRENLKLFITAIGYTYREEVIMLYRPLFTDPYQVVPSYHIPNLVQYCFTEEPNQIRGTPFSADNTQCFPKLTGLRD  1352
MenoV     SN.AYSTHDIDLPINKQSLYSLTQATGYIYRGQKHLFYRPLFTNANQYVLTVRE.DYLEYCKTST..IPVPAFTPETTLTCFPYITGAQS  1090
NseV      AN.EYYTHKLETPFTKQTYHDLTEATGFIYKDYNYIYFRPLFTNPGEHVLTIRE.DYLEYCKSDT..SPTPAFATEAPLSCYAYITGVQF  1120
CASV      GNDSYHMHLLKTPLTKQSLYDLSNAVGFTYKNKNYNYYRTLFTNPGEYVITIRE.NKMEFCKSSSN.TPTPVFGPDANLDCFSYITSIQF  1129
KPhV      AN.AFHIQTLEQPHTKQYISALSEAIGFEYQGKKYNYYRMLFTNPDEYVLTIRE.NYLEYCKSSI..SPTPAFAPGTKLTCFAYITGFKV  1182
DKNV      EN.AFHVQPLEPPHTKQYISALSEAIGFEYRGKKYNYYRMLFTNPEEYVLTIRE.NYLEYCKSST..SPTPAFAPDTKLTCFAYITGFKV  1177
KSaV      AN.AFHVQPLEPPHSKQHISALSEAIGFEYQGHKYNYYRTLFTNPDEYALTIRE.NYLEYCKSEI..SPTPAFTPNATLQCFAYITGFKV  1320
BTaV      AN.AFHVQPLEPPHTKQYILALSEAIGFEYQGKKHNYYRTLFTNPGEYALTIRE.NYLEYCKSDI..SPTPAFTPNATLQCFAYITGFRV  1315
HanaV     AN.AYHMYPLKQPYTKQTIYELSDAIGFVYKDRKYNYFRPLFTNPGEYVLTIRE.DYLEYCKSDT..SPTPAFAPDANLQCYAYITGVQV  1125
NDiV      AN.GYHMYPLKQPHTKQTIYELSDAIGFVYKDSKYNYFRTLFTNPGEYVLTIRE.NYLEYCKSDF..SPTPAFAPDATLQCYAYITGIQV  1127
CavV      AN.AYHMYPLELPHTKQTIYELSDAIGFVYKDRKYNYFRTLFTNPGEYVLTIRE.NYLEYCKSDN..SPTPAFAPDVPLQCFAYITGVQV  1123
Consensus                         a g  y        r lft                 c                   c    t
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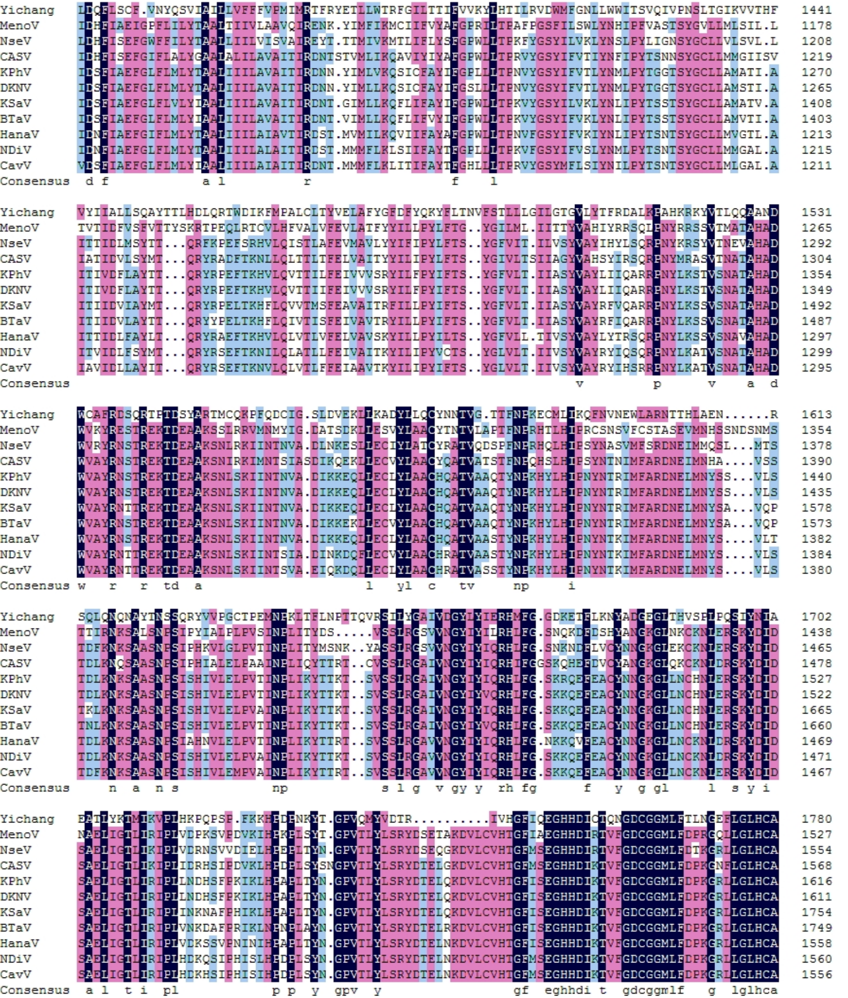

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Yichang    LDQFLSCF.VNYQSVIAILLVFFFVPMIMRTFRYETLLWTRFGILTTIFVVKYLHTILRVDWMFGNLLWWITSVQIVPNSLTGIKVVTHF  1441
MenoV      IDHFIAEIGPFLILYTAALTIIVLAAVQIRENK.YIMFIKMCIIFVYAFGPRILTPAFPGSFILSWLYNHIPFVASTSYGVLLMLSIL.L  1178
NseV       LDHFISEFGWFFILYTAALLIIILVISVAIREYT.TTMIVKMTLIFLYSFGPWLLTPKFYGSYILVKLYNSLPYLIGNSYGCLIVLSVL.L  1208
CASV       IDHFISEFGIFLALYGAALALILAVAITIRDNTSTVMLIKQAVIYIYAFGPWLLTPRVYGSYIFVTIYNFIPYTSNNSYGCLLMMGIISV  1219
KPhV       IDSFIAEFGLFLMLYTAALIIIILAVAITIRDNN.YIMLVKQSICFAYIFGPLLLTPNVYGSYIFVTLYNMLPYTGGTSYGCLLAMATI.A  1270
DKNV       IDSFIAEFGLFLMLYTAALIIIILAVAITIRDNN.YIMLLKQSICFAYIFGSLLLTPNVYGSYIFVTLYNMLPYTGGTSYGCLLAMSTI.A  1265
KSaV       IDSFIAEFGLFLVLYIAALIIIILAVAITIRDNT.GIMLLKQFLIFAYIFGPWLLTPKVYGSYILVKLYNLIPYTSSTSYGCLLAMATV.A  1408
BTaV       IDSFIAEFGLFLMLYIAALIIIILAVAITIRDNT.VIMLLKQFLIFVYIFGPWLLTPKVYGSYIFVKLYNLIPYTSSTSYGCLLAMVTI.A  1403
HanaV      IDNFIAEFGIFLMLYTAALIIIILAIAVTIRDST.MVMILKQVIIFAYAFGPWLLTPNVFGSYIFVKIYNLIPYTSNTSYGCLLMVGTL.A  1213
NDiV       IDNFIAEFGLFLMLYTAALIIIILALAITIRDST.MMMFLKLSIIFAYTFGPLLLTPKVFGSYIFVSLYNMLPYTSNTSYGCLLMMGAL.A  1215
CavV       VDSFIAEFGLFLMLYIAALIIIILAIAITIRDNT.MMMFLKLITIFAYTFGHLLLTPRVYGSYMFLSIYNILPYTSNTSYGCLLMLGAL.A  1211
Consensus   d f            a l          r                  f    l

Yichang    VYIIALLSQAYTTLHDLQRTWDIKFMPALCLTYVELAFYGFDFYQKYFLTNVFSTLLLGILGTGVLYTFRDALKPAHKRKYVTLQQAAND  1531
MenoV      TVTIDFVSFVTTYSKRTPEQLRTCVLHFVALVFEVLATFYYILLPYLFTG..YGILML.IITTYVAHIYRRSQLPNYRRSSVTMATAHAD  1265
NseV       ITTIDLMSYTT...QRFKPEFSRHVLQISTLAFEVMAVLYYIFIPYLFTS..YGFVIT.ILVSYVAYIHYLSQRPNYKRSYVTNEVAHAD  1292
CASV       IATIDVLSYMT...QRYRADFTKNLLQLTTLTFELVAITYYILIPYLFTS..YGIVLTSIIAGYVAHSYIRSQRPNYMRASVTNATAHAD  1304
KPhV       ITIVDFLAYTT...QRYRPEFTKHVLQVTTILFEIVVVSRYILFPYIFTS..YGFVLT.IIASYVAYLIIQARRPNYLKSTVSNATAHAD  1354
DKNV       ITIVDFLAYTT...QRYRPEFTKHVLQVTTIIFEIVVVSRYILFPYIFTS..YGFVLT.IIASYVAYLIIQARRPNYLKSTVSNATAHAD  1349
KSaV       ITIIDVIAYMT...QRYRPELTKHFLQVVTMSFEAVAITRFILLPYIFTS..YGFVLT.IIASYVAYRFVQARRPNYLKSSVSNATAHAD  1492
BTaV       ITIIDVLAYTT...QRYYPELTKHFLQIVTISFEIVAVTRYILLPYIFTS..YGFVLT.IIASYVAYRFIQARRPNYLKSSVSNATAHAD  1487
HanaV      ITTIDLFAYLT...QRYRAEFTKHVLQLVTLVFELVAVSKYILLPYILTS..YGFVLL.TIVSYVAYLYTRSQRPNYLKSSVSNAVAHAD  1297
NDiV       ITVIDLFSYMT...QRYRSEFTKNILQLATLLFEIVAITKYILIPYVCTS..YGLVLT.IIVSYVAYRYIQSQRPNYLKATVSNATAHAD  1299
CavV       IAVIDLLAYIT...QRYRSEFTKNVLQLVTLFFEIAAVTKYILIPYIFTS..YGLVLT.IIVSYVAYRYIHSRRPNYLKATVSNATAHAD  1295
Consensus                                                                  v         p      v    a  d

Yichang    WCAFRDSQRTPTDSYARTMCQKPFQDCIG.SLDVEKLIKADYLLQCYNNTVG.TTFNPKECMLIKQFNVNEWLARNTTHLAEN......R  1613
MenoV      WVKYRESTREKTDEAAKSSLRRVMNMYIG.DATSDKLIESVYLAACYTNTVLAPTFNPRHTLHIPRCSNSVFCSTASEVMNHSSNDSNMS  1354
NseV       WVRYRNSTREKTDEAAKSNLRKIINTNVA.DLNKESLIECIYLATCYRATVQDSPFNPRHQLHIPSYNASVMFSRDNEIMMQSL...MTS  1378
CASV       WVAYRNSTREKTDEAAKSNIRKIMNTSIASDIKQEKLIECVYLAACYQATVATSTFNPQHSLHIPSYNTNIMFARDNEIMNHA....VSS  1390
KPhV       WVAYRNSTREKTDEAAKSNLSKIINTNVA.DIKKEQLIECLYLAACHQATVAAQTYNPKHYLHIPNYNTRIMFARDNELMNYSS...VLS  1440
DKNV       WVAYRNSTREKTDEAAKSNLSKIINTNVA.DIKKEQLIECLYLAACHQATVAAQTYNPKHYLHIPNYNTRIMFARDNELMNYSS...VLS  1435
KSaV       WVAYRNTTREKTDEAAKSNLSKIINTNVA.DIKKEQLIECLYLAACHQATVAAQTYNPKHYLHIPNYNTRIMFARDNELMNYSA...VQP  1578
BTaV       WVAYRNSTREKTDEAAKSNLSKIINTNVA.DIKKEKLIECVYLAACHQATVAAQTYNPKHYLHIPNYNTRIMFARDNELMNYSA...VQP  1573
HanaV      WVAYRNSTREKTDEAAKSNLSKIINTNVA.DIKKEQLIECLYLAACHQATVAASTYNPKHYLHIPNYNTKIMFARDNELMNYS....VLT  1382
NDiV       WVAYRNTTREKTDEAAKSNLSKIINTSIA.DINKDQFIECVYLAACHRATVAASTYNPKHYLHIPNYNTKIMFARDNELMNYS....VLS  1384
CavV       WVAYRNTTREKTDEAAKSNLSKIINTSVA.EIQKDQLIECLYLAACHRATVASSTYNPKHYLHIPNYNTKIMFARDNELMNYS....VLS  1380
Consensus  w   r   r  td  a                     l   yl  c   tv     np     i

Yichang    SQLQNQNAYTNSSQRYVVPGCTPEMNPKLTFLNPTTQVRSILYGAIVDGYLYIERHMFG.GDKETFLKNYADGEGLTHVSPLPQSIYNIA  1702
MenoV      TTIRNKSALSNPSIPYIALPLPVSINPLITYDS.....VSSLRGSVVNGYIYILRHLFG.SNQKDFDSHYANGKGLNKCKNLERSKYDID  1438
NseV       TDFKNKSAASNPSIPHKVLGLPVTINPLITYMSNK..YASSLRGSVVNGYIYIQRHLFG.SNKNDFLVCYNNGKGLEKCKNLERSKYDID  1465
CASV       TDLKNQSAASNPSIPHIALELPAAINPLIQYTTRT..CVSSLRGAIVNGYIYIQRHIFGGSKQHEFDVCYANGKGLQKCKNLDRSKYDID  1478
KPhV       TDLKNKSAASNPSISHIVLELPVTINPLIKYTTKT..SVSSLRGAIVNGYIYIQRHLFG.SKRQEFEACYNNGKGLLNCHNLERSKYDID  1527
DKNV       TDLKNKSAASNPSISHIVLELPVTINPLIKYTTKT..SVSSLRGAIVNGYIYVQRHLFG.SKKQEFEACYNNGKGLLNCHNLERSKYDID  1522
KSaV       TKLKNKSAASNPSISHIVLELPVAINPLIKYTTKT..SVSSLRGAIVNGYIYIQRHLFG.SKKQEFEACYNNGKGLLNCHNLERSKYDID  1665
BTaV       TNLKNKSAASNPSISHIVLELPVTINPLIKYTTKT..SVSSLRGAIVNGYIYVQRHLFG.SKKQEFEACYNNGKGLLNCHNLERSKYDID  1660
HanaV      TDLKNKSAASNPSIAHNVLELPVTINPLIKYTTRT..SVSSLRGAVVNGYIYIQRHLFG.NKKQVFEACYNNGKGLLNCKNLDRSKYDID  1469
NDiV       TDLKNKSAASNPSISHIVLELPVAINPLIKYTTKT..SVSSLRGAVVNGYIYIQRHLFG.SKKQEFEACYNNGKGLLNCKNLDRSKYDID  1471
CavV       TDFKNKSAASNPSISHIVLEMPVAINPLIKYTTRT..SVSSLRGAVVNGYIYIQRHLFG.SKKQEFEACYNNGKGLLNCKNLERSKYDID  1467
Consensus      n  a  n s            np            s l g  v gy y  rh fg      f   y  g gl     l  s y i

Yichang    EATLYKTMIKVPLHKPQPSP.FKKHPDPNKYT.GPVQMYVDTR..........IVHGFIQEGHHDICTQNGDCGGMLFTLNGEFLGLHCA  1780
MenoV      NAELIGTLIRIPLVDPKSVPDVKIHPKPLSYT.GPVTLYLSRYDSETAKDVLCVHTGFIAEGHHDIRTVFGDCGGMLFDPRGQLLGLHCA  1527
NseV       SAELIGTLIKIPLVDRNSVVDIELHPEPLTYN.GPVTLYLSRYDSEQGKDVLCVHTGFMSEGHHDIRTVFGDCGGMLFDTKGRLLGLHCA  1554
CASV       SAELIGTLIKIPLIDRHSIPDVKLHPDPLSYSNGPVTLYLSRYDTELGKDVLCVHTGFMSEGHHDIKTVFGDCGGMLFDPKGNFLGLHCA  1568
KPhV       SAELIGTLIRIPLLNDHSFPKIKLHPAPLTYN.GPVTLYLSRYDTELQKDVLCVHTGFISEGHHDIKTVFGDCGGMLFDPKGRLLGLHCA  1616
DKNV       SAELIGTLIRIPLLNDHSFPKIKLHPAPLTYN.GPVTLYLSRYDTELQKDVLCVHTGFISEGHHDIKTVFGDCGGMLFDPKGRLLGLHCA  1611
KSaV       SAELIGTLIRIPLINKNAFPHIKLHPAPLTYN.GPVTLYLSRYDTELQKDVLCVHTGFISEGHHDIKTVFGDCGGMLFDPKGRLLGLHCA  1754
BTaV       SAELIGTLIRIPLVNKDAFPRIKLNPNPLAYN.GPVTLYLSRYDTELRKDVLCVHTGFISEGHHDIKTVFGDCGGMLFDPKGRLLGLHCA  1749
HanaV      SAELIGTLIRIPLVDKSSVPNINIHPAPLTYN.GPVTLYLSRYDTELNKDVLCVHTGFISEGHHDIKTVFGDCGGMLFDPKGRLLGLHCA  1558
NDiV       SAELIGTLIRIPLHDKQSIPHISLHPDPLSYN.GPVTLYLSRYDTELNKDVLCVHTGFMSEGHHDIKTVFGDCGGMLFDPKGRLLGLHCA  1560
CavV       SAELIGTLIRIPLHDKHSIPHISIHPDPLSYN.GPVTLYLSRYDTELNKDVLCVHTGFMSEGHHDIKTVFGDCGGMLFDPKGRLLGLHCA  1556
Consensus   a l  t i  pl            p p  y  gpv  y                 gf  eghhdi t  gdcggmlf   g  lglhca
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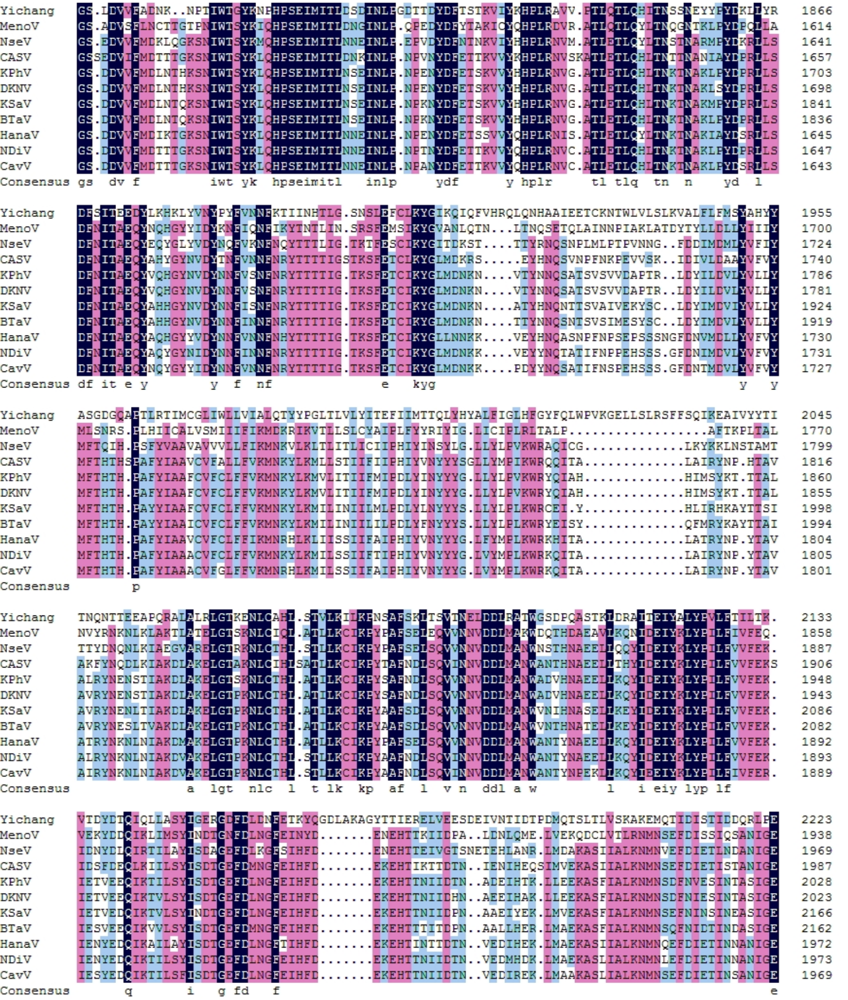

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Yichang     GS.LDVVFADNK..NPTIWTGYKNPHPSEIMITLDSDINLPGDTTDYDFTSTKVIYKHPLRAVV.PTLQTLQHITNSSNEYYPYDKLLYR   1866
MenoV       GS.ADVSFLNCTTGTPNIWTSYKIQHPSEIMITLDNGINLP.QPEDYDFYTAKICYQHPLRDVR.ATLQTLQYLTNQGNTKLPYDPQLLA   1614
NseV        GS.EDVVFMDKLQGKSNIWTSYKMQHPSEIMITLNNEINLP.EPVDYDFNTNKVIYHHPLRNVM.ATLETLQYLTNSTNARMPYDKRLLS   1641
CASV        GSSEDVIFMDTTTGKSNIWTSYKLQHPSEIMITLDNKINLP.NPVNYDFETTKVVYKHPLRNVSKATLETLQHLTNTTNANIAYDPRLLS   1657
KPhV        GS.DDVVFMDLNTHKSNIWTSYKLQHPSEIMITLNSEINLP.NPENYDFETSKVVYHHPLRNVG.ATLETLQHLTNKTNAKLPYDPRLLS   1703
DKNV        GS.DDVVFMDLNTHKSNIWTSYKLQHPSEIMITLNSEINLP.NPENYDFETSKVVYHHPLRNVG.ATLETLQHLTNKTNAKLSYDPRLLS   1698
KSaV        GS.DDVVFMDLNTQKSNIWTSYKLQHPSEIMITLNSEINLP.NPKNYDFETSKVVYHHPLRNVG.ATLETLQHLTNKTNAKMPYDPRLLS   1841
BTaV        GS.DDVVFMDLNTQKSNIWTSYKLQHPSEIMITLNSEINLP.NPKNYDFETSKVVYHHPLRNVG.ATLETLQHLTNKTNAKLPYDPRLLS   1836
HanaV       GS.DDVVFMDIKTGKSNIWTSYKLQHPSEIMITLNNEINLP.NPENYDFETSSVVYQHPLRNIS.ATLETLQYLTNKTNAKIAYDSRLLS   1645
NDiV        GS.DDVVFMDTTTGKSNIWTSYKLQHPSEIMITLNNEINLP.NPTNYDFETTKVVYQHPLRNVC.ATLETLQHLTNKTNAKLPYDPRLLS   1647
CavV        GS.DDVVFMDTTTGKSNIWTSYKLQHPSEIMITLNNEINLP.NPANYDFETTKVVYQHPLRNVC.ATLETLQHLTNKTNAKLPYDSRLLS   1643
Consensus   gs  dv f         iwt yk  hpseimitl   inlp     ydf      y hplr     tl tlq  tn  n    yd  l

Yichang     DFSITEEDYLKHKLYVNYPYFVNNFKTIINHTLG.SNSLEFCLKYGIKQIQFVHRQLQNHAAIEETCKNTWLVLSLKVALFLFMSYAHYY   1955
MenoV       DFNITAEQYNQHGYYIDYKNFIQNFIKYTNTLIN.SRSFEMSIKYGVANLQTN...LTNQSETQLAINNPIAKLATDYTYLLDLLYIIIY   1700
NseV        DFNITAEQYEQYGLYVDYNQFVKNFNQYTTTLIG.TKTFESCIKYGITDKST....TTYRNQSNPLMLPTPVNNG..FDDIMDMLYVFIY   1724
CASV        DFNITAEQYAHYGYNVDYTNFVNNFNRYTTTTIGSTKSFETCLKYGLMDKRS.....EYHNQSVNPFNKPEVVSK..IDIVLDAAYVFVY   1740
KPhV        DFNITAEQYVQHGYNVDYNNFVSNFNRYTTTTIG.TKSFETCIKYGLMDNKN....VTYNNQSATSVSVVDAPTR..LDYILDVLYVLLY   1786
DKNV        DFNITAEQYVQHGYNVDYNNFVSNFNRYTTTTIG.TKSFETCIKYGLMDNKN....VTYNNQSATSVSVVDAPTR..LDYILDVLYVLLY   1781
KSaV        DFNITAEQYAHHGYNVDYNNFISNFNRYTTTTIG.TKSFETCIKYGLMDNKN....ATYHNQNTTSVAIVEKYSC..LDYIMDVIYVLLY   1924
BTaV        DFNITAEQYAHHGYNVDYNNFINNFNRYTTTTIG.TKSFETCIKYGLMDNKN....TTYNNQSNTSVSIMESYSC..LDYIMDVLYVLLY   1919
HanaV       DFNITAEQYAQHGYYVDYNNFVNNFNHYTTTTIG.TKSFETCIKYGLLNNKK....VEYHNQASNPFNPSEPSSSNGFDNVMDLLYVFVY   1730
NDiV        DFNITAEQYAQYGYNIDYNNFINNFNRYTTTTIG.TKSFETCIKYGLMDNKK....VEYYNQTATIFNPPEHSSS.GFDNIMDVLYVFVY   1731
CavV        DFNITAEQYNQYGYYIDYNNFVNNFNRYTTTTIG.TKSFETCIKYGLMDNKK....PDYYNQSATIFNSPEHSSS.GFDNTMDVLYVFVY   1727
Consensus   df it e y        y  f  nf              e   kyg                                       y   y

Yichang     ASGDGQAPTLRTIMCGLIWLLVIALQTYYPGLTLVLYITEFIIMTTQLYHYALFIGLHFGYFQLWPVKGELLSLRSFFSQIKEAIVYYTI   2045
MenoV       MLSNRS.PLHIICALVSMIIIFIKMDKRIKVTLLSLCYAIPLFYYRIYIG.LICIPLRLTALP..................AFTKPLTAL   1770
NseV        MFTQIH.PSFYVAAVAVVVLLFIKMNKVLKLTLITLICIIPHIYINSYLG.LLYLPVKWRAQICG.............LKYKKLNSTAMT   1799
CASV        MFTHTHSPAFYIAAVCVFALLFVKMNKYLKMLLSTIIFIIPHIYVNYYYSGLLYMPIKWRQQITA.............LAIRYNP.HTAV   1816
KPhV        MFTHTH.PAFYIAAFCVFCLFFVKMNKYLKMVLITIIFMIPDLYINYYYG.LLYLPVKWRYQIAH.............HIMSYKT.TTAL   1860
DKNV        MFTHTH.PAFYIAAFCVFCLFFVKMNKYLKMVLITIIFMIPDLYINYYYG.LLYLPVKWRYQIAH.............HIMSYKT.TTAL   1855
KSaV        MFTHTH.PAYYIAAFCVFCLFFVKMNKYLKMILINIILMLPDLYLNYYYS.LLYLPLKWRCEI.Y.............HLIRHKAYTTSI   1998
BTaV        MFTHTH.PAYYIAAICVFCLFFVKMNKYLKMILINIILILPDLYFNYYYS.LLYLPLKWRYEISY.............QFMRYKAYTTAI   1994
HanaV       MFTHTH.PAFYIAAVCVFCLFFIKMNRHLKLIISSIIFAIPHIYVNYYYG.LFYMPLKWRKHITA.............LATRYNP.YTAV   1804
NDiV        MFTHTH.PAFYIAAACVFCLFFVKMNKYLKMILSSIIFTIPHIYVNYYYG.LVYMPLKWRKQITA.............LAIRYNP.YTAV   1805
CavV        MFTHTH.PAFYIAAACVFGLFFVKMNRHLKMILSSIIFAIPHIYVNYYYG.LVYMPLKWRKQITA.............LAIRYNP.YTAV   1801
Consensus          p

Yichang     TNQNTTEEAPQRALALRLGTKENLCAHL.STVLKILKPNSAFSKLTSVTNELDDLRATWGSDPQASTKLDRAITEIYALYPVLFTILTK.   2133
MenoV       NVYRNKNLKLAKTLATELGTSKNLCIQL.ATLLKCIKPYPAFSELEQVVNNVDDLMAKWDQTHDAEAVLKQNIDEIYKLYPILFIVFEQ.   1858
NseV        TTYDNQNLKIAEGVARELGTRKNLCTHL.STLLKCIKPYPAFSELSQVVNNVDDLMANWNSTHNAEELLQQYIDEIYKLYPILFVVFEK.   1887
CASV        AKFYNQDLKIAKDLAKELGTAKNLCIHLSATLLKCIKPYTAFNDLSQVINNVDDLMANWANTHNAEELLTHYIDEIYKLYPILFVVFEKS   1906
KPhV        ALRYNENSTIAKDLAKELGTSKNLCTHL.ATILKCIKPYSAFNDLSQVVNNVDDLMANWADVHNAEELLKQYIDEIYKLYPILFVVFEK.   1948
DKNV        AVRYNENSTIAKDLAKELGTPKNLCTHL.ATILKCIKPYSAFNDLSQVVNNVDDLMANWADVHNAEELLKQYIDEIYKLYPILFVVFEK.   1943
KSaV        AVRYNENLTIAKDLAKELGTPKNLCTHL.ATILKCIKPYAAFSDLSQVVNNVDDLMANWVNIHNASELLKEYIDEIYKLYPILFVVFEK.   2086
BTaV        AVRYNESLTVAKDLAKELGTPKNLCTHL.ATILKCIKPYAAFSDLSQVVNNVDDLMANWVNTHNATELLKEYIDEIYKLYPILFVVFEK.   2082
HanaV       ATRYNKNLNIAKDMAKELGTPKNLCTHL.ATLLKCIKPYPAFSELSQVVNNVDDLMANWANTYNAEELLKQYIDEIYKLYPILFVVFEK.   1892
NDiV        ALRYNKNLNIAKDVAKELGTPKNLCTHL.STLLKCIKPYAAFNDLSQVINNVDDLMANWANTYNAEELLKQYIDEIYKLYPILFVVFEK.   1893
CavV        AIRYNKNLNIAKDVAKELGTPKNLCTHL.STLLKCIKPYAAFNDLSQVINNVDDLMANWANTYNPEKLLKQYIEEIYKLYPILFIVFER.   1889
Consensus                 a  lgt  nlc  l  t lk  kp  af  l  v n  ddl a w         l   i eiy lyp lf

Yichang     VTDYDTQIQLLASYIGERGDFDLDNFETKYQGDLAKAGYTTIERELVEESDEIVNTIDTPDMQTSLTLVSKAKEMQTIDISTIDDQRLPE   2223
MenoV       VEKYDDQIKLIMSYINDTGNFDLNGFEINYD.......ENEHTTKIIDPA..LDNLQME.LVEKQDCLVTLRNMNSEFDISSIQSANIGE   1938
NseV        IDNYDLQIRTILAYISDAGEFDLKGFSIHFD.......ENEHTTEIVGTSNETEHLANR.LMDAKASIIALKNMNVEFDIETLNDANIGE   1969
CASV        IDSFDEQLKIILSYISDTGEFDMNGFEIHFD.......EKEHTIKTTDTN..IENIHEQSIMVEKASIIALKNMNSEFDIETISTANIGE   1987
KPhV        IETVEEQIKTILSYISDTGEFDLNGFEIHFD.......EKEHTTNIIDTN..ADEIHTK.LLEEKASFIALKNMNSDFNVESINTASIGE   2028
DKNV        IETVEEQIKTVLSYISDTGEFDLNGFEIHFD.......EKEHTTNIIDHN..AEEIHAK.LLEEKASFIALKNMNSDFNIESINTASIGE   2023
KSaV        IETVEDQIKTVLSYINDTGEFDLNGFEIHFD.......EKEHTTNIIDPN..AAEIYEK.LMVEKASFIALKNMNSEFNINSINEASIGE   2166
BTaV        IESVEEQIKVVLSYISDTGEFDMNGFEIHFD.......EKEHTTTITDPN..AALLHER.LMAEKASFIALKNMNSQFNIDTINDASIGE   2162
HanaV       IENYEDQIKAILAYISDTGEFDLNGFTIHFD.......EKEHTINTTDTN..VEDIHEK.LMAEKASIIALKNMNQEFDIETINNANIGE   1972
NDiV        IENYEDQIKTILSYISDTGEFDLNGFEIHFD.......EKEHTTNIIDTN..VEDMHDK.LMAEKASLIALKNMNLEFDIETINNANIGE   1973
CavV        IESYEDQIKTILSFISDTGEFDLNGFEIHFD.......EKEHTTNIIDTN..VEDIREK.LMAAKASLIALKNMNSEFDIETINSANIGE   1969
Consensus         q       i   g fd   f                                                               e
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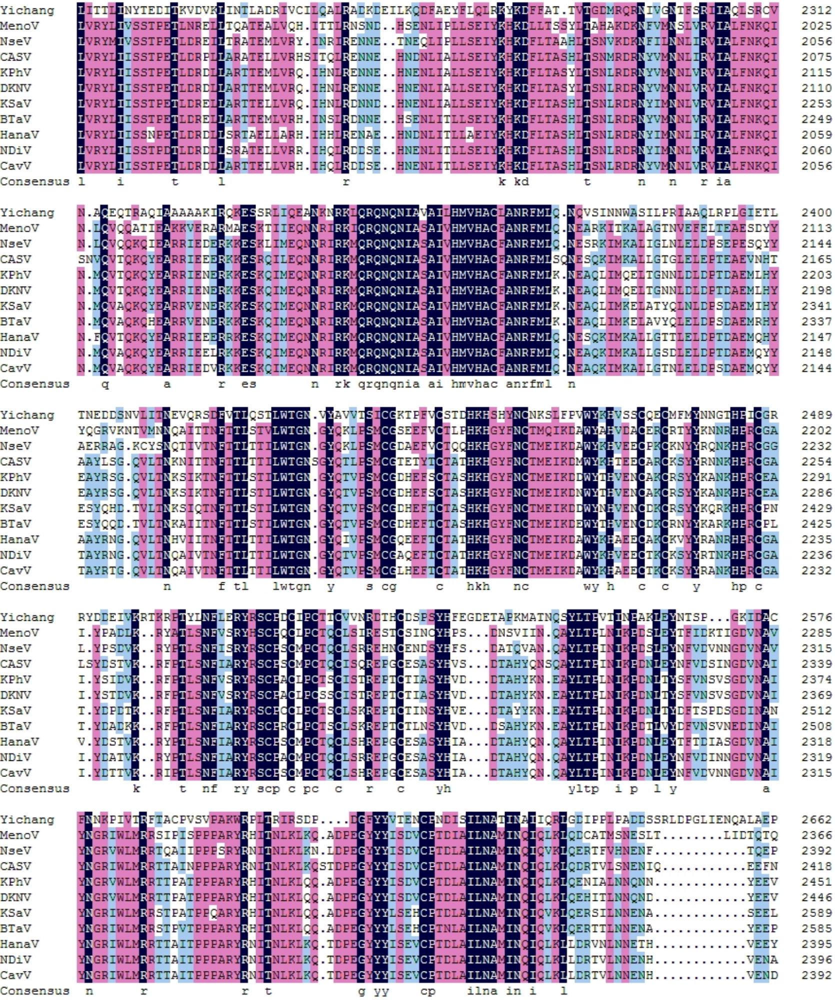

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Yichang   LITTLINYTEDITKVDVKLINTLADRIVCILQALRADKDEILKQDFAEYFLQLRKYKDFFAT.TVTGDMRQRNIVGNTFSRIIAQLSRCV   2312
MenoV     LVRYLIVSSTPETLNRELLTQATEALVQH.ITTLRNSND..HSENLIPLLSEIYKHKDLLTSSYLTAHAKDKNFVMNSLVRVIALFNKQI   2025
NseV      LVRYMIVSSTPETLDREILTRATEMLVRY.INRIRENNE..TNEQLIPLLSEIYKHKDFLTAAHLTSNVKDKNFILNNLIRVIALFNKQI   2056
CASV      LVRYLIISSTPETLDRPLLARATELLVRHSITQLRENNE..HNDNLIALLSEIYKHKDFLTASHLTSNMRDRNYVMNNLIRVIALFNKQI   2075
KPhV      LVRYLIISSTPETLDRDLLARTTEMLVRQ.IHNLRENNE..HNENLIALLSEIYKHKDFLTASYLTSNLRDRNYVMNNLVRVIALFNKQI   2115
DKNV      LVRYLIISSTPETLDRDLLARTTEMLVRQ.IHNLRENNE..HNENLIALLSEIYKHKDFLTASYLTSNLRDRNYVMNNLVRVIALFNKQI   2110
KSaV      LVRYLIISSTPETLDRELLARTTELLVRQ.IHNLRDNND..HNENLIALLSEIYKHKDFLTASHLTSNLRDRNYIMNNLVRVIALFNKQI   2253
BTaV      LVRYLIISSTPETLDRELLARTTEMLVRH.INSLRDNNE..HSENLITLLSEIYKHKDFLTASHLTSNLRDRNYVMNNLVRVIALFNKQI   2249
HanaV     LVRYLIISSNPETLDRDLLSRTAELLARH.IHHLRENAE..HNDNLITLLAEIYKHKDFLTASHLTSNLRDRNYIMNNLIRVIALFNKQI   2059
NDiV      LVRYLIISSTPDTLDRDLLSRATELLVRR.IHQLRDDSE..HNENLITLLSEIYKHKDFLTASHLTSNLRDRNYIMNNLVRVIALFNKQI   2060
CavV      LVRYLIISSTPETLDRDLLARTTELLVRH.IHQLRDDSE..HNENLITLLSEIYKHKDFLTASHLTSNLRDRNYVMNNLVRVIALFNKQI   2056
Consensus l    i      t     l               r                   k kd       t      n   n   r ia

Yichang   N.AQEQTRAQIAAAAAKIRQKESSRLIQEANKNRKLQRQNQNIAVAILHMVHACLANRFMLQ.NQVSINNWASILPRIAAQLRPLGIETL   2400
MenoV     N.LQVQQATIEAKKVERARMAESKTIIEQNNRIRKIQRQNQNIASAIVHMVHACFANRFMLQ.NEARKITKALAGTNVEFELTEAESDYY   2113
NseV      N.LQVQQKQIEARRIEDERKKESKLIMEQNNRIRKMQRQNQNIASAIVHMVHACFANRFMLQ.NESRKIMKALIGLNLELDPSEPESQYY   2144
CASV      SNVQVTQKQYEARRIEEERKKESRQILEQNNRIRKMQRQNQNIASAIVHMVHACFANRFMLSQNESQKIMKALLGTGLELEPTEAEVNHT   2165
KPhV      N.MQVTQKQYEARRIENERKKESKQIMEQNNRIRKMQRQNQNIASAIVHMVHACFANRFMLK.NEAQLIMQELTGNNLDLDPTDAEMLHY   2203
DKNV      N.MQVTQKQYEARRIENERKKESKQIMEQNNRIRKMQRQNQNIASAIVHMVHACFANRFMLK.NEAQLIMQELTGNNLDLDPTDAEMLHY   2198
KSaV      N.MQVAQKQYEARRVENERKKESKQIMEQNNRIRKMQRQNQNIASAIVHMVHACFANRFMLK.NEAQLIMKELATYQLNLDPSDAEMIHY   2341
BTaV      N.MQVAQKQHEARRVENERKKESKQIMEQNNRIRKMQRQNQNIASAIVHMVHACFANRFMLK.NEAQLIMKELAVYQLELDPSDAEMRHY   2337
HanaV     N.FQVTQKQYEARRIEEERRKESKQIMEQNNRIRKMQRQNQNIASAIVHMVHACFANRFMLQ.NESQKIMKALLGTTLELDPTDAEMQHY   2147
NDiV      N.MQVAQKQYEARRIEELRKKESKQIMEQNNRIRKMQRQNQNIASAIVHMVHACFANRFMLQ.NEAQKIMKALLGSDLELDPTDAEMQYY   2148
CavV      N.MQVAQKQYEARRIEDVRKKESKQIMEQNNRIRKMQRQNQNIASAIVHMVHACFANRFMLQ.NEAQKIMKALLGTNLELDPSDAEMQYY   2144
Consensus    q       a      r  es       n  rk qrqnqnia ai hmvhac anrfml  n

Yichang   TNEDDSNVLITNEVQRSDFVTLQSTLWTGN.VYAVVTSICGKTPFVCSTDHKHSHYNCNKSLFPVWYKHVSSCQECMFMYNNGTHPICGR   2489
MenoV     YQGRVKNTVMNNQAITTNFTTLSTVLWTGN.GYQKLPSMCGSEEFVCTLPHKHGYFNCTMQIKDAWYAHVDACERCRTYYKNNRHPRCGA   2202
NseV      AERRAG.KCYSNQTIVTNFTTLTTILWTGN.GYQKLPSMCGDAEFVCTQQHKHGYFNCTMEIKDAWYKHVEECPKCKNYYRQNKHPRCGG   2232
CASV      AAYLSG.QVLTNKNITTNFTTLTTILWTGNSGYQTLPSMCGTETYTCTATHKHGYFNCTMEIKDMWYKHTEECARCKSYYRNNKHPRCGA   2254
KPhV      EAYRSG.QVLTNKSIKTNFTTLSTILWTGN.GYQTVPSMCGDHEFSCTASHKHGYFNCTMEIKDDWYTHVENCAKCRSYYKANKHPRCEA   2291
DKNV      EAYRSG.QVLTNKSIKTNFTTLSTILWTGN.GYQTVPSMCGDHEFSCTASHKHGYFNCTMEIKDNWYTHVENCAKCRSYYKANKHPRCEA   2286
KSaV      ESYQHD.TVLTNKSIQTNFTTLSTILWTGN.GYQTVPSMCGDHEFTCTASHKHGYFNCTMEIKDDWYNHVENCDKCRSYYKQRKHPRCPN   2429
BTaV      ESYQQD.TVLTNKAIITNFTTLSTILWTGN.GYQTVPSMCGDHEFTCTASHKHGYFNCTMEIKDEWYTHVENCDKCRNYYKARKHPRCPL   2425
HanaV     AAYRNG.QVLTNHVIITNFTTLTTILWTGN.GYQIVPSMCGQEEFTCTATHKHGYFNCTMEIKDAWYKHAEECAKCKVYYRANRHPRCGA   2235
NDiV      TAYRNG.QVLTNQAIVTNFTTLTTILWTGN.GYQTVPSMCGAQEFTCTATHKHGYFNCTMEIKDAWYKHVEECTKCKSYYRTNKHPRCGA   2236
CavV      TAYRTG.QVLTNQAIVTNFTTLTTILWTGN.GYQTVPSMCGLHEFTCTATHKHGYFNCTMEIKDAWYKHAEECTKCKSYYRANKHPRCGA   2232
Consensus            n      f tl   lwtgn  y    s cg     c   hkh   nc       wy h   c  c   y    hp c

Yichang   RYDDEIVKRTKRPTYLNFLERYRSCPDCIPCTTCVVNRDTHCDSPSYHFEGDETAPKMATNQSYLTPVTINPAKLEYNTSP...GKIDAC   2576
MenoV     I.YPADLK..RYATLSNFVSRYHSCPQCLPCTQCLSIRESTCSINCYHPS...DNSVIIN.QAYLTPLNIKPDSLEYTFIDKTIGDVNAV   2285
NseV      L.YPSDVK..RYPTLSNFISRYRSCPSCMPCTQCLSRREHNCENDSYHFS...DATQVAN.QAYLTPINIKPDSLEYNFVDVNNGDVNAV   2315
CASV      LSYDSTVK..RFPTLSNFIARYRSCPSCMPCTQCISQREPGCESASYHVS...DTAHYQNSQAYLTPINIKPDNLEYNFVDSINGDVNAI   2339
KPhV      I.YSIDVK..RFPTLSNFVSRYRSCPACLPCTSCISTREPTCTIASYHVD...DTAHYKN.EAYLTPLNIKPDNLTYSFVNSVSGDVNAI   2374
DKNV      I.YSTDVK..RFPTLSNFVSRYRSCPACLPCSSCISTREPTCTIASYHVD...DTAHYKN.EAYLTPLNIKPDNLTYSFVNSVSGDVNAI   2369
KSaV      T.YDPDTK..RFPTLSNFIARYRSCPCCLPCTSCLSKREPTCTINSYHVE...DTAYYKN.EAYLTPLNIKPDNLTYDFTSPDSGDINAN   2512
BTaV      T.YDADKK..RFPTLSNFIARYRSCPRCLPCTSCLSKREPTCTLNSYHVD...DSAHYKN.EAYLTPLNIKPDTLVYDFVNSVNEDINAI   2508
HanaV     V.YDSTVK..RYPTLSNFIARYRSCPSCMPCTQCLSHREPGCESASYHIA...DTAHYQN.QAYLTPINIKPDNLEYTFTDIASGDVNAI   2318
NDiV      I.YDATVK..RYPTLSNFIARYRSCPACMPCTQCLSRREPGCESASYHIA...DTAHYQN.QAYLTPINIKPDNLEYNFVDINNGDVNAI   2319
CavV      I.YDTTVK..RIPTLSNFIARYRSCPSCMPCTQCLSHREPGCESASYHIA...DTAHYQN.QAYLTPINIKPDNLEYNFVDVNNGDVNAI   2315
Consensus        k     t  nf  ry scp c pc  c   r   c    yh               yltp  i p  l y           a

Yichang   FNNKPIVTRFTACPVSVPAKWRPLTRIRSDP....DGFYYVTENCPNDISILNATINAIIQRLGDIPPLPADDSSRLDPGLIENQALAEP   2662
MenoV     YNGRIWLMRRSIPISPPPARYRHITNLKLKQ.ADPEGYYYISDVCPTDIAILNAMINQIQLKLQDCATMSNESLT........LIDTQTQ   2366
NseV      YNGRVWLMRRTQAIIPPPSRYRNITNLKLKN.LDPEGYYYISDVCPTDLAILNAMINQIQVKLQERTFVHNENF............TQEP   2392
CASV      YNGRIWLMRRTTAINPPPARYRNITNLKLKQSTDPEGYYYISDVCPTDLAILNAMINQIQLKLQDRTVLSNENIQ...........EEFN   2418
KPhV      YNGRVWLMRRTTPATPPPARYRHITNLKLQQ.ADPEGYYYISDVCPTDLAILNAMINQIQLKLQENIALNNQNN............YEEV   2451
DKNV      YNGRVWLMRRTTPATPPPARYRHITNLKLQQ.ADPEGYYYISDVCPTDLAILNAMINQIQLKLQEHITLNNQND............YEEV   2446
KSaV      YNGRIWLMRRSTPATPPQARYRHITNLKLQQ.ADPEGYYYLSEHCPTDLAILNAMINQIQVKLQERSILNNENA............SEEL   2589
BTaV      YNGRIWLMRRSTPVTPPPARYRHITNLKLQQ.ADPEGYYYLSEHCPTNLAILNAMINQIQVKLQERTTLNNENA............YEEP   2585
HanaV     YNGRIWLMRRTTAITPPPARYRNITNLKLKQ.TDPEGYYYISEVCPTDLAILNAMINQIQLKLLDRVNLNNETH............VEEY   2395
NDiV      YNGRIWLMRRTTAITPPPARYRNITNLKLKQ.TDPEGYYYISEVCPTDLAILNAMINQIQLKLLDRTVLNNENH............VENA   2396
CavV      YNGRIWLMRRTTAITPPPARYRNITNLKLKQ.TDPEGYYYISEVCPTDLAILNAMINQIQLKLLDRTVLNNENH............VEND   2392
Consensus  n      r            r  t           g yy    cp    ilna in i   l
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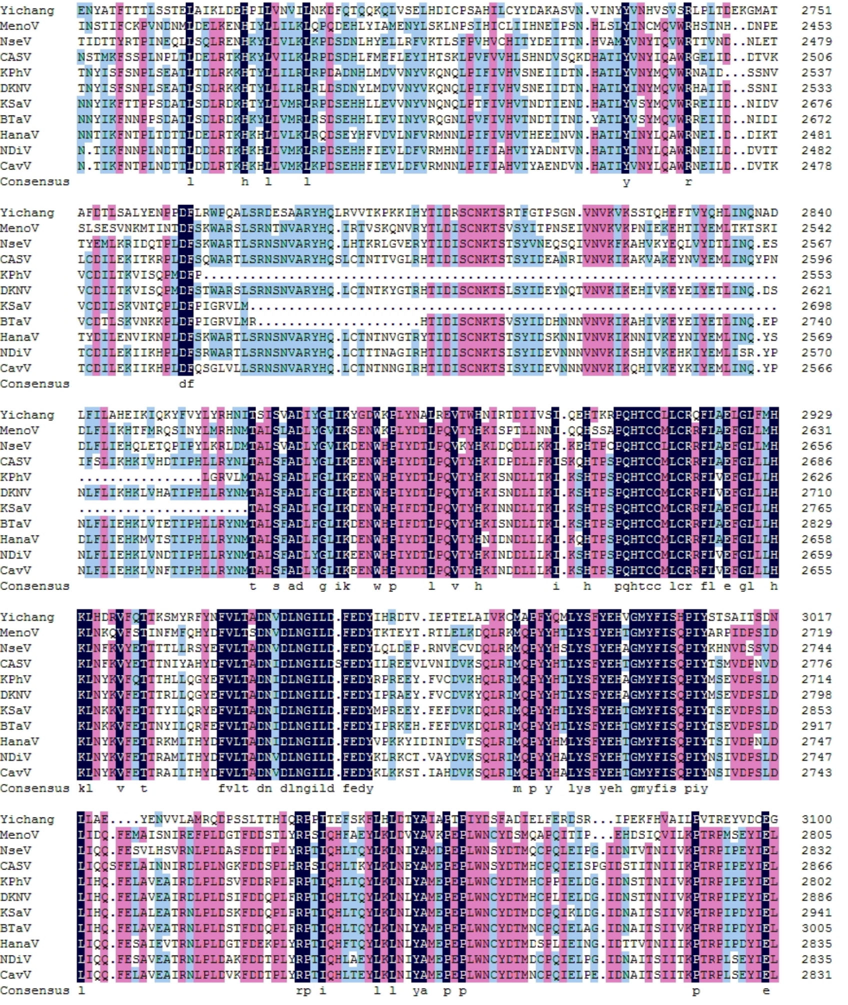

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Yichang   ENYATFTTTLSSTELAIKLDEHPILVNVILNKDFQTQQKQLVSELHDICPSAHILCYYDAKASVN.VINYYVNHVSVSRLPLTDEKGMAT   2751
MenoV     INSTIFCKPVNDNMLDELKENHIYLLILKLQPQDEHLYIAMENYLSKLNPSIHICLIIHNEIPSN.HLSLYINCMQVWRHSINH..DNPE   2453
NseV      TIDTTYRTPINEQLLSQLRENHKYLLVLKLKPDSDNLHYELLRFVKTLSFPVHVCHITYDEITTN.HVAMYVNYTQVWRTTVND..NLET   2479
CASV      NSTMKFSSPLNPLTLDELRTKHKYLVILKLRPDSDHLFMEFLEYIHTSKLPVFVVHLSHNDVSQKDHATIYVNYIQAWRGELID..DTVK   2506
KPhV      TNYISFSNPLSEATLTDLRKKHTYLLILRLRPDADNHLMDVVNYVKQNQLPIFIVHVSNEIIDTN.HATLYVNYMQVWRNAID...SSNV   2537
DKNV      TNYISFSNPLSEATLSDLRKKHTYLLILRLRLDSDNYLMDVVNYVKQNQLPIFIVHVSNEIIDTN.HATLYINYMQVWRHAIID..SSNI   2533
KSaV      NNYIKFTTPPSDATLSDLRDKHTYLLVMRLRPDSEHHLLEVVNYVNQNQLPTFIVHVTNDTIEND.HATLYVSYMQVWRREIID..NIDV   2676
BTaV      NNYIKFNNPPSDATLSDLRDKHKYLLVMRLRSDSEHHLIEVINYVRQGNLPVFIVHVTNDTITND.YATLYVSYMQVWRREIID..NIDI   2672
HanaV     NNTIKFNTPLTDTTLDELRTKHKHLLVLKLRQDSEYHFVDVLNFVRMNNLPIFIVHVTHEEINVN.HATLYINYLQAWRNEI.D..DIKT   2481
NDiV      N.TIKFNNPLNDTTLDDLRTKHKHLLVMKLRPDSEHHFIEVLDFVRMHNLPIFIAHVTYADNTVN.HATIYINYLQAWRNEILD..DVTT   2482
CavV      N.TIKFNTPLNDTTLDDLRTKHKHLLVMKLKPDSEHHFIEVLDFVRMNNLPIFIAHVTYAENDVN.HATIYVNYLQAWRNEILD..DVTK   2478
Consensus               l      h  l    l                                        y       r

Yichang   AFDTLSALYENPPDFLRWPQALSRDESAARYHQLRVVTKPKKIHYTIDRSCNKTSRTFGTPSGN.VNVKVKSSTQHEFTVYQHLINQNAD   2840
MenoV     SLSESVNKMTINTDFSKWARSLSRNTNVARYHQ.IRTVSKQNVRYTLDISCNKTSVSYITPNSEIVNVKVKPNIEKEHTIYEMLTKTSKI   2542
NseV      TYEMLKRIDQTPLDFSKWARTLSRNSNVARYHQ.LHTKRLGVERYTIDISCNKTSTSYVNEQSQIVNVKFKAHVKYEQLVYDTLINQ.ES   2567
CASV      LCDILEKITKRPLDFSQWARTLSRNSNVARYHQSLCTNTTVGLRHTIDISCNKTSTSYIDEANRIVNVKIKAKVAKEYNVYEMLINQYPN   2596
KPhV      VCDILTKVISQPMDFP..........................................................................   2553
DKNV      VCDILTKVISQPMDFSTWARSLSRNSNVARYHQ.LCTNTKYGTRHTIDISCNKTSLSYIDEYNQTVNVKIKEHIVKEYEIYETLINQ.DS   2621
KSaV      VCDILSKVNTQPLDFPIGRVLM....................................................................   2698
BTaV      VCDTLSKVNKKPLDFPIGRVLMR.....................HTIDISCNKTSVSYIDDHNNNVNVKIKAHIVKEYEIYETLINQ.EP   2740
HanaV     TYDILENVIKNPLDFSKWARTLSRNSNVARYHQ.LCTNTNVGTRYTIDISCNKTSTSYIDSKNNIVNVKIKNNIVKEYNIYEMLINQ.YS   2569
NDiV      TCDILEKIIKHPLDFSRWARTLSRNSNVARYHQ.LCTTTNAGIRHTIDISCNKTSISYIDEVNNNVNVKIKSHIVKEHKIYEMLISR.YP   2570
CavV      TCDILEKIIKHPLDFQSGLVLLSRNSNVARYHQ.LCTNTNNGIRHTIDISCNKTSISYIDEVNNNVNVKIKQHIVKEYKIYEMLINQ.YP   2566
Consensus              df

Yichang   LFILAHEIKIQKYFVYLYRHNITSISVADIYGIIKYGDWKPLYNALREVTWHNIRTDIIVSI.QEHTKRPQHTCCLLCRQFLAELGLFMH   2929
MenoV     DLFLIKHTFMRQSINYLMRHNMTALSLADLYGVIKSENWKPLYDTLPQVTYHKISPTLLNNI.QQHSSAPQHTCCMLCRRFLAEFGLLMH   2631
NseV      DLFLIEHQLETQPIPYLKRLDMTALSVADLYGVIKDENWHPIYDTLPQVKYHKLDQDLLKKI.KEHTPCPQHTCCLLCRRFLAEFGLLMH   2656
CASV      IFSLIKHKIVHDTIPHLLRYNLTALSFADLYGLIKEENWHPIYDTLPQVTYHKIDPDLLFKISKQHTPSPQHTCCMLCRRFLAEFGLLLH   2686
KPhV      ................LGRVLMTALSFADLFGLIKEENWHPIYDTLPQVTYHKISNDLLTKI.KSHTPSPQHTCCMLCRRFLVEFGLLLH   2626
DKNV      NLFLIKHKLVHATIPHLLRYNMTALSFADLFGLIKEENWHPIYDTLPQVTYHKISNDLLIKI.KSHTPSPQHTCCMLCRRFLVEFGLLLH   2710
KSaV      ......................TALSFADLFGLIKDENWHPIFDTLPQVTYHKINNDLLTKI.KSHTPSPQHTCCMLCRRFLAEFGLLLH   2765
BTaV      NLFLIEHKLVTETIPHLLRYNMTALSFADLFGLIKDENWHPIFDTLPQVTYHKISNDLLTKI.KSHTPSPQHTCCMLCRRFLAEFGLLLH   2829
HanaV     DLFLIEHKMVTSTIPHLLRYNMTALSFADLFGLIKDENWHPIYDTLPQVTYHNIDNDLLLKI.KQHTPSPQHTCCMLCRRFLAEFGLLLH   2658
NDiV      NLFLIEHKLVNDTIPHLLRYNMTALSFADLYGLIKEENWHPIYDTLPQVTYHKINDDLLLKI.KSHTPSPQHTCCMLCRRFLVEFGLLLH   2659
CavV      NLFLIEHKLVNFTIPHLLRYNMTALSFADLYGLIKEENWHPIYDTLPQVTYHKINDDLLLKI.KSHTPSPQHTCCMLCRRFLVEFGLLLH   2655
Consensus                       t  s ad  g ik   w p    l  v  h         i   h   pqhtcc lcr fl e gl  h

Yichang   KLHDRVFQTTKSMYRFYNFVLTADNVDLNGILD.FEDYIHRDTV.IEPTELAIVKQMAPFYQMLYSFYEHVGMYFISHPIYSTSAITSDN   3017
MenoV     KLNKQVFSTINFMFQHYDFVLTSDNVDLNGILD.FEDYTKTEYT.RTLELKDQLRKMQPYYHTLYSIYEHTGMYFISQPIYARPIDPSID   2719
NseV      KLNFKVYETTTTLLRSYEFVLTADNVDLNGILD.FEDYLQLDEP.RNVECVDQLRKMQPYYHSLYSIYEHAGMYFISQPIYKHNVDSSVD   2744
CASV      KLNFKVYETTTNIYAHYDFVLTADNIDLNGILDSFEDYILREEVLVNIDVKSQLRIMQPYYHTLYSFYEHTGMYFISQPIYTSMVDPNVD   2776
KPhV      KLNYKVFQTTTHLLQGYEFVLTADNIDLNGILD.FEDYRPREEY.FVCDVKHQLRIMQPYYHTLYSFYEHAGMYFISQPIYMSEVDPSLD   2714
DKNV      KLNYKVFETTTRLLQGYEFVLTADNIDLNGILD.FEDYIPRAEY.FVCDVKYQLRIMQPYYHTLYSFYEHAGMYFISQPIYMSEVDPSLD   2798
KSaV      KLNKKVFETTTYILQRYEFVLTADNIDLNGILD.FEDYMPREEY.FEFDVKDQLRIMQPYYHTLYSFYEHTGMYFISQPIYTSEVDPSLD   2853
BTaV      KLNKKVFETTNYILQRFEFVLTADNIDLNGILD.FEDYIPRKEH.FEFDVKDQLRIMQPYYHTLYSFYEHTGMYFISQPIYTSEVDPSLD   2917
HanaV     KLNYKVFETTRKMLTHYDFVLTADNIDLNGILD.FEDYVPKKYIDINIDVTSQLRIMQPYYHMLYSFYEHTGMYFISQPIYTSIVDPNLD   2747
NDiV      KLNYKVFETTRAMLTHYDFVLTADNVDLNGILD.FEDYKLRKCT.VAYDVKSQLRIMQPYYHALYSFYEHTGMYFISQPIYNSIVDPSLD   2747
CavV      KLNYKVFETTRAILTHYDFVLTADNVDLNGILD.FEDYKLKKST.IAHDVKSQLRIMQPYYHALYSFYEHTGMYFISQPIYNSIVDPSLD   2743
Consensus kl   v  t         fvlt dn dlngild fedy                  m p y  lys yeh gmyfis piy

Yichang   LLAE....YENVVLAMRQDPSSLTTHIQRPPITEFSKFLHLDTYAIAPTPIYDSFADIELFERDSR...IPEKFHVAILPVTREYVDCEG   3100
MenoV     LIDQ.FEMAISNIREFPLDGTFDDSTLYRPSIQHFAEYLKLDVYAVKPEPLWNCYDSMQAPQITIP...EHDSIQVILKPTRPMSEYIEL   2805
NseV      LIQQ.FESVLHSVRNLPLDASFDDTPLYRPTIQHLTQYLKLNIYAMDPEPLWNSYDTMQCPQLEIPG.IDNTVTNIIVKPTRPIPEYIEL   2832
CASV      LIQQSFELAINNIRDLPLNGKFDDSPLHRPSIQHLTKYLKLNEYAMEPEPLWNSYDTMHCPQIEISPGIDSTITNIIIKPTRPIPEYIEL   2866
KPhV      LIHQ.FELAVEAIRDLPLDSVFDDRPLFRPTIQHLTQYLKLNLYAMEPEPLWNCYDTMHCPPIELDG.IDNSTTNIIVKPTRPIPEYIEL   2802
DKNV      LIHQ.FELAVEAIRDLPLDSIFDDQPLFRPTIQHLTQYLKLNLYAMEPEPLWNCYDTMHCPLIELDG.IDNSTTNIIVKPTRPIPEYIEL   2886
KSaV      LIHQ.FELALEATRNLPLDSKFDDQPLFRPTIQHLTQYLKLNLYAMEPEPLWNCYDTMDCPQIKLDG.IDNAITSIIVKPTRPIPDYIEL   2941
BTaV      LIHQ.FELAVEATRNLPLDSTFDDQPLFRPTIQHLTQYLKLNLYAMEPEPLWNCYDTMNCPQIELAG.IDNAITSIIVKPTRPIPDYIEL   3005
HanaV     LIQQ.FESAIEVTRNLPLDGTFDEKPLYRPTIQHFTQYLKLNLYAMEPEPLWNCYDTMDSPLIEING.IDTTVTNIIIKPTRPIPDYIEL   2835
NDiV      LIQQ.FESAVEATRNLPLDAKFDDTPLYRPTIQHLAEYLKLNIYAMEPEPLWNCYDTMDCPQIELPG.IDNAITSIITKPTRPLSEYIEL   2835
CavV      LIQQ.FELAVEAIRNLPLDVKFDDTPLYRPTIQHLTEYLKLNIYAMEPEPLWNCYDTMNCPQIELPE.IDNAITSIITKPTRPLSEYIEL   2831
Consensus l                           rp i      l l  ya  p p                             p        e
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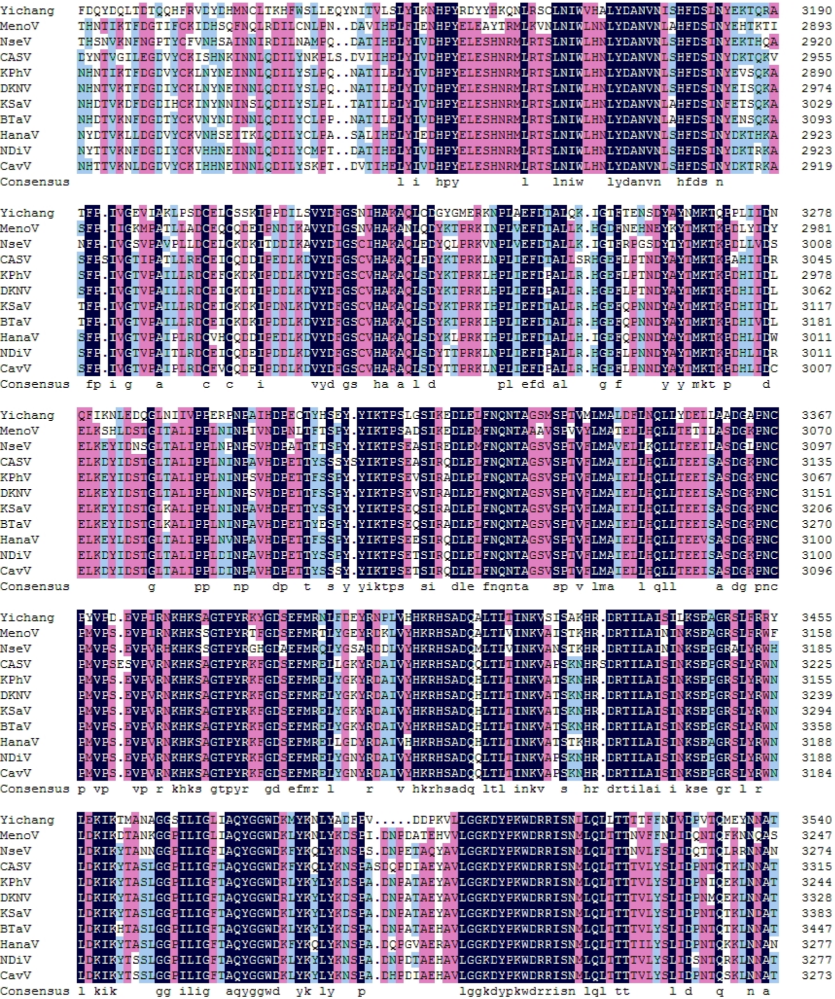

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Yichang   FDQYDQLTDTQQHFRVDYDHMNCLTKHFWSLLEQYNITVLSLYIKNHPYRDYYHKQNLRSCLNIWVHALYDANVNISHFDSINYEKTQRA   3190
MenoV     THNTIKTFDGTIFCKIDHSQFNQLRDILCNLPN..DAVIHELFIENHPYELEAYTRMLKVNLNIWLNNLYDANVNLAHFDSINYEHTKTI   2893
NseV      THSNVKNFNGPTYCFVNHSAINNIRDILNAMPQ..DATIHELYIVDHPYELESHNRMLRTSLNIWLHNLYDANVNLSHFDSINYEKTHQA   2920
CASV      DYNTVGILEGDVYCKISHNKINNLQDILYNKPLS.DVIIHELYIVDHPYELESHNRMLRTSLNIWLHNLYDANVNLSHFDSINYDKTQKV   2955
KPhV      NHNTIKTFDGDVYCKLNYNEINNLQDILYSLPQ..NATILELYIVDHPYELESHNRMLRTSLNIWLHNLYDANVNLSHFDSINYEVSQKA   2890
DKNV      NHNTVKTFDGDIYCKLNYNEINNLQDILYSLPQ..NATILELYIVDHPYELESHNRMLRTSLNIWLHNLYDANVNLSHFDSINYEISQKA   2974
KSaV      NHDTVKDFDGDIHCKINYNNINSLQDILYSLPL..TATILELYIVDHPYELESHNRMLRTSLNIWLHNLYDANVNLAHFDSINFETSQKA   3029
BTaV      NHDTVKNFDGDTYCKVNYNDINNLQDILYCLPP..NATILELYIVDHPYELESHNRMLRTSLNIWLHNLYDANVNLAHFDSINYENSQKA   3093
HanaV     NYDTVKLLDGDVYCKVNHSEITKLQDILYCLPA..SALIHELYIEDHPYELESHNHMLRTSLNIWLHNLYDANVNLSHFDSINYDKTHKA   2923
NDiV      NYTTVKNFDGDIYCKVHHNEINNLQDILYCMPT..DATIHELYIVDHPYELESHNRMLRTSLNIWLHNLYDANVNLSHFDSINYDKTRKA   2923
CavV      NHTTVKNLDGDVYCKIHHNEINNLQDILYSKPT..DVTIHELYIVDHPYELESHNRMLRTSLNIWLHNLYDANVNLSHFDSINYDKTRKA   2919
Consensus                                          l i  hpy        l   lniw   lydanvn  hfds  n

Yichang   TFP.IVGEVIAKLPSDCELCSSKIPPDILSVYDFGSNIHAKAQLCDGYGMERKNPLAEFDTALQK.IGTFTENSDYAYNMKTQPPLIIDN   3278
MenoV     SFP.IIGKMPATLLADCEQCQDEIPNDIKAVYDLGSNVHAKANLQDYKTPRKINPLVEFDTALLK.HGDFNEHNEYKYTMKTKPDLYIDY   2981
NseV      NFP.IVGSVPAVPLLDCELCKDKITDDIKAVYDIGSCIHAKAQLEDYQLPRKVNPLVEFDTALLK.IGTFRPGSDYTYTMKTKPDLLVDS   3008
CASV      SFPSIVGTIPATLLRECEICQDDIPEDLKDVYDFGSCVHAKAQLFDYKTPRKLNPLIEFDTALLSRHGEFLPTNDYAYTMKTKPAHIIDR   3045
KPhV      SFP.IVGTVPAILLRDCEFCKDKIPDDLKDVYDFGSCVHAKAQLSDYKTPRKLHPLIEFDPALLR.HGEFLPTNDYAYTMKTKPDHIIDL   2978
DKNV      SFP.IVGTVPAILLRDCEICKDTIPDDLKDVYDFGSCVHAKAQLSDYKTPRKLHPLIEFDPALLR.HGEFLPTNDYAYTMKTKPDHIIDL   3062
KSaV      TFP.IVGTVPAILLRDCEICKDKIPDNLKDVYDFGSCVHAKAQLSDYKTPRKIHPLIEFDTALLR.HGEFQPNNDYAYTMKTKPDHIIDL   3117
BTaV      TFP.IVGTVPAILLRDCEICKDKIPDDLKDVYDFGSCVHAKAQLSDYKTPRKIHPLIEFDTALLR.HGEFQPNNDYAYTMKTKPDHIVDL   3181
HanaV     SFP.IVGTVPAIPLRDCVHCQDDIPEDLKDVYDFGSCVHAKAQLSDYKLPRKIHPLIEFDTALLH.IGEFQPNNDYAYTMKTKPDHLIDW   3011
NDiV      SFP.IVGTVPAITLRDCEICQDEIPDDLKDVYDFGSCVHAKAQLSDYTTPRKLNPLIEFDPALLR.HGEFLPNNDYAYTMKTKPDHLIDR   3011
CavV      SFP.IVGTVPAIPLRDCEVCQDEIPDDLKDVYDFGSCVHARAQLSDYTTPRKLNPLIEFDPALLR.HGEFLPNNDYAYTMKTKPDHLIDC   3007
Consensus  fp i g   a     c  c   i      vyd gs  ha a l d        pl efd al    g f     y y mkt p    d

Yichang   QFIKNLEDQGLNIIVPPERPNEAIHDPECTYHSEY.YIKTPSLGSIKEDLELFNQNTAGSMSPTVMLMALDFINQLLYDELLAADGAPNC   3367
MenoV     ELKSHLDSTGITALIPPLNINPIVNDPNLTFTSPY.YIKTPSADSIKEDLEMFNQNTAAAVSPVVYLMATELLHQLLTETILASDGKPNC   3070
NseV      ELKEYIDNSGLTALIPPLNPNPSVHDPATTFTSPY.YIKTPSEASIREDLEMFNQNTAGSVSPTVFLMAVELLKQLLTEEILASDGLPNC   3097
CASV      ELKDYIDSTGLTALIPPLNINPAVHDPETTYSSSYSYIKTPSEASIRQDLELFNQNTAGSVSPTVFLMAIELLHQLLTEEISASDGKPNC   3135
KPhV      ELKEYIDSTGLTALIPPLNINPSVHDPETTFSSPY.YIKTPSEVSIRADLELFNQNTAGSVSPTVFLMAIELLHQLLTEEISASDGKPNC   3067
DKNV      ELKEYIDSTGLTALIPPLNINPSVHDPETTFSSPY.YIKTPSEVSIRADLELFNQNTAGSVSPTVFLMAIELLHQLLTEEISASDGKPNC   3151
KSaV      ELKEYIDSTGLKALIPPLNINPAVHDPETTYSSPY.YIKTPSEQSIRADLELFNQNTAGSVSPTVFLMAIELLHQLLTEEISASDGKPNC   3206
BTaV      ELKEYIDSTGLKALIPPLNINPAVHDPETTYESPY.YIKTPSEQSIRADLELFNQNTAGSVSPTVFLMAIELLHQLLTEEISASDGKPNC   3270
HanaV     ELKEYLDSTGLTALIPPLNVNPAVHDPETTFSSPY.YIKTPSEESIRQDLELFNQNTAGSVSPTVFLMAIELLHQLLTEEVSASDGKPNC   3100
NDiV      ELKDYIDSTGLTALIPPLDINPAVHDPETTYSSPY.YIKTPSETSIRQDLELFNQNTAGSVSPTVFLMAIELLHQLLTEEISASDGKPNC   3100
CavV      ELKDYIDSTGLTALIPPLDINPAVHDPETTYSSSY.YIKTPSETSIRQDLELFNQNTAGSVSPTVFLMAIELLHQLLTEEISASDGKPNC   3096
Consensus          g     pp   np   dp  t  s y yiktps  si  dle fnqnta   sp v lma   l qll     a dg pnc

Yichang   PYVPD.EVPIRNKHKSAGTPYRKYGDSEFMRNLFDEYRNPLVHHKRHSADQALTLTINKVSISAKHR.DRTILAISILKSEAGRSLFRRY   3455
MenoV     PMVPS.EVPIRNKHKSSGTPYRTFGDSEFMRTLYGEYRDKLVYHKRHSADQALTLVINKVAISTKHR.DRTILAININKSEAGRSLFRWF   3158
NseV      PMVPS.EVPVRHKHKSSGTPYRGHGDAEFMRQLYGSARDDLVYHKRHSADQMLTLVINKVANSTKHR.DRTILAININKSEPGRALYRWH   3185
CASV      PMVPSESVPVRNKHKSAGTPYRKFGDSEFMRELLGKYRDAIVYHKRHSADQQLTLTINKVAPSKNHRSDRTILAISINKSEPGRSLYRWN   3225
KPhV      PMVPS.EVPVRNKHKSAGTPYRKFGDSEFMRELYGKYRDAIVYHKRHSADQHLTLTINKVATSKNHR.DRTILAISINKSEPGRSLYRWN   3155
DKNV      PMVPS.EVPVRNKHKSAGTPYRKFGDSEFMRELYGKYRDAIVYHKRHSADQHLTLTINKVATSKNHR.DRTILAISINKSEPGRSLYRWN   3239
KSaV      PMVPS.EVPVRNKHKSAGTPYRKFGDSEFMRELYGKYRDAIVYHKRHSADQHLTLTINKVATSKNHR.DRTILAISINKSEPGRSLYRWN   3294
BTaV      PMVPS.EVPVRNKHKSAGTPYRKFGDSEFMRELYGKYRDAIVYHKRHSADQHLTLTINKVATSKNHR.DRTILAISINKSEPGRSLYRWN   3358
HanaV     PMVPS.EVPVRNKHKSAGTPYRKFGDSEFMRELLGDYRDAIVHHKRHSADQHLTLTINKVATSTKHR.DRTILAISINKSEAGRSLYRWN   3188
NDiV      PMVPS.EVPVRNKHKSAGTPYRKFGDSEFMRELYGNYRDAIVYHKRHSADQQLTLTINKVAPSKNHR.DRTILAISINKSEPGRSLYRWN   3188
CavV      PMVPS.EVPVRNKHKSAGTPYRKFGDSEFMRELYGNYRDAIVYHKRHSADQQLTLTINKVAPSKNHR.DRTILAISINKSEPGRSLYRWN   3184
Consensus p vp   vp r khks gtpyr  gd efmr l    r   v hkrhsadq ltl inkv  s  hr drtilai i kse gr l r

Yichang   LEKIKTMANAGGSILIGLIAQYGGWDKMYKNLYADFPV.....DDPKVLLGGKDYPKWDRRISNLLQLLTTTTFFNLVDPVTQMEYNNAT   3540
MenoV     LDKIKDTANKGGPILIGLIAQYGGWDKLYKNLYKDSPI.DNPDATEHVVLGGKDYPKWDRRISNMLQLTTTNVFFNLIDQNTQFKNNQAS   3247
NseV      LDKIKYTANNGGPILIGFIAQYGGWDKFYKQLYKNSPS.DNPETAQYAVLGGKDYPKWDRRISNMLQLTTTNVLFSLIDQTTQLRRNNAN   3274
CASV      LDKIKYTASLGGPILIGFTAQYGGWDKFYKQLYKNSPASDQPDIAEYAVLGGKDYPKWDRRISNMLQLTTTTVLYSLIDPNTQTKLNNAT   3315
KPhV      LDKIKYTASLGGPILIGFTAQYGGWDRLYKYLYKDSPA.DNPATAEYAVLGGKDYPKWDRRISNMLQLTTTTVLYSLIDPNIQEKLNNAT   3244
DKNV      LDKIKYTASLGGPILIGFTAQYGGWDRLYKYLYKDSPA.DNPATAEYAVLGGKDYPKWDRRISNMLQLTTTTVLYSLIDPNMQEKLNNAT   3328
KSaV      LDKIKYTASLGGPILIGFTAQYGGWDKLYKYLYKDSPA.DNPATAEYAVLGGKDYPKWDRRISNMLQLTTTTVLYSLIDPNTQTKLNDAT   3383
BTaV      LDKIKHTASLGGPILIGFTAQYGGWDKLYKYLYKDSPA.DNPATAEHAVLGGKDYPKWDRRISNMLQLTTTTVLYSLIDPNTQTKLNNAT   3447
HanaV     LDKIKYTASLGGPILIGFTAQYGGWDKFYKQLYKNSPA.DQPGVAERAVLGGKDYPKWDRRISNMLQLTTTTILYSLIDPNTQKKLNNAN   3277
NDiV      LDKIKYTSSLGGPILIGFTAQYGGWDKLYKYLYKNSPA.DNPDTAEHAVLGGKDYPKWDRRISNMLQLTTTTVLYSLIDSNTQRKLNNAT   3277
CavV      LDKIKYTSSLGGPILIGFTAQYGGWDKLYKYLYKNSPA.DHPDIAEHAVLGGKDYPKWDRRISNMLQLTTTTVLYSLIDPNTQSKLNNAT   3273
Consensus l kik     gg ilig  aqyggwd  yk ly   p            lggkdypkwdrrisn lql tt     l d   q   n a
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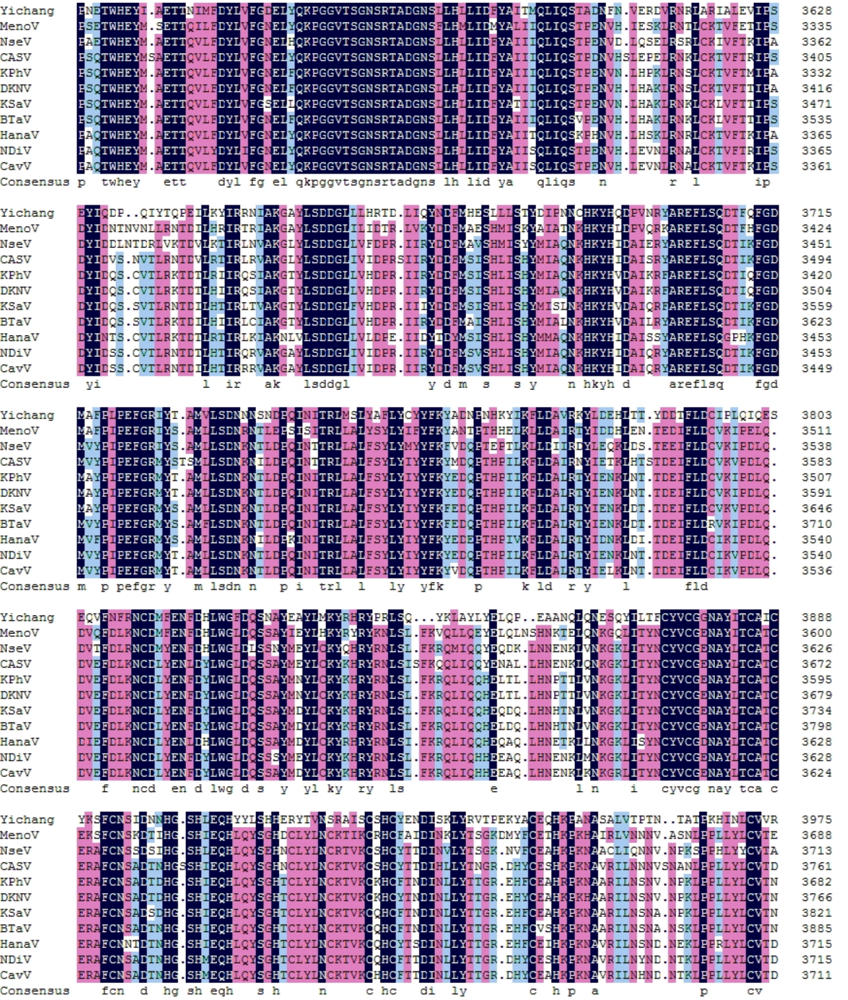

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Yichang   PNETWHEYI.AETTNIMFDYLVFGDELYQKPGGVTSGNSRTADGNSLLHLLIDFYAITMQLIQSTADNFN.VERDVRNRLARIALEVIPS   3628
MenoV     PSETWHEYM.SETTQILFDYLVFGNELYQKPGGVTSGNSRTADGNSFLHMLIDMYALIIQLIQSTPENVH.IESKLRNTLCKTVFETIPS   3335
NseV      PAETWHEYM.AETTQVLFDYLVFGNELHQKPGGVTSGNSRTADGNSLLHLLIDFYAIIIQLIQSTPENVD.LQSELRSRLCKIVFTKIPA   3362
CASV      PSQTWHEYMSAETTQVLFDYLVFGNELYQKPGGVTSGNSRTADGNSLLHLLIDFYAIIIQLIQSTPDNVHSLEPELRNKLCKTVFTRIPS   3405
KPhV      PSQTWHEYM.AETTQVLFDYLVFGNELFQKPGGVTSGNSRTADGNSLLHLLIDFYAIIIQLIQSTPENVN.LHPKLRNSLCKTVFTMIPA   3332
DKNV      PSQTWHEYM.AETTQVLFDYLVFGNELFQKPGGVTSGNSRTADGNSLLHLLIDFYAIIIQLIQSTPENVH.LHAKLRNSLCKTVFTTIPA   3416
KSaV      PSQTWHEYM.AETTQVLFDYLVFGSELLQKPGGVTSGNSRTADGNSLLHLLIDFYATIIQLIQSTPENVN.LHAKLRNKLCKLVFTTIPS   3471
BTaV      PSQTWHEYM.AETTQVLFDYLVFGNELFQKPGGVTSGNSRTADGNSLLHLLIDFYAIIIQLIQSVPENVH.LHAKLRNKLCKLVFTTIPS   3535
HanaV     PAQTWHEYM.AETTQVLFDYLVFGNELYQKPGGVTSGNSRTADGNSLLHLLIDFYAIITQLIQSKPHNVH.LHSKLRNRLCKTVFTKIPA   3365
NDiV      PAQTWHEYM.AETTQVLYDYLIFGNELYQKPGGVTSGNSRTADGNSLLHLLIDFYAIISQLIQSTPENVH.LEVNLRNALCKTVFTRIPS   3365
CavV      PAQTWHEYM.AETTQVLFDYLVFGNELYQKPGGVTSGNSRTADGNSLLHLLIDFYAIISQLIQSTPENVH.LEVNLRNALCKTVFTKIPS   3361
Consensus p  twhey   ett    dyl fg el qkpggvtsgnsrtadgns lh lid ya   qliqs   n        r  l       ip

Yichang   EYIQDP..QIYTQPEILKYIRRNIAKGAYLSDDGLLLHRTD.LIQYNDFMHESLLLSTYDIPNNCHKYHQDPVNRYAREFLSQDTFQFGD   3715
MenoV     DYIDNTNVNLLRNTDILHRIRTRIAKGAYLSDDGLILIDTR.LVKYDDFMAESHMISKYAIATNKHKYHLDPVQRKAREFLSQDTFHFGD   3424
NseV      DYIDDLNTDRIVKTDVLKTIRLNVAKGLYLSDDGLLVFDPR.IIRYDDFMAVSHMISYYMIAQNKHKYHIDAIERYAREFLSQDTIKFGD   3451
CASV      DYIDVS.NVTLRNTDVLRTIRLRVAKGLYLSDDGLIVIDPRSIIRYDDFMSISHLISHYMIAQNKHKYHIDAISRYAREFLSQDTIKFGD   3494
KPhV      DYIDQS.CVTLRKTDTLRIIRQSIAKGTYLSDDGLLVHDPR.IIRYDDFMSISHLISHYMIAQNKHKYHVDAIKRFAREFLSQDTIQFGD   3420
DKNV      DYIDQS.CVTLRKTDTLHIIRQSIAKGTYLSDDGLLVHDPR.IIRYDDFMSISHLISHYMIAQNKHKYHVDAIKRFAREFLSQDTIQFGD   3504
KSaV      DYIDQS.SVTLRNTDILHTIRLTVAKGTYLSDDGLFVHDPR.IIIYDDFMSISHLISHYMISLNKHKYHVDAIQRFAREFLSQDTIKFGD   3559
BTaV      DYIDQS.SVTLRKTDILHIIRLCIAKGTYLSDDGLLVHDPR.IIRYDDFMAISHLISHYMIALNKHKYHVDAILRYAREFLSQDTIKFGD   3623
HanaV     DYINTS.CVTLRKTDTLRTIRLKIAKNLVLSDDGLLVLDPE.IIDYTDYMSISHLISHYMMAQNKHKYHIDAISSYAREFLSQGPHKFGD   3453
NDiV      DYIDSS.CVTLRNTDTLHTIRQRVAKGAYLSDDGLIVIDPR.IIRYDDFMSVSHLISHYMIAQNKHKYHIDAIQRYAREFLSQDTIKFGD   3453
CavV      DYIDSS.CVTLRNTDILHTIRRRVAKGAYLSDDGLIVIDPR.IIRYDDFMSVSHLISHYMIAQNKHKYHIDAIQRYAREFLSQDTIKFGD   3449
Consensus  yi             l  ir   ak   lsddgl          y d m   s   s y   n hkyh d     areflsq    fgd

Yichang   MAFPLPEFGRIYT.AMVLSDNNNSNDPQINITRLMSLYAFLYCYYFKYADNPNHKYIKFLDAVRKYLDEHLTT.YDDTFLDCIPLQIQES   3803
MenoV     MAFPIPEFGRIYS.AMLLSDNRNTLEPSISITRLLAIYSYLYIFYFKYANTPTHHELKLLDAIRTYIDDHLEN.TEDIFLDCVKIPELQ.   3511
NseV      MVYPIPEFGRIYS.AMLLSDNKNTLDPQINTTRLLAIFSYLYMYYFKFVDQPTEPTLKLLDIIRDYLEQKLDS.TEEIFLDCVKIPDLQ.   3538
CASV      MVYPIPEFGRMYSTSMLLSDNKNILDPQINTTRLLAIFSYLYIYYFKYMDQPTHPILKFLDAIRNYIETKLHTSTDEIFLDCVKVPDLQ.   3583
KPhV      MAYPIPEFGRMYT.AMLLSDNKNTLDPQINITRLLAIFSYLYIYYFKYEDQPTHPIIKFLDALRTYIENKLNT.TDEIFLDCVKIPDLQ.   3507
DKNV      MAYPIPEFGRMYT.AMLLSDNKNTLDPQINITRLLAIFSYLYIYYFKYEDQPTHPIIKFLDALRTYIENKLNT.TDEIFLDCVKIPDLQ.   3591
KSaV      MAYPIPEFGRMYS.AMLLSDNKNTLDPQINITRLLAIFSYLYIYYFKFEDQPTHPILKFLDALRTYIENKLDT.TDEIFLDCVKVPDLQ.   3646
BTaV      MVYPIPEFGRMYS.AMFLSDNKNTLDPQINITRLLAIFSYLYIYYFKFEDQPTHPILKFLDALRTYIENKLDT.TDEIFLDRVKIPDLQ.   3710
HanaV     MVFPIPEFGRMYS.AMLLSDNKNILDPKINITRLLAIFSYLYIYYFKYEDEPTHPIVKFLDALRTYIDNKLDI.TDEIFLDCIKIPDLQ.   3540
NDiV      MVYPIPEFGRMYT.AMLLSDNKNTLDPQINITRLLAIFSYLYIYYFKYEDQPTHPILKFLDALRTYIENKLNT.TDEIFLDCIKVPDLQ.   3540
CavV      MVYPIPEFGRMYT.AMLLSDNKNTLDPQINITRLLAIFSYLYIYYFKYVDQPTHPILKFLDALRTYIELKLNT.TDEIFLDCIKVPDLQ.   3536
Consensus m  p pefgr y   m lsdn n   p i  trl  l   ly  yfk    p     k ld  r y    l       fld

Yichang   EQVFNFRNCDMFENFDHLWGFDQSNAYEAYLMKYRHRYPRLSQ...YKLAYLYELQP..EAANQLQNESQYILTFCYVCGGNAYITCAIC   3888
MenoV     DVQFDLKNCDMFENFDHLWGLDQSSAYIEYLHKYRYRYKNLSL.FKVQLLQEYELQLNSHNKTELQNKGQLITYNCYVCGENAYITCATC   3600
NseV      DVTFDLRNCDMYENFDHLWGLDISSNYMEYLCKYQHRYRNLSL.FKRQMIQQYEQDK.LNNENKLVNKGKLITYNCYVCGENAYLTCATC   3626
CASV      DVEFDLKNCDLYENLDYLWGLDQSSAYMEYLCKYKHRYRNLSISFKQQLIQQYENAL.LHNENKLQNKGKLITYNCYVCGENAYLTCATC   3672
KPhV      DVEFDLKNCDLYENFDYLWGLDQSSAYMNYLCKYKHRYRNLSL.FKRQLIQQHELTL.LHNPTTLVNKGKLITYNCYVCGENAYLTCATC   3595
DKNV      DVEFDLKNCDLYENFDYLWGLDQSSAYMNYLCKYKHRYRNLSL.FKRQLIQQHELTL.LHNPTTLVNKGKLITYNCYVCGENAYLTCATC   3679
KSaV      DVEFDLKNCDLYENFDYLWGLDQSSAYMDYLCKYKHRYRNLSL.FKRQLIQQHEQDQ.LHNHTNLVNKGKLITYNCYVCGENAYLTCATC   3734
BTaV      DVEFDLKNCDLYENFDYLWGLDQSSAYMDYLCKYKHRYRNLSL.FKRQLIQQHELDQ.LHNHTNLVNKGKLITYNCYVCGENAYLTCATC   3798
HanaV     DIEFDLKNCDLYENLDHLWGLDQSSAYMDYLCKYRHRYRNLSI.FKRQLIQQHEQAQ.LHNETKLLNKGKLISYNCYVCGDNAYLTCATC   3628
NDiV      DVEFDLKNCDLYENFDYLWGLDQSSSYMEYLCKYKHRYRNLSL.FKRQLIQHHEEAQ.LHNENKLMNKGKLITYNCYVCGENAYLTCATC   3628
CavV      DVEFDLKNCDLYENFDYLWGLDQSSAYMDYLCKYKHRYRNLSL.FKRQLIQHHEEAQ.LHNENKLKNKGRLITYNCYVCGENAYLTCATC   3624
Consensus    f   ncd  en d lwg d s  y  yl ky  ry  ls           e          l n    i   cyvcg nay tca c

Yichang   YKSFCNSIDNNHG.SHLEQHYYLSHHERYTVNSRAISCSHCYENDISKLYRVTPEKYACEQHKPANASALVTPTN..TATPKHINLCVVR   3975
MenoV     EKSFCNSKDTIHG.SHIEQHLQYSGHDCLYLNCKTIKCRHCFAIDINKLYTSGKDMYFCETHKPKHAIRLVNNNV.ASNLPPLLYLCVTE   3688
NseV      ERAFCNSSDSIHG.SHLEQHLQYSEHNCLYLNCRTVKCSHCYTTDINVLYTSGK.NVFCEAHKPKNAACLIQNNV.NPKSPPHLYYCVTA   3713
CASV      ERAFCNSADTNHGSSHIEQHLQYSGHNCLYLNCKTVKCSHCYTTDIHLLYTNGR.DHYCESHKPKNAVRILNNNVSNANLPPLLYLCVTD   3761
KPhV      ERAFCNSADTDHG.SHIEQHLQYSGHTCLYLNCKTVKCKHCFTNDINLLYTTGR.EHFCEAHRPKNAARILNSNV.NPKLPPLLYLCVTN   3682
DKNV      ERAFCNSADTDHG.SHIEQHLQYSGHTCLYLNCKTVKCKHCYTNDINLLYTTGR.EHYCEAHKPKHAARILNSNV.NPKLPPLLYLCVTN   3766
KSaV      ERAFCNSADSDHG.SHIEQHLQYSGHTCLYLNCKTVKCQHCFTNDINLLYTTGR.EHFCEAHKPKNAARILNSNA.NPKLPPLLYLCVTN   3821
BTaV      ERAFCNSADTNHG.SHIEQHLQYSGHTCLYLNCKTVKCQHCFTNDINLLYTTGR.EHFCVSHKPKNAARILNSNA.NSKLPPLLYLCVTN   3885
HanaV     ERAFCNNTDTNHG.SHIEQHLQYSGHTCLYLNCKTVKCQHCYTSDINLLYTTGR.EHFCEIHKPKNAVRILNSND.NEKLPPRLYLCVTD   3715
NDiV      ERAFCNSADTNHG.SHMEQHLQYSGHTCLYLNCKTVKCQHCFTTDINLLYTTGR.DHYCESHKPKNAVRILNYND.NTKLPPLLYLCVTD   3715
CavV      ERAFCNSADTNHG.SHMEQHLQYSGHTCLYLNCKTVKCHHCFTTDINLLYTTGR.DHYCEAHKPKNAVRILNHND.NTKLPPLLYLCVTD   3711
Consensus    fcn  d  hg sh eqh   s h     n     c hc   di  ly        c  h p a              p     cv
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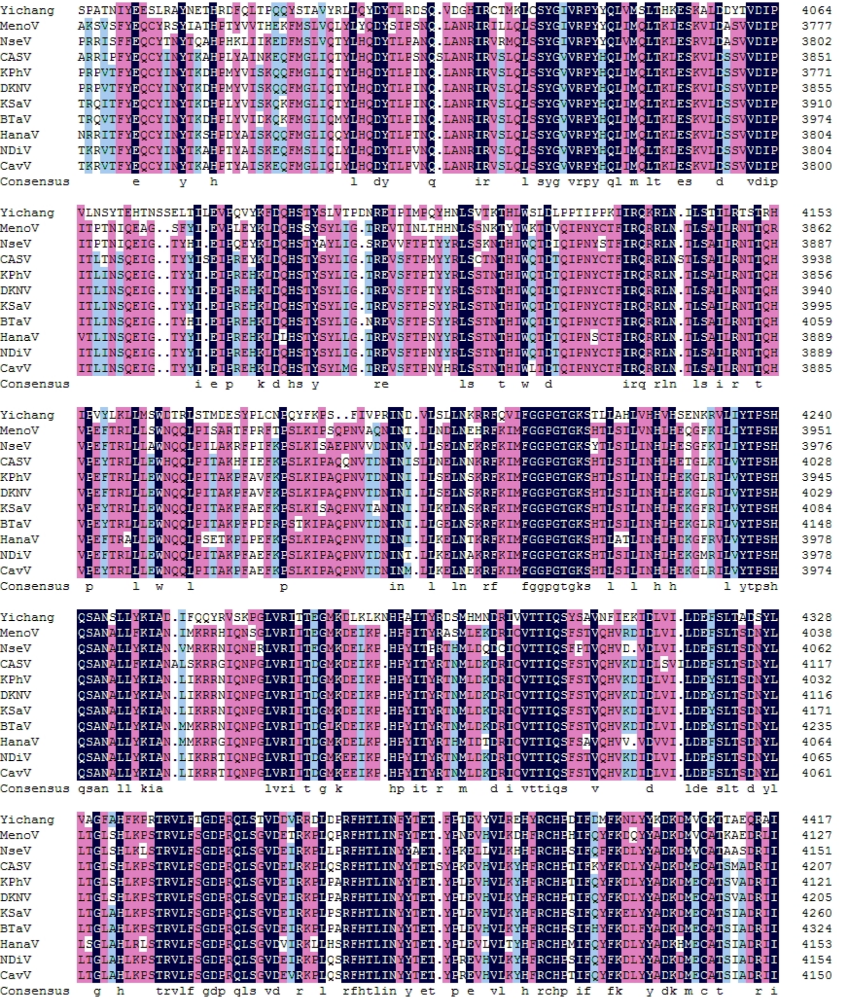

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Yichang     SPATNIYEESLRAYNETHRDFQLTPQQYSTAVYRLLQYDYTLRDSQ.VDGHIRCTMKLCSYGIVRPYYQLVMSLTHKESKALDDYTVDIP    4064
MenoV       AKSVSFYEQCYRSYIATHPTYVVTHEKFMSLVQLYLYQDYSIPSNQ.LANRIRILLQLSSYGIVRPYYQLIMQLTKIESKVIDASVVDIP    3777
NseV        PRRISFFEQCYTNYTQAHPHKLIIKEDFMSLVQTYLHQDYTLPANQ.LANRIRVRMQLSSYGIVRPYYQLVMQLTKLESRVLDASVVDIP    3802
CASV        ARRIPFYEQCYINYTKAHPLYAINKEQFMGLIQTYLHQDYTLPSNQSLANRIRVSLQLSSYGVVRPYHQLIMQLTKLESKVLDSSVVDIP    3851
KPhV        PRPVTFYEQCYINYTKDHPMYVISKQQFMGLIQTYLHQDYTLPINQ.LANRIRVSLQLSSYGVVRPYHQLIMQLTKLESKVLDSSVVDIP    3771
DKNV        PRPVTFYEQCYINYTKDHPMYVISKQQFMGLIQTYLHQDYTLPINQ.LANRIRVSLQLSSYGVVRPYHQLIMQLTKLESKVLDSSVVDIP    3855
KSaV        TRQITFYEQCYINYTKDHPLYVISKQKFMGLIQTYLHQDYTLPINQ.LANRIRVSLQLSSYGVVRPYHQLIMQLTKLESKVLDSSVVDIP    3910
BTaV        TRQVTFYEQCYINYTKDHPLYVIDKQKFMGLIQMYLHQDYTLPINQ.LANRIRVSLQLSSYGVVRPYHQLIMQLTKLESKVLDSSVVDIP    3974
HanaV       NRRITFYEQCYINYTKSHPDYAISKQQFMGLIQQYLHQDYTLPTNQ.LANRIRVSLQLSSYGVVRPYHQLIMQLTKLESKVLDSSVVDIP    3804
NDiV        TKRVTFYEQCYINYTKAHPTYAISKEQFMSLIQLYLHQDYTLPVNQ.LANRIRVSLQLSSYGVVRPYHQLIMQLTKLESKVLDSSVVDIP    3804
CavV        TKRVTFYEQCYINYTKAHPTYAISKEQFMGLIQLYLHQDYTLPVNQ.LANRIRVSLQLSSYGVVRPYHQLIMQLTKLESKVLDSSVVDIP    3800
Consensus          e     y   h                 l  dy     q     ir    l syg vrpy ql m lt  es   d   vdip

Yichang     VLNSYTEHTNSSELTILEVPQVYKFDQHSTYSLVTPDNREIPIMPQYHNLSVTKTHLWSLDLPPTIPPKIIRQKRLN.ILSTILRTSTRH    4153
MenoV       ITPTNIQEAG..SFYI.EVPLEYKLDQHSSYSYLIG.TREVTINLTHHNLSSNKTYIWKTDVQIPNYCTFIRQRRLN.TLSAILRNTTQR    3862
NseV        ITPTNIQEIG..TYHI.EIPQEYKLDQHSTYAYLIG.SREVVFTPTYYRLSSKNTHIWQTDIQIPNYSTFIRQRRLN.TLSAILRNTTQH    3887
CASV        ITLTNSQEIG..TYYISEIPREYKLDQHSTYSYLIG.TREVSFTPMYYRLSCTNTHIWQTDTQIPNYCTFIRQRRLNSTLSAILRNTTQH    3938
KPhV        ITLINSQEIG..TYYI.EIPREHKLDQHSTYSYLIG.TREVSFTPTYYRLSSTNTHIWQTDTQIPNYCTFIRQRRLN.TLSAILRNTTQH    3856
DKNV        ITLINSQEIG..TYYI.EIPREHKLDQHSTYSYLIG.TREVSFTPTYYRLSSTNTHIWQTDTQIPNYCTFIRQRRLN.TLSAILRNTTQH    3940
KSaV        ITLINSQEIG..TYYI.EIPREHKLDQHSTYSYLIG.TREVSFTPSYYRLSSTNTHIWQTDTQIPNYCTFIRQRRLN.TLSAILRNTTQH    3995
BTaV        ITLINSQEIG..TYHI.EIPREHKLDQHSTYSYLIG.NREVSFTPSYYRLSSTNTHIWQTDTQIPNYCTFIRQRRLN.TLSAILRNTTQH    4059
HanaV       VTLINSQEIG..TYYI.EIPREHKLDLHSTYSYLLG.TREVSFTPNYYRLSSTNTHIWQTDTQIPNSCTFIRQRRLN.TLSAILRNTTQH    3889
NDiV        ITLINSQEIG..TYYI.EIPREHKLDQHSTYSYLIG.TREVSFTPNYYRLSSTNTHIWQTDTQIPNYCTFIRQRRLN.TLSAILRNTTQH    3889
CavV        ITLINSQEIG..TYYI.EIPREHKLDQHSTYSYLMG.TREVSFTPNYHRLSSTNTHIWLTDTQIPNYCTFIRQRRLN.TLSAILRNTTQH    3885
Consensus                  i e p   k d hs y       re         ls   t  w  d         irq rln  ls i r  t

Yichang     IPVYLKLLMSWDTRLSTMDESYPLCNPQYFKPS..FIVPRIND.VLSLLNKRRFQVIFGGPGTGKSTLLAHLVHHVHSENKRVLIYTPSH    4240
MenoV       VPEFTRLLLSWNQQLPISARTFPRFTPSLKIPSQPNVAQNINT.LLNDLNEHRFKIMFGGPGTGKSHTLSILVNHLHEQGFKILIYTPSH    3951
NseV        VPEFTRLLLAWNQQLPILAKRFPIFKPSLKISAEPNVVDNINV.LLSELNEKRFKIMFGGPGTGKSYTLSILINHLHESGFKILIYTPSH    3976
CASV        VPEYTRLLLEWHQQLPITAKHFIEFKPSLKIPAQQNVTDNINISLLNELNNKRFKIMFGGPGTGKSHTLSILINHLHETGLKIIVYTPSH    4028
KPhV        VPEFTRLLLEWNQQLPITAKPFAVFKPSLKIPAQPNVTDNINI.LLSELNSKRFKIMFGGPGTGKSHTLSILINHLHEKGLRIIVYTPSH    3945
DKNV        VPEFTRLLLEWNQQLPITAKPFAVFKPSLKIPAQPNVTDNINI.LLSELNSKRFKIMFGGPGTGKSHTLSILINHLHEKGLRIIVYTPSH    4029
KSaV        VPEYTRLLLEWNQQLPITAKPFAEFKPSLKISAQPNVTANINI.LLKELNSKRFKIMFGGPGTGKSHTLSILINHLHEKGFRIIVYTPSH    4084
BTaV        VPEYTRLLLEWNQQLPITAKPFPDFRPSTKIPAQPNVTDNINI.LLGELNSKRFKIMFGGPGTGKSHTLSILINHLHEKGLRIIVYTPSH    4148
HanaV       VPEFTRALLEWNQQLPSETKPLPEFKPSLKIPAQPNVTDNINI.LLKELNTKRFKIMFGGPGTGKSHTLATLINHLHDKGFRVIVYTPSH    3978
NDiV        VPEFTRLLLEWNQQLPITAKPFAEFKPSLKIPAQPNVTDNINT.LLKELNAKRFKIMFGGPGTGKSHTLSILINHLHEKGMRIIVYTPSH    3978
CavV        VPEYTRLLLEWNQQLPITAKPFAEFKPSLKIPAQPNVTDNINM.LLKELNEKRFKIMFGGPGTGKSHTLSILINHLHEKGLRIIVYTPSH    3974
Consensus    p     l  w   l           p             in   l  ln  rf   fggpgtgks  l  l  h h      l ytpsh

Yichang     QSANSLLYKIAD.IFQQYRVSKPGLVRITTEGMKDLKLKNHPAITYRDSMHMNDRIVVTTIQSYSAVNFIEKIDLVI.LDEFSLTADSYL    4328
MenoV       QSANALLFKIAN.IMKRRHIQNSGLVRIITEGMKDEIKP.HPFITYRASMLEKDRICVTTIQSFSTVQHVRDIDLVI.LDEFSLTSDNYL    4038
NseV        QSANALLYKIAN.VMRKRNIQNPRLVRIITEGMKDELKP.HPYITPRTHMLDQDCICVTTIQSFPTVQHVD.VDLVI.LDEFSLTSDNYL    4062
CASV        QSANALLFKIANALSKRRGIQNPGLVRIITDGMKDEIKP.HPYITYRTNMLDKDRICVTTIQSFSTVQHVKDIDLSVILDEFSLTSDNYL    4117
KPhV        QSANALLYKIAN.LIKRRNIQNPGLVRIITDGMKDEIKP.HPYITYRTNMLDKDRICVTTIQSFSTVQHVKDIDLVI.LDEYSLTSDNYL    4032
DKNV        QSANALLYKIAN.LIKRRNIQNPGLVRIITDGMKDEIKP.HPYITYRTNMLDKDRICVTTIQSFSTVQHVKDIDLVI.LDEYSLTSDNYL    4116
KSaV        QSANALLYKIAN.LIKRRNIQNPGLVRIITDGMKDEIKP.HPYITYRTNMLDKDRICVTTIQSFSTVQHVKDIDLVI.LDEYSLTSDNYL    4171
BTaV        QSANALLYKIAN.MMKRRNIQNPGLVRIITDGLKDEIKP.HPYITYRTNMLDKDRICVTTIQSFSTVQHVKDIDLVI.LDEYSLTSDNYL    4235
HanaV       QSANALLYKIAN.MMKRRGIQNPGLVRIITDGMKDELKP.HPYITYRTHMIDTDRICVTTIQSFSAVQHVV.VDVVI.LDEFSLTSDNYL    4064
NDiV        QSANALLYKIAN.LIKRRTIQNPGLVRIITDGMKEEIKP.HPYITYRTNMLDKDRICVTTIQSFSTVQHVKDIDLVI.LDEFSLTSDNYL    4065
CavV        QSANALLYKIAN.LIKRRTIQNPGLVRIITDGMKEEIKP.HPYITYRTNMLDKDRICVTTIQSFSTVQHVKDIDLVI.LDEFSLTSDNYL    4061
Consensus   qsan ll kia             lvri t g k      hp it r  m   d i vttiqs   v      d    lde slt d yl

Yichang     VAGFAHFKPRTRVLFTGDPRQLSTVDDVRRDLDPRFHTLINFYTET.FPTEVYVLREHYRCHPDIFDMFKNLYYKDKDMVCKTTAEQRAI    4417
MenoV       LTGLSHLKPSTRVLFSGDPRQLSGVDETRKPLQPRFHTLINFYTET.YPNEVHVLKDHFRCHPHIFQYFKDQYYADKDMVCATKAEDRLI    4127
NseV        LTGLSHLKISTRVLFSGDPKQLSGVDEIRKPLLPRFHTLINYYAET.YPKELLVLKHHFRCHPSIFQFFKDLYYADKDMVCATAASDRII    4151
CASV        LTGLSHLKPSTRVLFSGDPRQLSGVDELRKPLQSRFHTLINYYTETSYPKEVHVLKYHFRCHPTIFKYFKDLYYADKDMECATSMADRII    4207
KPhV        LTGLSHLKPSTRVLFSGDPRQLSGVDEIRKPLPARFHTLINYYTET.YPLEVHVLKYHFRCHPTIFQYFKDLYYADKDMECATSVADRII    4121
DKNV        LTGLSHLKPSTRVLFSGDPRQLSGVDEIRKPLPARFHTLINYYTET.YPLEVHVLKYHFRCHPTIFQYFKDLYYADKDMECATSVADRII    4205
KSaV        LTGLAHLKPSTRVLFSGDPRQLSGVDEIRKPLPSRFHTLINYYTET.YPLEVHVLKYHFRCHPSIFQYFKELYYADKDMECATSIADRII    4260
BTaV        LTGLAHLKPSTRVLFSGDPRQLSGVDEIRKPLPARFHTLINYYTET.YPLEVHVLKYHFRCHPSIFHYFKDLFYADKDMECATSIADRII    4324
HanaV       LSGLAHLRLSTRVLFSGDPRQLSGVDVIRKLLHSRFHTLINYYTET.YPLEVLVLTYHFRCHPMIFQYFKDLYYADKHMECATSIADRII    4153
NDiV        LTGLAHLKPSTRVLFSGDPRQLSGVDEIRKPLQSRFHTLINYYTET.YPREVHVLKYHFRCHPSIFQYFKDLYYADKDMECATSIADRII    4154
CavV        LTGLAHLKPSTRVLFSGDPRQLSGVDEVRKPLQSRFHTLINYYTET.YPREVHVLKYHFRCHPTIFQYFKDLYYADKDMECATSIADRII    4150
Consensus     g  h    trvlf gdp qls vd  r  l  rfhtlin y et  p e  vl  h rchp if  fk   y dk m c t    r i
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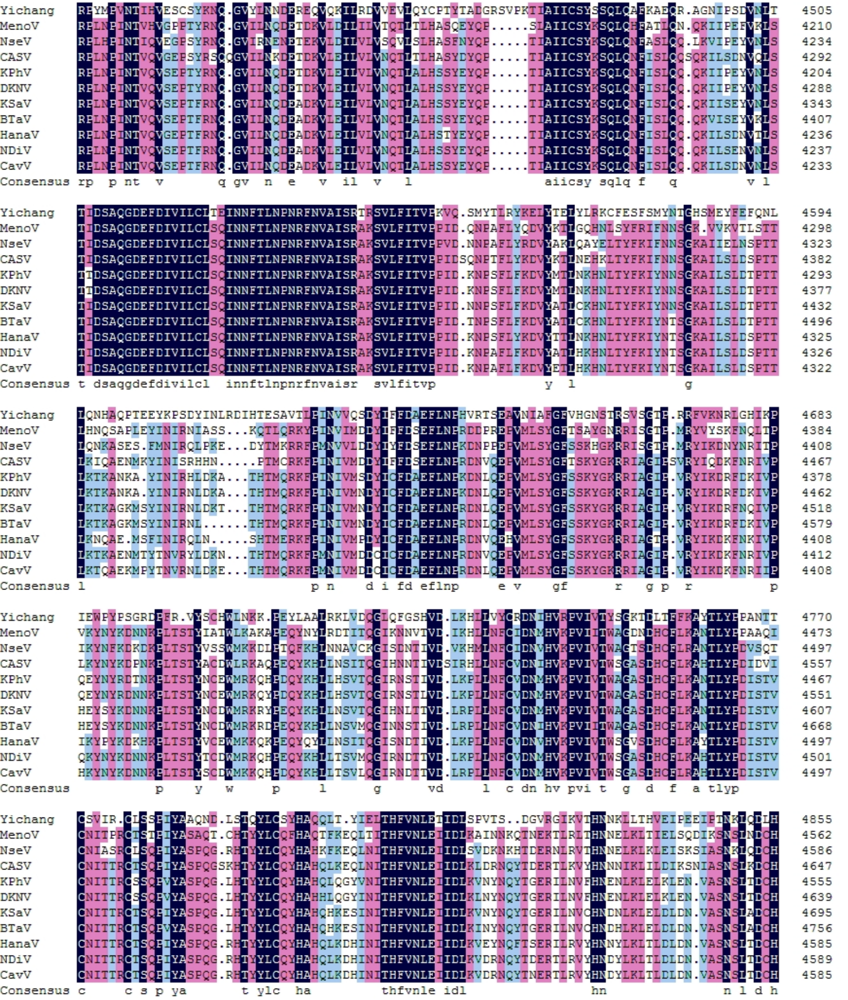

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Yichang   RPYMPVNTIHVESCSYKNQ.GVYLNNDEREQVQKILRDVVEVLQYCPTYTADGRSVPKTIAIICSYSSQLQAFKAEQR.AGNIPSDVNLT   4505
MenoV     RPLNPINTVHVGPPTYRNQ.GVILNQDETDKVLDILILVTQTLTLHASQEYQP.....SLAIICSYKSQLQHFATLQN.QKIIPEFVKLS   4210
NseV      RPLHPINTIQVEGPSYRNQ.GVIRNENETEKVLDILVLVSQVLSLHASFNYQP.....TIAIICSYKSQLQNFASLQQ.LKVIPEYVNLS   4234
CASV      RPLNPINTVQVGEPSYRSQQGVILNKDETDKVLEILVLVNQTLTLHASYDYQP.....TIAIICSYKSQLQNFISLQQSQKILSDNVQLS   4292
KPhV      RPLNPINTVQVSEPTYRNQ.GVILNQDETDKVLEILVLVNQTLALHSSYEYQP.....TIAIICSYKSQLQNFISLQQ.QKIIPEYVNLS   4204
DKNV      RPLNPINTVQVSEPTYRNQ.GVILNQDETDKVLEILVLVNQTLALHSSYEYQP.....TIAIICSYKSQLQNFISLQQ.QKIIPEYVNLS   4288
KSaV      RPLNPINTVQVSEPTFRNQ.GVILNQDEADKVLEILVLVNQTLALHSSYEYQP.....TIAIICSYKSQLQNFISLQQ.QKIISEYVNLS   4343
BTaV      RPLNPINTVQVSEPTFRNQ.GVILNQDEADKVLEILVLVNQTLALHSSYEYQP.....TIAIICSYKSQLQNFISLQQ.QKVISEYVKLS   4407
HanaV     RPLNPINTVQVGEPTFRNQ.GVILNQDEADKVLEILVLVNQTLALHSTYEYQP.....TIAIICSYKSQLQNFISLQQ.QKILSDNVTLS   4236
NDiV      RPLNPINTVQVSEPTFRNQ.GVILNQDEADKVLEILVLVNQTLALHSSYEYQP.....TIAIICSYKSQLQNFISLQQ.QKILSENVNLS   4237
CavV      RPLNPINTVQVSEPTFRNQ.GVILNQDEADKVLEILVLVNQTLALHSSYEYQP.....TIAIICSYKSQLQNFISLQQ.QKILSDNVNLS   4233
Consensus rp  p nt  v       q gv  n  e   v  il  v   l                 aiicsy sqlq f   q         v l

Yichang   TIDSAQGDEFDIVILCLTEINNFTLNPNRFNVAISRTRSVLFITVPKVQ.SMYTLRYKELYTELYLRKCFESFSMYNTGHSMEYFEFQNL   4594
MenoV     TIDSAQGDEFDIVILCLSQINNFTLNPNRFNVAISRAKSVLFITVPPID.QNPAFLYQDVYKTLGQHNLSYFRIFNNSGK.VVKVTLSTT   4298
NseV      TIDSAQGDEFDIVILCLSQINNFTLNPNRFNVAISRAKSVLFITVPPVD.NNPAFLYRDVYAKLQAYELTYFKIFNNSGKAIIELNSPTT   4323
CASV      TIDSAQGDEFDIVILCLSQINNFTLNPNRFNVAISRAKSVLFITVPPIDSQNPTFLYKDVYKTLNEHKLTYFKIFNNSGKAILSLDSPTT   4382
KPhV      TTDSAQGDEFDIVILCLSQINNFTLNPNRFNVAISRAKSVLFITVPPID.KNPSFLFKDVYMTLNKHNLTYFKIYNNSGKAILSLDTPTT   4293
DKNV      TTDSAQGDEFDIVILCLSQINNFTLNPNRFNVAISRAKSVLFITVPPID.KNPSFLFKDVYMTLNKHNLTYFKIYNNSGKAILSLDTPTT   4377
KSaV      TIDSAQGDEFDIVILCLSQINNFTLNPNRFNVAISRAKSVLFITVPPID.NNPSFLFKDVYATLCKHNLTYFKIYNNSGKAILSLDTPTT   4432
BTaV      TIDSAQGDEFDIVILCLSQINNFTLNPNRFNVAISRAKSVLFITVPPID.TNPSFLFKDVYATLCKHNLTYFKIYNTSGKAILSLDTPTT   4496
HanaV     TIDSAQGDEFDIVILCLSQINNFTLNPNRFNVAISRAKSVLFITVPPID.KNPSFLYKDVYTTLNKHNLTYFKIYNTSGKAILSLDSPTT   4325
NDiV      TIDSAQGDEFDIVILCLSQINNFTLNPNRFNVAISRAKSVLFITVPPID.KNPAFLFKDVYATLHKHNLTYFKIYNTSGKAILSLDSPTT   4326
CavV      TIDSAQGDEFDIVILCLSQINNFTLNPNRFNVAISRAKSVLFITVPPID.KNPAFLFKDVYETLHKHNLTYFKIYNTSGKAILSLDSPTT   4322
Consensus t dsaqgdefdivilcl  innftlnpnrfnvaisr  svlfitvp              y  l              g

Yichang   LQNHAQPTEEYKPSDYINLRDIHTESAVTLPINVVQSDYIFFDAEFLNPHVRTSEAVNIAFGFVHGNSTRSVSGTP.RRFVKNRLGHIKP   4683
MenoV     LHNQSAPLEYINIRNIASS...KQTLQRKYPINVIMDDYIFFDSEFLNPRDDPREPVMLSYGFTSAYGNRRISGTP.MRYVYSKFNQLTP   4384
NseV      LQNKASES.FMNIRQLPKE...DYTMKRRFPMNVVLDDYIYFDSEFLNPKDNPPEPVMLSYGFSSKHGKRRISGTP.MRYIKDNYNRITP   4408
CASV      LKIQAENMKYINISRHHN.....PTMCRKFPINIVMDDYIFFDSEFLNPRDNVQEPVMLSYGFTSKYGKRRIAGIPSVRYIQDKFNRIVP   4467
KPhV      LKTKANKA.YINIRHLDKA...THTMQRKFPINIVMSDYICFDAEFLNPKDNLQEPVMLSYGFSSKYGKRRIAGIP.VRYIKDRFDKIVP   4378
DKNV      LKTKANKA.YINIRNLDKA...THTMQRKFPINIVMNDYICFDAEFLNPKDNLQEPVMLSYGFSSKYGKRRIAGIP.VRYIKDRFDKIVP   4462
KSaV      LKTKAGKMSYINIRNLDKT...THTMQRKFPINIVMNDYICFDAEFLNPRDNLQEPVMLSYGFSSKYGKRRIAGIP.VRYIKDRFNQIVP   4518
BTaV      LKTKAGKMSYINIRNL......THTMQRKFPINIVMNDYICFDAEFLNPRDNLQEPVMLSYGFSSKYGKRRIAGIP.VRYIKDRFDKIVP   4579
HanaV     LKNQAE.MSFINIRQLN.....SHTMERKFPINIVMPDYICFDAEFLNPRDNVQEHVMLSYGFSSKYGKRRIAGTP.VRYIKDKFNKIVP   4408
NDiV      LKTKAENMTYTNVRYLDKN...THTMQRKFPMNIVMDDCICFDAEFLNPRDNVQEPVMLSYGFSSKYGKRRIAGIP.VRYIKDKFNRIVP   4412
CavV      LKTQAEKMPYTNVRNLDKE...THTMQRKFPMNIVMDDCICFDAEFLNPRDNLQEPVMLSYGFSSKYGKRRIAGIP.VRYIKDKFNRIIP   4408
Consensus l                             p n    d i fd eflnp     e v    gf      r   g p  r          p

Yichang   IEWPYPSGRDPFR.VYSCHWLNKK.PEYLAALRKLVDQGLQFGSHVD.LKHLLVYCRDNIHVRPVIVTYSGKTDLTFFKAYTLYPPANTT   4770
MenoV     VKYNYKDNNKPLTSTYIATWLKAKAPEQYNYLRDTITQGIKNNVTVD.IKHLLNFCIDNMHVKPVIITWAGDNDHCFLKANTLYPPAAQI   4473
NseV      IKYNFKDKDKPLTSTYVSSWMKKDLPTQFKHLNNAVCKGISDNTIVD.VKHMLNFCIDNVHVKPVIVTWAGTSDHCFLRANTLYPDVSQT   4497
CASV      LKYNYKDPNKPLTSTYACDWLRKAQPEQYKHLLNSITQGIHNNTIVDSIRHLLNFCVDNIHVKPVIVTWSGASDHCFLKAHTLYPDIDVI   4557
KPhV      QEYNYRDTNKPLTSTYNCEWMRKQHPDQYKHLLHSVTQGIRNSTIVD.LKPLLNFCVDNMHVKPVIVTWAGASDHCFLKANTLYPDISTV   4467
DKNV      QEYNYRDNNKPLTSTYNCEWMRKQYPDQYKHLLHSVTQGIRNSTLVD.LKPLLNFCVDNMHVKPVIVTWAGASDHCFLKANTLYPDISTV   4551
KSaV      HEYSYKDNNKPLTSTYNCDWMRKRYPEQYKHLLNSVTQGIHNLTTVD.LRPLLNFCVDNMHVKPVIVTWAGASDHCFLKANTLYPDISTV   4607
BTaV      HEYSYKDNNKPLTSTYNCDWMRKRDPEQYKHLLNSVMQGINNSTIVD.LRPLLNFCVDNIHVKPVIITWAGASDHCFLKANTLYPDISTV   4668
HanaV     IKYPYKDKHKPLTSTYVCEWMKKQKPEQYQYLLNSITQGISNDTIVD.LKPLLNFCVDNVHVKPVIVTWSGVSDHCFLKAYTLYPDISTV   4497
NDiV      QKYNYKDNNKPLTSTYTCDWMRKQHPEQYKHLLTSVMQGIRNDTTVD.LKPLLNFCVDNMHVKPVIVTWSGASDHCFLKAHTLYPDISTV   4501
CavV      HKYNYKDNNKPLTSTYSCDWMKKQHPDQYKHLLTSVLQGIRNDTTVD.LRPLLNFCVDNMHVKPVIVTWSGASDHCFLRAHTLYPDISTV   4497
Consensus           p    y   w     p     l      g      vd     l  c dn hv pvi t  g  d  f  a tlyp

Yichang   CSVIR.CLSSPIYAAQND.LSTQYLCSYHAQQLT.YIELTHFVNLETIDLSPVTS..DGVRGIKVTHNNKLLTHVEIPEEIPTNKLQDLH   4855
MenoV     CNITPRCTSTPIYASAQT.CHTYYLCQFHAQTFKEQLTITHFVNLEIIDLKAINNKQTNEKTLRLTHNNELKLTIELSQDIKSNSLNDCH   4562
NseV      CNIASRCLSQPIYASPQG.RHTYYLCQYHAHKFKEQLNITHFVNLEIIDLSVDKNKHTDERNLRVTHNNELKLKLEISKSIASNKLQDCH   4586
CASV      CNITTRCTSQPIYASPQGSKHTYYLCQYHAHQLKEQLNITHFVNLEIIDLKLDRNQYTDERTLKVYHNNNIKLILDIKSNIASNSLKDCH   4647
KPhV      CNITTRCSSQPVYASPQG.LHTYYLCQYHAHQLQGYVNITHFVNLEIIDLKVNYNQYTGERILNVFHNENLKLELKLEN.VASNSLTDCH   4555
DKNV      CNITTRCSSQPVYASPQG.LHTYYLCQYHAHHLQGYINITHFVNLEIIDLKLNYNQYTGERILNVFHNENLKLELKLEN.VASNSLTDCH   4639
KSaV      CNITTRCTSQPIYASPQG.LHTYYLCQYHAHQHKESINITHFVNLEIIDLKVNYNQYTGERILNVCHNDNLKLELDLDN.VASNSIADCH   4695
BTaV      CNITTRCTSQPVYASPQG.LHTYYLCQYHAHQHKESINITHFVNLEIIDLKINYNQYTGERILNVCHNDHLKLELDLDN.VASNSIADCH   4756
HanaV     CNITTRCTSQPIYASPQG.RHTYYLCQYHAHQLKDHINITHFVNLEIIDLKVEYNQFTSERILRVYHNNYLKLTLDLDN.VASNSLTDCH   4585
NDiV      CNITTRCTSQPIYASPQG.RHTYYLCQYHAHQLKDHINITHFVNLEIIDLKVDRNQYTDERTLRVYHNDYLKLTLDLDN.VASNSLTDCH   4589
CavV      CNITTRCTSQPIYASPQG.RHTYYLCQYHAHQLKDHINITHFVNLEIIDLKVDRNQYTNERTLRVYHNDYLKLTLDLDN.VASNSLTDCH   4585
Consensus c     c s p ya       t ylc  ha         thfvnle idl                hn               n l d h
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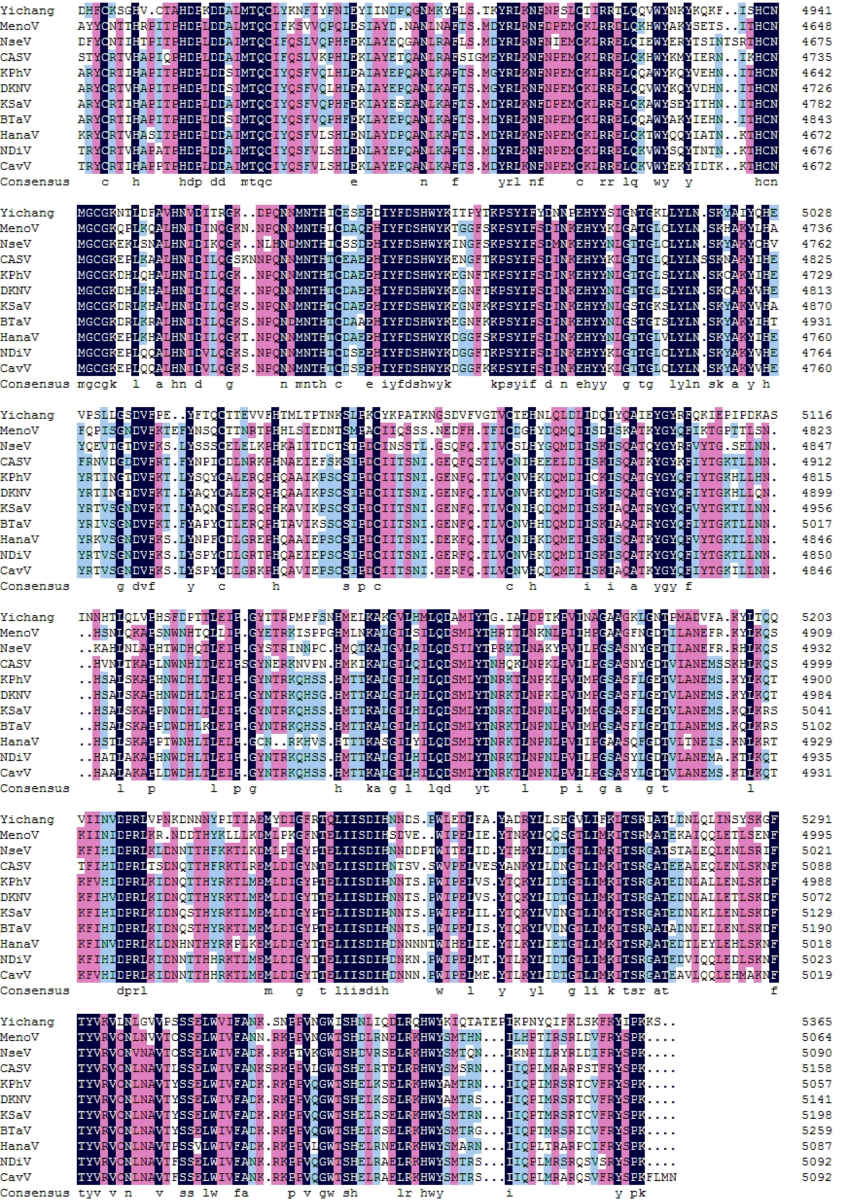

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Yichang    DHFCKSGHV.CTAHDPKDDALMTQCLYKNFIYPNIEYIINDPQGNMKYFLS.TKYRLKNFNPSLCTIRRTLQQVWYNKYKQKF..ISHCN    4941
MenoV      AYYCNTTHRPITPHDPLDDALMTQCIFKSVVQPQLESIAYD.NANLNAFTS.MDYRLRNFDPEMCKLRRDLQKHWYAKYSETS..ITHCN    4648
NseV       DFYCNTIHTPITPHDPLDDAIMTQCIFQSLVQPHFEKLAYEQGANLRAFLS.MDYRLRNFNIEMCKLRRELQIEWYERYTSINTSRTHCN    4675
CASV       STYCRTVHAPIQPHDPLDDAIMTQCIFQSLVKPHLEKLAYETQANLRAFSIGMEYRLKNFNPEMCKLRRELQKHWYKMYIERN..IKHCN    4735
KPhV       ARYCRTIHAPITPHDPLDDSIMTQCIYQSFVQLHLEAIAYEPQANLKAFTS.MGYRLKNFNPEMCKLRRELQQAWYKQYVEHN..ITHCN    4642
DKNV       ARYCRTVHAPITPHDPLDDSIMTQCIYQSFVQLHLEAIAYEPQANLKAFTS.MGYRLKNFNPEMCKLRRELQQVWYKQYVDHN..ITHCN    4726
KSaV       ARYCRTIHAPITPHDPLDDAIMTQCIYQSFVQPHFEKIAYESEANLKAFTS.MDYRLKNFDPEMCKLRRELQKAWYSEYITHN..ITHCN    4782
BTaV       ARYCRTIHAPITPHDPLDDSIMTQCIYQSFVQPHFEKLAYEPQANLKAFTS.MDYRLKNFNPEMCKLRRELQQAWYAKYIEHN..ITHCN    4843
HanaV      KRYCRTVHASITPHDPLDDAIMTQCIYQSFVLSHLENLAYDPQANLKAFTS.MDYRLKNFNPEMCKLRRELQKTWYQQYIATN..KTHCN    4672
NDiV       TRYCRTVHAPATPHDPLDDAIMTQCIYQSFVLSHLENLAYEPQANLKAFTS.MDYRLKNFNPEMCKLRRELQKVWYSQYTNTN..KTHCN    4676
CavV       TRYCRTIHAPPTPHDPLDDAIMTQCIYQSFVLSHLEKLAYEPQANLKAFTS.MDYRLKNFNPEMCKLRRELQKVWYEKYIDTK..KTHCN    4672
Consensus     c   h     hdp dd  mtqc          e        n   f     yrl nf    c  rr lq  wy  y        hcn

Yichang    MGCGKNTLDFAVHNVDITRGK..DPQNNMNTHICESEEDIYFDSHWYKITPYTKPSYIFYDNNPEHYYSIGNTGKLLYLN.SKYAIYQHE    5028
MenoV      MGCGKQPLKQALHNIDINQGKN.NPQNNMNTHLCDAQEHIYFDSHWYKTGGFSKPSYIFSDINKEHYYKLGATGLCLYLN.SKHAKYLHA    4736
NseV       MGCGKEKLSNALHNIDIKQGK..NLHNDMNTHICSSDEHIYFDSHWYKINGFSKPSYIFSDMNKEHYYNLGTTGLCLYLN.SKYAKYCHV    4762
CASV       MGCGKEPLKAALHNIDILQGSKNNPQNNMNTHTCEAEEHIYFDSHWYKENGFTKPSYIFSDINKEHYYKLGTTGLQLYLNSSKNAKYIHE    4825
KPhV       MGCGKDHLQHALHNIDILQGK..NPQNNMNTHTCDAEEHIYFDSHWYKEGNFTKPSYIFSDINKEHYYNLGTTGLSLYLN.SKCAKYIHE    4729
DKNV       MGCGKDHLKHALHNIDILQGK..NPQNNMNTHTCDAEEHIYFDSHWYKEGNFTKPSYIFSDINKEHYYNLGTTGLSLYLN.SKCAKYVHE    4813
KSaV       MGCGKDRLKHALHNIDILQGKS.NPQNNMNTHTCDAEEHIYFDSHWYKEGNFKKPSYIFSDINKEHYYNLGSTGKSLYLN.SKYAKYVHA    4870
BTaV       MGCGKDRLKRALHNIDILQGKS.NPQNDMNTHTCDAAEHIYFDSHWYKEGNFKKPSYIFSDINKEHYYNLGSTGTSLYLN.SKYAKYIHT    4931
HanaV      MGCGKEPLKHALHNIDILQGKT.NPQNNMNTHTCDAEEHIYFDSHWYKDGGFSKPSYIFSDINKEHYYNLGTTGLVLYLN.SKYAKYIHE    4760
NDiV       MGCGKEPLQQALHNIDVLQGKS.NPQNNMNTHTCDSEEHIYFDSHWYKDGGFTKPSYIFSDINKEHYYKLGTTGLCLYLN.SKYAKYVHE    4764
CavV       MGCGKEPLQQALHNIDVLQGKS.NPQNNMNTHTCDSEEHIYFDSHWYKDGGFKKPSYIFSDINKEHYYKLGTTGLCLYLN.SKYAKYVHE    4760
Consensus  mgcgk  l  a hn d   g      n mnth c   e iyfdshwyk     kpsyif d n ehyy  g tg  lyln sk a y h

Yichang    VPSLLGSDVFPE..YFTQCTTEVVFHTMLTPTNKSLPKCYKPATKNGSDVFVGTVCTEHNLQLDLIDQIYQAIEYGYRFQKIEPIPDKAS    5116
MenoV      FQPISGNDVFKTEFYNSQCTTNRTPHHLSIEDNTSMPACIIQSSS.NEDFH.TFICDGHYDQMQIISDISKATKYGYQFIKTGPTTLSN.    4823
NseV       YQEVTGTDVFKS.LYSSSCELELKPHKAIITDCTSTPDCINSSTL.GSQFQ.TIVCSLHYGQMDIISKISQATQYGYRFVYTG.SELNN.    4847
CASV       FRNVDGDDVFRT.FYNPICDLNRKPHNAEIEFSKSIPDCIITSNI.GEQFQSTLVCNIHEEELDIISKISQATKYGYKFIYTGKTLLNN.    4912
KPhV       YRTINGTDVFKT.LYSQYCALERQPHQAAIKPSCSIPDCIITSNI.GENFQ.TLVCNVHKDQMDIICKISQATGYGYQFIYTGKHLLHN.    4815
DKNV       YRTINGTDVFKT.LYAQYCALERQPHQAAIKPSCSIPDCIITSNI.GENFQ.TLVCNVHKDQMDIIGKISQATGYGYQFIYTGKHLLQN.    4899
KSaV       YRTVSGNDVFKT.LYAQNCSLERQPHKAVIKPSCSIPDCIITSNI.GENFQ.TLVCNIHQDQMDIISKIAQATRYGYQFVYTGKTLLNN.    4956
BTaV       YRIVSGNDVFKT.FYAPYCTLERQPHTAVIKSSCSIPDCIITSNI.GENFQ.TLVCNVHHDQMDIISKIAQATRYGYQFIYTGKTLLNN.    5017
HanaV      YRKVSGNDVFKS.LYNPFCDLGREPHQAAIEPSCSIPDCIITSNI.DEKFQ.TLVCNIHKDQMEIISKISQATKYGYQFVYTGKTLLNN.    4846
NDiV       YRTVSGNDVFKS.LYSPYCDLGRTPHQAEIEPSCSIPDCIITSNI.GERFQ.TLVCNVHKDQMDIISKISQATKYGYQFIYTGKTLLNN.    4850
CavV       YRTVSGNDVFKS.LYSPYCDLGRKPHQAVIEPSCSIPDCIITSNI.GERFQ.TLVCNVHQDQMELISKIAQATKYGYQFIYTGKILLNN.    4846
Consensus       g dvf    y   c      h        s p c                c  h      i  i  a  ygy f

Yichang    INNHTLQLVPHSFDPTTLEIP.GYTTRPMPFSNHMELKAKGVLHMLQDAMIYTG.IALDPTKPVINAGAAGKLGNTPMADVFA.KYLTQQ    5203
MenoV      ..HSNLQKAPSNWNHTQLLIP.GYETRKISPPGHMLNKALGILSILQDSMLYTHRTTLNKNLPIIHPGAAGFNGDTILANEFR.KYLKQS    4909
NseV       ..KAHLNLAPHTWDHQTLEIP.GYSTRINNPC.HMQTKAIGVLRILQDSILYTPRKTLNAKYPVILPGSASNYGETILANEFR.RHLKQS    4932
CASV       ..HVNLTKAPLNWNHITLEIPSGYNERKNVPN.HMKIKALGILQILQDSMLYTNHQKLNPKLPVILPGSASNYGDTVIANEMSSKHLKQS    4999
KPhV       ..HSALSKAPHNWDHLTLEIP.GYNTRKQHSS.HMTTKALGILHILQDSMLYTNRKTLNPKLPVIMPGSASFLGETVLANEMS.KYLKQT    4900
DKNV       ..HSALSKAPHNWDHLTLEIP.GYNTRKQHSG.HMTTKALGILHILQDSMLYTNRKTLNPKLPVIMPGSASFLGETVLANEMS.KYLKQT    4984
KSaV       ..HSALSKAPPNWDHLTLEIP.GYNTRKQHSS.HMTTKALGILHILQDSMLYTNRKTLNPNLPVIMPGSASFLGETVLANEMS.KQLKRS    5041
BTaV       ..HSALSKAPPDWDHLKLEIP.GYNTRKQHSS.HMTTKALGILHILQDSMLYTNRKTLNPNLPVIMPGSASFLGETILANEMS.KQLKRS    5102
HanaV      ..HSTLSKAPPTWNHLTLELP.GCN..RKHVS.HTTTKASGILYILQDSMLYTNRKTLNPNLPVIIPGAASQFGDTVLTNEIS.KNLKRT    4929
NDiV       ..HATLAKAPHNWDHLTLEIP.GYNTRKQHSS.HMTTKALGILHILQDSMLYTNRKTLNPNLPVILPGSASYLGDTVLANEMA.KTLKQT    4935
CavV       ..HAALAKAPLDWDHLTLEIP.GYNTRKQHSS.HMTTKALGILHILQDSMLYTNRKTLNPNLPVILPGSASYLGDTVLANEMS.KTLKQT    4931
Consensus       l   p       l  p g          h   ka g l  lqd   yt    l    p i  g a   g t          l

Yichang    VIINVDPRLVPNKDNNNYPITIAEMYDIGFRTQLIISDIHNNDS.PWLEDLFA.YADRYLLSEGVLIFKLTSRIATLDNLQLINSYSKGF    5291
MenoV      KIINIDPRLKR.NDDTHYKLILKDMLPKGFNTELIISDIHSDVE..WIPELIE.YTNKYLQQSGTLIMKITSRMATEKAIQQLETLSENF    4995
NseV       KFIHIDPRLKLDNNTTHFKKTLKDMLPIGYPTELIISDIHNNDDPTWITELID.YTHKYLLDTGTLIMKITSRGATSTALEQLENLSRIF    5021
CASV       TFIHIDPRLTSDNQTTHFRKTLREMLDIGYNTELIISDIHNTSV.SWVPELVESYANKYLLDNGTLIMKITSRGATEEALEQLENLSKNF    5088
KPhV       KFVHIDPRLKIDNQTTHYRKTLMEMLDIGYPTELIISDIHNNTS.PWIPELVS.YTQKYLIDTGTLIMKITSRGATEDNLALLENLSKDF    4988
DKNV       KFIHVDPRLKIDNQTTHYRKTLMEMLDIGYTTELIISDIHNNTS.PWIPELVS.YTQKYLIDTGTLIMKITSRGATEDNLALLETLSKDF    5072
KSaV       KFIHIDPRLKIDNQSTHYRKTLMEMLDIGYPTELIISDIHNNTS.PWIPELIL.YTQKYLVDNGTLIMKITSRGATEDNLKLLENLSKDF    5129
BTaV       KFIHIDPRLKIDNQSTHYRKTLMEMLDIGYPTELIISDIHNNTS.PWIPELIS.YTQKYLVDNGTLIMKITSRAATADNLELLENLSKDF    5190
HanaV      KFINVDPRLKLDNHNTHYRKPLKEMLDIGYTTELIISDIHDNNNNTWIHELIE.YTLKYLIETGTLIMKITSRAATEDTLEYLEHLSKNF    5018
NDiV       KFIHIDPRLKIDNNTTHHRKTLMEMLDIGYTTELIISDIHDNKN.PWIPELMT.YTLKYLIDTGTLIMKITSRGATEDVIQQLEDLSKNF    5023
CavV       KFVHIDPRLKIDNNTTHHRKTLMEMLDIGYTTELIISDIHDNNN.PWIPELME.YTLKYLIDTGTLIMKITSRGATEAVLQQLEHMAKNF    5019
Consensus       dprl               m   g  t liisdih      w   l   y   yl   g li k tsr at             f

Yichang    TYVKVLNLGVVPSSSELWVIFANK.SNPPVNGWISHNLIQDLRQHWYKIQTATEPIKPNYQIFKLSKFKYIPKKS..                5365
MenoV      TYVRVCNLNVVTCSSELWIVFANN.RKPPVNGWTSHDLRNELRKHWYSMTHN...ILHPTIRSRLDVFRYSPK....                5064
NseV       TYVRVCNVNAVTCSSELWIVFADK.RKPTVKGWTSHDVRSELRKHWYSMTQN...IKNPILRYRLDIFRYSPK....                5090
CASV       TYVRVCNLNAVTLSSELWIVFANKSRKPPVLGWTSHELRTELRRHWYSMSRN...IIQPLMRARPSTFRYSPK....                5158
KPhV       TYVRVCNLNAVTYSSELWIVFADK.RKPPVQGWTSHELKSELRKHWYAMTRN...IIQPIMRSRTCVFRYSPK....                5057
DKNV       TYVRVCNLNAVTYSSELWIVFADK.RKPPVQGWTSHELKSELRKHWYAMTRS...IIQPIMRSRTCVFRYSPK....                5141
KSaV       TYVRVCNLNAVTYSSELWIVFADK.RKPPVQGWTSHELRSELRKHWYSMTRN...IIQPTMRSRTCVFRYSPK....                5198
BTaV       TYVRVCNLNAVTYSSELWIVFADK.RKPPVQGWTSHELKSELRKHWYSMTRG...IIQPTMRSRICVFRYSPK....                5259
HanaV      TYVRVCNLNAVTPSSVLWIVFADK.RKPPVLGWTSHELRNELRKHWYSMARN...IIQPLTRARPCIFRYSPK....                5087
NDiV       TYVRVCNLNAVTFSSELWIVFANK.RKPPVQGWTSHELRAELRKHWYSMTRS...IIQPLMRSRQSVSRYSPK....                5092
CavV       TYVRVCNLNAVTFSSELWIVFANK.RKPPVQGWTSHELRAELRKHWYSMTRS...IIQPLMRARQSVFRYSPKFLMN                5092
Consensus  tyv v n   v  ss lw  fa     p v gw sh     lr hwy        i             y pk
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