

pAPEC1990 LLGVDYNYSDIGWSSFYRYWVNNVSLP----VTVSSIRVKVEPRPYVQTAVHRG--SC-- 434
pNDM-KN LLGVDYNYSDIGWSSFYRYWVNNVSLP----VTVSSIRVKVEPRPYVQTAVHRG--SC-- 434
pUMNK88 LLGVDYNYSDIGWSSFYRYWVNNVSLP----VTVSSIRVKVEPRPYVQTAVHRG--SC-- 434
pCf587 LLGVDYNYSDIGWSSMYRYWVDSSVLP----VTVSSIRVKVEPRPYVQTAVHRG--SC-- 434
: . * ** ... : ..*:*****.* :

pKAZ3 PANASYAEVDTDISFSGRSCSWPGYWSRPEGKPELPSDR-----IGAT--F 487
pMS6198A -----EIPVGQDSCVIANSFTMAKGTGTVHDNATVFNPDKSLRSNPLWAEVNW 483
pKp55 -----EIPVGQDSCVIANSFTMAKGTGTVHDNATVFNPDKSLRSNPLWAEVNW 487
pEc19 -----EIPVGQDSCVIANSFTMAKGTGTVHDNATVFNPDKSLRSNPLWAEVNW 487
pAPEC1990 -----EIPVGQDSCVIANSFTMAKGTGTVHDNATVFNPDKSLRSNPLWAEVNW 483
pNDM-KN -----EIPVGQDSCVIANSFTMAKGTGTVHDNATVFNPDKSLRSNPLWAEVNW 483
pUMNK88 -----EIPVGQDSCVIANSFTMAKGTGTVHDNATVFNPDKSLRSNPLWAEVNW 483
pCf587 -----EIPVGQDSCVIANSFTMSKGTGTVHDNATVFNADRSLSNPLWAEVNW 483
:: .. ** . :: :*. * . : * :

pKAZ3 CYDLNPPEIAGLERNGRIFKAHFREPDSD---FDGWGV-NQWVISNNSASAITSTGEERP 543
pMS6198A NDQHYPLQLSQQFDQNSKVFRLFVNQFGRGAYFDRRLRLRSAWIEDSKG--NKLS----- 534
pKp55 NDQHYPLQLSQQFDQNSKVFRLFVNQFGRGAYFDRRLRLRSAWIEDSKG--NKLS----- 538
pEc19 NDQHYPLQLSQQFDQNSKVFRLFVNQFGRGAYFDRRLRLRSAWIEDSKG--NKLS----- 538
pAPEC1990 NDQHYPLQLSQQFDQNSKVFRLFVNQFGRGAYFDRRLRLRSAWIEDSKG--NKLS----- 534
pNDM-KN NDQHYPLQLSQQFDQNSKVFRLFVNQFGRGAYFDRRLRLRSAWIEDSKG--NKLS----- 534
pUMNK88 NDQHYPLQLSQQFDQNSKVFRLFVNQFGRGAYFDRRLRLRSAWIEDSKG--NKLS----- 534
pCf587 NDQHYPLQLSQQFDQNSKVFRLFVNQFGRGAYFDRRLRLRSAWIEDSKG--NKLS----- 534
: * :** ** : . *: : :

pKAZ3 LSRTEVLRSTNDWFFTFSAENLSEGTYTGISLVAKDAFGNEVKQVFTGSQYAMSIDNSA 603
pMS6198A -PTGGLIANNWENYTYQWDLKTLPEGQYSLVAAA-EEMHG----PLTRQPMFQITSDRTP 588
pKp55 -PTGGLIANNWENYTYQWDLKTLPEGQYSLVAAA-EEMHG----PLTRQPMFQITSDRTP 592
pEc19 -PTGGLIANNWENYTYQWDLKTLPEGQYSLVAAA-EEMHG----PLTRQPMFQITSDRTP 592
pAPEC1990 -PTGGLIANNWENYTYQWDLKTLPEGQYSLVAAA-EEMHG----PLTRQPMFQITSDRTP 588
pNDM-KN -PTGGLIANNWENYTYQWDLKTLPEGQYSLVAAA-EEMHG----PLTRQPMFQITSDRTP 588
pUMNK88 -PTGGLIANNWENYTYQWDLKTLPEGQYSLVAAA-EEMHG----PLTRQPMFQITSDRTP 588
pCf587 -PTGGLIANNWENYTYQWDLKTLPEGQYSLVAAA-EEMHG----PLTRQPMFQITSDKTA 588
:: .. : : : : : * * * : : . : : . * : : : * :

pKAZ3 PTLTVSISDGAPIQLDDVVIITLTDADPSFKLTSIALVGGPADDKVQLSWREESKGRFR 663
pMS6198A PTMTLSVADGAAIQTLDVVITLADAIIDPSFKLTSIALVGGPANDKVQLSWREESKGRFR 648
pKp55 PTMTLSVADGAAIQTLDVVITLADAIIDPSFKLTSIALVGGPANDKVQLSWREESKGRFR 652
pEc19 PTMTLSVADGAAIQTLDVVITLADAIIDPSFKLTSIALVGGPANDKVQLSWREESKGRFR 652
pAPEC1990 PTMTLSVADGAAIQTLDVVITLADAIIDPSFKLTSIALVGGPANDKVQLSWREESKGRFR 648
pNDM-KN PTMTLSVADGAAIQTLDVVITLADAIIDPSFKLTSIALVGGPANDKVQLSWREESKGRFR 648
pUMNK88 PTMTLSVADGAAIQTLDVVITLADAIIDPSFKLTSIALVGGPANDKVQLSWREESKGRFR 648
pCf587 PTLTVSISDGAPIQLDDVVIITLTDADPSFKLTSIALVGGPANDKVQLSWREESKGRFR 648
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pKAZ3 LEYPVMFPSLKEGESYTLTVSGEDAQGNVQKAVGFYKPRQVMLADGMDGKVMVPAVTH 723
pMS6198A LEYPVMFPSLKEGESYTLTVSGEDAQGNVQKAVGFYKPRQVMLADGMDGKVMVPAVTH 708
pKp55 LEYPVMFPSLKEGESYTLTVSGEDAQGNVQKAVGFYKPRQVMLADGMDGKVMVPAVTH 712
pEc19 LEYPVMFPSLKEGESYTLTVSGEDAQGNVQKAVGFYKPRQVMLADGMDGKVMVPAVTH 712
pAPEC1990 LEYPVMFPSLKEGESYTLTVSGEDAQGNVQKAVGFYKPRQVMLADGMDGKVMVPAVTH 708
pNDM-KN LEYPVMFPSLKEGESYTLTVSGEDAQGNVQKAVGFYKPRQVMLADGMDGKVMVPAVTH 708
pUMNK88 LEYPVMFPSLKEGESYTLTVSGEDAQGNVQKAVGFYKPRQVMLADGMDGKVMVPAVTH 708
pCf587 LEYPVMFPSLKEGESYTLTVSGEDAQGNVQKAVGFYKPRQVMLADGMDGKVMVPAVTH 708
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pKAZ3 EFVHADGKRI IETKPLTSLDGAVVTVGSYDFATLRSDAKVPLVNVGVRIEPGQTMGIMSQ 783
pMS6198A EFVHADGKRI IETKPLTSLDGAVVTVGSYDFATLRSDAKVPLVNVGVRIEPGQTMGIMSQ 768
pKp55 EFVHADGKRI IETKPLTSLDGAVVTVGSYDFATLRSDAKVPLVNVGVRIEPGQTMGIMSQ 772
pEc19 EFVHADGKRI IETKPLTSLDGAVVTVGSYDFATLRSDAKVPLVNVGVRIEPGQTMGIMSQ 772
pAPEC1990 EFVHADGKRI IETKPLTSLDGAVVTVGSYDFATLRSDAKVPLVNVGVRIEPGQTMGIMSQ 768
pNDM-KN EFVHADGKRI IETKPLTSLDGAVVTVGSYDFATLRSDAKVPLVNVGVRIEPGQTMGIMSQ 768
pUMNK88 EFVHADGKRI IETKPLTSLDGAVVTVGSYDFATLRSDAKVPLVNVGVRIEPGQTMGIMSQ 768
pCf587 EFVHADGKRI IETKPLTSLDGAIVTVGSYDFATLRSDAKVPLVNVGVRIEPGQTMGIMSQ 768
*****:*:*:*:*:*:*:*:*:*:*:*:*:*:*:**:

pKAZ3 HDFGASGGRLSIPVKPAVPDVGSSLLVMTSAPNSPILVVDINTWKGTAKLSAESWTIR 843
pMS6198A HDFGASGGRLSIPVKPAVPDVGSSLLVMTSAPNSPILVVDINTWKGTAKLSAESWTIR 828
pKp55 HDFGASGGRLSIPVKPAVPDVGSSLLVMTSAPNSPILVVDINTWKGTAKLSAESWTIR 832
pEc19 HDFGASGGRLSIPVKPAVPDVGSSLLVMTSAPNSPILVVDINTWKGTAKLSAESWTIR 832
pAPEC1990 HDFGASGGRLSIPVKPAVPDVGSSLLVMTSAPNSPILVVDINTWKGTAKLSAESWTIR 828
pNDM-KN HDFGASGGRLSIPVKPAVPDVGSSLLVMTSAPNSPILVVDINTWKGTAKLSAESWTIR 828
pUMNK88 HDFGASGGRLSIPVKPAVPDVGSSLLVMTSAPNSPILVVDINTWKGTAKLSAESWTIR 828
pCf587 HDFGASGGRLSIPVKPAIPDVGSSLLVMTSAPNSPILVVDINTWKGAAKLSAESWTIR 828
*****:*:*:*:*:*:*:*:*:*:*:*:*:*:**:

pKAZ3 QVIDPVKIYALPESGVPCRFTTKEDVAMAADPIRDPVCLLQWDRTPDEAEQTTQDNNGMK 903

pMS6198A	QVIDPVKIYALPESGVPCRFTTKEDVAMAADPIRDPVCLLQWDRTPDEAEQTTQDNNGMK	888
pKp55	QVIDPVKIYALPESGVPCRFTTKEDVAMAADPIRDPVCLLQWDRTPDEAEQTTQDNNGMK	892
pEc19	QVIDPVKIYALPESGVPCRFTTKEDVAMAADPIRDPVCLLQWDRTPDEAEQTTQDNNGMK	892
pAPEC1990	QVIDPVKIYALPESGVPCRFTTKEDVAMAADPIRDPVCLLQWDRTPDEAEQTTQDNNGMK	888
pNDM-KN	QVIDPVKIYALPESGVPCRFTTKEDVAMAADPIRDPVCLLQWDRTPDEAEQTTQDNNGMK	888
pUMNK88	QVIDPVKIYALPESGVPCRFTTKEDVAMAADPIRDPVCLLQWDRTPDEAEQTTQDNNGMK	888
pCf587	QVIDPVKIYALPETGVPCRFTTKADVAMAADPIRDPVCLLQWDRTPDEAEQTTQDNTNGMK *****:***** *****:*****:*****:*****:*****:*****:*****	888
pKAZ3	VAGLVGQAVSIGEQPVEYSLYLFSGDGSKVKVSGSQNLTVTTAYGSVGYTPIDDDIAQVN	963
pMS6198A	VAGLVGQAVSIGEQPVEYSLYLFSGDGSKVKVSGSQNLTVTTAYGSVGYTPIDDDIAQVN	948
pKp55	VAGLVGQAVSIGEQPVEYSLYLFSGDGSKVKVSGSQNLTVTTAYGSVGYTPIDDDIAQVN	952
pEc19	VAGLVGQAVSIGEQPVEYSLYLFSGDGSKVKVSGSQNLTVTTAYGSVGYTPIDDDIAQVN	952
pAPEC1990	VAGLVGQAVSIGEQPVEYSLYLFSGDGSKVKVSGSQNLTVTTAYGSVGYTPIDDDIAQVN	948
pNDM-KN	VAGLVGQAVSIGEQPVEYSLYLFSGDGSKVKVSGSQNLTVTTAYGSVGYTPIDDDIAQVN	948
pUMNK88	VAGLVGQAVSIGEQPVEYSLYLFSGDGSKVKVSGSQNLTVTTAYGSVGYTPIDDDIAQVN	948
pCf587	VAGLVGQAVSIGEQPVEYSLYLFSGDGSKVKVSGSQNLTVTTAYGSVGYTPIDDDIAQVN *****:*****:*****:*****:*****:*****:*****	948
pKAZ3	RVIEDFDVNFQKSGPDCSITLSADRAKKEAANKAVGSASRACLFEWQQIPDGLVQDPLS	1023
pMS6198A	RVIEDFDVNFQKSGPDCSITLSADRAKKEAANKAVGSASRACLFEWQQIPDGLVQDPLS	1008
pKp55	RVIEDFDVNFQKSGPDCSITLSADRAKKEAANKAVGSASRACLFEWQQIPDGLVQDPLS	1012
pEc19	RVIEDFDVNFQKSGPDCSITLSADRAKKEAANKAVGSASRACLFEWQQIPDGLVQDPLS	1012
pAPEC1990	RVIEDFDVNFQKSGPDCSITLSADRAKKEAANKAVGSASRACLFEWQQIPDGLVQDPLS	1008
pNDM-KN	RVIEDFDVNFQKSGPDCSITLSADRAKKEAANKAVGSASRACLFEWQQIPDGLVQDPLS	1008
pUMNK88	RVIEDFDVNFQKSGPDCSITLSADRAKKEAANKAVGSASRACLFEWQQIPDGLVQDPLS	1008
pCf587	RVIEFNFNVLKQNKGPDCSITLSADRAKKEAASKGAGSASRACLFEWQQIPDGLLQEQLS ***:*.***:***:*****:***:*.*****:*****:***:***:*****:***:***	1008
pKAZ3	ESPSLSGSLAENGDPVHPLGWRVSIIFTRNGTRVTLNDETFNVEAVDPPAPTVELASDYNFKD	1083
pMS6198A	ESPSLSGSLASNGVHPLGWRVSIIFTRNGTRVTLNDETFNVEAVDPPAPTVELASDYNFKD	1068
pKp55	ESPSLSGSLASNGVHPLGWRVSIIFTRNGTRVTLNDETFNVEAVDPPAPTVELASDYNFKD	1072
pEc19	ESPSLSGSLASNGVHPLGWRVSIIFTRNGTRVTLNDETFNVEAVDPPAPTVELASDYNFKD	1072
pAPEC1990	ESPSLSGSLASNGVHPLGWRVSIIFTRNGTRVTLNDETFNVEAVDPPAPTVELASDYNFKD	1068
pNDM-KN	ESPSLSGSLASNGVHPLGWRVSIIFTRNGTRVTLNDETFNVEAVDPPAPTVELASDYNFKD	1068
pUMNK88	ESPSLSGSLASNGVHPLGWRVSIIFTRNGTRVTLNDETFNVEAVDPPAPTVELASDYNFKD	1068
pCf587	ESPSLSGSLASNGVHPLGWRVSIIFTRNGTRVTLNDETFNVEAVDPPAPTVELSSKFNFKD *****:*.*****:*****:***:*****:***:***:*****:***:***	1068
pKAZ3	NIYLVPMGTGNYLGDIAINSERADLDIAISRNSDVLESETFPPGWGATNKVYRRINTDERA	1143
pMS6198A	NIYLVPMGTGNYLGDIAINSERADLDIAISRNSDVLESETFPPGWGATNKVYRRINTDERA	1128
pKp55	NIYLVPMGTGNYLGDIAINSERADLDIAISRNSDVLESETFPPGWGATNKVYRRINTDERA	1132
pEc19	NIYLVPMGTGNYLGDIAINSERADLDIAISRNSDVLESETFPPGWGATNKVYRRINTDERA	1132
pAPEC1990	NIYLVPMGTGNYLGDIAINSERADLDIAISRNSDVLESETFPPGWGATNKVYRRINTDERA	1128
pNDM-KN	NIYLVPMGTGNYLGDIAINSERADLDIAISRNSDVLESETFPPGWGATNKVYRRINTDERA	1128
pUMNK88	NIYLVPMGTGNYLGDIAINSERADLDIAISRNSDVLESETFPPGWGATNKVYRRINTDERA	1128
pCf587	NIYVPMGTGNYLGDIAISSERADLDIAISRNSGVLESETFAPGWGATNKVYRRINTDERA ***:*****:*****:*****:*****:*****:*****:*****:*****:*****	1128
pKAZ3	LWEETTYKVNAAYNKVPDVKTEVVYRAISAPSDSIRPIVEVKGDTAIDTQALPVRVLIRD	1203
pMS6198A	LWEETTYKVNAAYNKVPDVKTEVVYRAISAPSDSIRPIVEVKGDTAIDTQALPVRVLIRD	1188
pKp55	LWEETTYKVNAAYNKVPDVKTEVVYRAISAPSDSIRPIVEVKGDTAIDTQALPVRVLIRD	1192
pEc19	LWEETTYKVNAAYNKVPDVKTEVVYRAISAPSDSIRPIVEVKGDTAIDTQALPVRVLIRD	1192
pAPEC1990	LWEETTYKVNAAYNKVPDVKTEVVYRAISAPSDSIRPIVEVKGDTAIDTQALPVRVLIRD	1188
pNDM-KN	LWEETTYKVNAAYNKVPDVKTEVVYRAISAPSDSIRPIVEVKGDTAIDTQALPVRVLIRD	1188
pUMNK88	LWEETTYKVNAAYNKVPDVKTEVVYRAISAPSDSIRPIVEVKGDTAIDTQALPVRVLIRD	1188
pCf587	LWEETTYKVNAAYNKVPDVKTEAIVYRAIAAPSDSIRPVVEVDGDNAIDTQALPVRVLIRD *****:*****:*****:***:***:*****:*****:*****:*****:*****	1188
pKAZ3	QYKPDGDYDANTMGVWVKVRLIQQKAYNETVALTDYAEASNGEAQFSVDLSGVDTSVSVRIA	1263
pMS6198A	QYKPDGDYDANTMGVWVKVRLIQQKAYNETVALTDYAEASNGEAQFSVDLSGVDTSVSVRIA	1248
pKp55	QYKPDGDYDANTMGVWVKVRLIQQKAYNETVALTDYAEASNGEAQFSVDLSGVDTSVSVRIA	1252
pEc19	QYKPDGDYDANTMGVWVKVRLIQQKAYNETVALTDYAEASNGEAQFSVDLSGVDTSVSVRIA	1252
pAPEC1990	QYKPDGDYDANTMGVWVKVRLIQQKAYNETVALTDYAEASNGEAQFSVDLSGVDTSVSVRIA	1248
pNDM-KN	QYKPDGDYDANTMGVWVKVRLIQQKAYNETVALTDYAEASNGEAQFSVDLSGVDTSVSVRIA	1248
pUMNK88	QYKPDGDYDANTMGVWVKVRLIQQKAYNETVALTDYAEASNGEAQFSVDLSGVDTSVSVRIA	1248
pCf587	QYKPDGGYDANTMGVWVKVRLIQQKAYNETVALTDYAEASNGEAQFSVDLSGVDTSVSVRIA *****:*****:*****:*****:*****:*****:*****:*****:*****:*****	1248
pKAZ3	AEAVLESPEVEGYNRTELSIRPAFLTVLRGGAIGAGVEARKLSGEAPFTAVFKLSLDDRQD	1323
pMS6198A	AEAVLESPEVEGYNRTELSIRPAFLTVLRGGAIGAGVEARKLSGEAPFTAVFKLSLDDRQD	1308
pKp55	AEAVLESPEVEGYNRTELSIRPAFLTVLRGGAIGAGVEARKLSGEAPFTAVFKLSLDDRQD	1312
pEc19	AEAVLESPEVEGYNRTELSIRPAFLTVLRGGAIGAGVEARKLSGEAPFTAVFKLSLDDRQD	1312
pAPEC1990	AEAVLESPEVEGYNRTELSIRPAFLTVLRGGAIGAGVEARKLSGEAPFTAVFKLSLDDRQD	1308
pNDM-KN	AEAVLESPEVEGYNRTELSIRPAFLTVLRGGAIGAGVEARKLSGEAPFTAVFKLSLDDRQD	1308
pUMNK88	AEAVLESPEVEGYNRTELSIRPAFLTVLRGGAIGAGVEARKLSGEAPFTAVFKLSLDDRQD	1308
pCf587	AEAVLDSPEVEGYNRTELSIRPAFLTVLRGGAIAAGVEARKLSGEAPFTAVFKLALDNRQD	1308

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pKAZ3          LRATGQVVWETS KDDGKTWEQFI PEDRYKYQLVKTFDKGEYQVRAKVVVNVNSGAEKYTEA 1383
pMS6198A      LRATGQVVWETS KDDGKTWEQFI PEDRYKYQLVKTFDKGEYQVRAKVVVNVNSGAEKYTEA 1368
pKp55         LRATGQVVWETS KDDGKTWEQFI PEDRYKYQLVKTFDKGEYQVRAKVVVNVNSGAEKYTEA 1372
pEc19         LRATGQVVWETS KDDGKTWEQFI PEDRYKYQLVKTFDKGEYQVRAKVVVNVNSGAEKYTEA 1372
pAPEC1990     LRATGQVVWETS KDDGKTWEQFI PEDRYKYQLVKTFDKGEYQVRAKVVVNVNSGAEKYTEA 1368
pNDM-KN       LRATGQVVWETS KDDGKTWEQFI PEDRYKYQLVKTFDKGEYQVRAKVVVNVNSGAEKYTEA 1368
pUMNK88       LRATGQVVWETS KDDGKTWEQFI PEDRYKYQLVKTFDKGEYQVRAKVVVNVNSGAEKYTEA 1368
pCf587        LRATGQVVWETS KDDGKTWEQFI PEERYKYQLVKTFDKGEYQVRAKVVVNVNSGAEKYTEA 1368
*****:*****.*****:*****

pKAZ3          VSVVAYDKPDI AVIGPTTLFVVGSEKGYTANLTLNDEPISGGNAIVEWSTDGGKTYAQTGD 1443
pMS6198A      VSVVAYDKPDI AVIGPTTLFVVGSEKGYTANLTLNDEPISGGNAIVEWSTDGGKTYAQTGD 1428
pKp55         VSVVAYDKPDI AVIGPTTLFVVGSEKGYTANLTLNDEPISGGNAIVEWSTDGGKTYAQTGD 1432
pEc19         VSVVAYDKPDI AVIGPTTLFVVGSEKGYTANLTLNDEPISGGNAIVEWSTDGGKTYAQTGD 1432
pAPEC1990     VSVVAYDKPDI AVIGPTTLFVVGSEKGYTANLTLNDEPISGGNAIVEWSTDGGKTYAQTGD 1428
pNDM-KN       VSVVAYDKPDI AVIGPTTLFVVGSEKGYTANLTLNDEPISGGNAIVEWSTDGGKTYAQTGD 1428
pUMNK88       VSVVAYDKPDI AVIGPTTLFVVGSEKGYTANLTLNDEPISGGNAIVEWSTDGGKTYAQTGD 1428
pCf587        VSVVAYDKPDI AVVGPPTTLFVVGSEKGYTASLALNDEPITDGNVAVWSTDGGKTYSHKGN 1428
*****:*****.*****:*****:*****:*****:*****:*****:*****:*****

pKAZ3          SITLSSDEETRYRLWARVRSATAPADDGYAYEVAKTAVDFRAVKAPRPYVTGPRVIETGK 1503
pMS6198A      SITLSSDEETRYRLWARVRSATAPADDGYAYEVAKTAVDFRAVKAPRPYVTGPRVIETGK 1488
pKp55         SITLSSDEETRYRLWARVRSATAPADDGYAYEVAKTAVDFRAVKAPRPYVTGPRVIETGK 1492
pEc19         SITLSSDEETRYRLWARVRSATAPADDGYAYEVAKTAVDFRAVKAPRPYVTGPRVIETGK 1492
pAPEC1990     SITLSSDEETRYRLWARVRSATAPADDGYAYEVAKTAVDFRAVKAPRPYVTGPRVIETGK 1488
pNDM-KN       SITLSSDEETRYRLWARVRSATAPADDGYAYEVAKTAVDFRAVKAPRPYVTGPRVIETGK 1488
pUMNK88       SITLSSDEETRYRLWARVRSATAPADDGYAYEVAKTAVDFRAVKAPRPYVTGPRVIETGK 1488
pCf587        SITLSSDEETRYRLWARVRSANAPADDYAYDVAKTAVDFRAVKAPRPYVVGPOVLETGK 1488
*****:*****.*****:*****:*****:*****:*****:*****:*****:*****

pKAZ3          KYVFKAETS LPYRGMDVKLNGFFTLPDGSI VQGD TAEYVPSDTDLNQATVETKYTTWIEG 1563
pMS6198A      KYVFKAETS LPYRGMDVKLNGFFTLPDGSI VQGD TAEYVPSDTDLNQATVETKYTTWIEG 1548
pKp55         KYVFKAETS LPYRGMDVKLNGFFTLPDGSI VQGD TAEYVPSDTDLNQATVETKYTTWIEG 1552
pEc19         KYVFKAETS LPYRGMDVKLNGFFTLPDGSI VQGD TAEYVPSDTDLNQATVETKYTTWIEG 1552
pAPEC1990     KYVFKAETS LPYRGMDVKLNGFFTLPDGSI VQGD TAEYVPSDTDLNQATVETKYTTWIEG 1548
pNDM-KN       KYVFKAETS LPYRGMDVKLNGFFTLPDGSI VQGD TAEYVPSDTDLNQATVETKYTTWIEG 1548
pUMNK88       KYVFKAETS LPYRGMDVKLNGFFTLPDGSI VQGD TAEYVPSDTDLNQATVETKYTTWIEG 1548
pCf587        KYVFAKETS LPYRGMDVKLNGFFTLPDGSI VEGD TAEYVPSDNDLNQATVETKYTTWIEG 1548
****.***:*****:*****:*****:*****:*****:*****:*****:*****

pKAZ3          YRDQGAESHSLRSRVWQYVWPSFGMQVRKNADVAPATITASVRPIAFNGKLEEPTYEWE 1623
pMS6198A      YRDQGAESHSLRSRVWQYVWPSFGMQVRKNADVAPATITASVRPIAFNGKLEEPTYEWE 1608
pKp55         YRDQGAESHSLRSRVWQYVWPSFGMQVRKNADVAPATITASVRPIAFNGKLEEPTYEWE 1612
pEc19         YRDQGAESHSLRSRVWQYVWPSFGMQVRKNADVAPATITASVRPIAFNGKLEEPTYEWE 1612
pAPEC1990     YRDQGAESHSLRSRVWQYVWPSFGMQVRKNADVAPATITASVRPIAFNGKLEEPTYEWE 1608
pNDM-KN       YRDQGAESHSLRSRVWQYVWPSFGMQVRKNADVAPATITASVRPIAFNGKLEEPTYEWE 1608
pUMNK88       YRDQGAESHSLRSRVWQYVWPSFGMQVRKNADVAPATITASVRPIAFNGKLEEPTYEWE 1608
pCf587        YRDQGAESHSLRSRVWQYVWPSFGFAMQVRKSADAAAPATITASVRPIAFNGKLEEPTYEWE 1608
***:*****:*****.***:*****.***:*****:*****:*****:*****:*****

pKAZ3          LPEGAVIQDQRQDIVRSFVINEPGDYNIKVTVRDARGHETVIEQPLKIGQAAPYAIDLQY 1683
pMS6198A      LPEGAVIQDQRQDIVRSFVINEPGDYNIKVTVRDARGHETVIEQPLKIGQAAPYAIDLQY 1668
pKp55         LPEGAVIQDQRQDIVRSFVINEPGDYNIKVTVRDARGHETVIEQPLKIGQAAPYAIDLQY 1672
pEc19         LPEGAVIQDQRQDIVRSFVINEPGDYNIKVTVRDARGHETVIEQPLKIGQAAPYAIDLQY 1672
pAPEC1990     LPEGAVIQDQRQDIVRSFVINEPGDYNIKVTVRDARGHETVIEQPLKIGQAAPYAIDLQY 1668
pNDM-KN       LPEGAVIQDQRQDIVRSFVINEPGDYNIKVTVRDARGHETVIEQPLKIGQAAPYAIDLQY 1668
pUMNK88       LPEGAVIQDQRQDIVRSFVINEPGDYNIKVTVRDARGHETVIEQPLKIGQAAPYAIDLQY 1668
pCf587        LPEGAVIQDQRQDIVRSFVINEPGDYNIKVTVRDARGHEAVIEKSFKIDQSKPYAIDLQY 1668
*****:*****:*****:*****:*****:*****:*****:*****:*****

pKAZ3          SGSNKYEREPLDVLRLRPYISGGHPRDRISTRVYSVDGTPLESSGYGRATLGAGEHSIKL 1743
pMS6198A      SGSNKYEREPLDVLRLRPYISGGHPRDRISTRVYSVDGTPLESSGYGRATLGAGEHSIKL 1728
pKp55         SGSNKYEREPLDVLRLRPYISGGHPRDRISTRVYSVDGTPLESSGYGRATLGAGEHSIKL 1732
pEc19         SGSNKYEREPLDVLRLRPYISGGHPRDRISTRVYSVDGTPLESSGYGRATLGAGEHSIKL 1732
pAPEC1990     SGSNKYEREPLDVLRLRPYISGGHPRDRISTRVYSVDGTPLESSGYGRATLGAGEHSIKL 1728
pNDM-KN       SGSNKYEREPLDVLRLRPYISGGHPRDRISTRVYSVDGTPLESSGYGRATLGAGEHSIKL 1728
pUMNK88       SGSNKYEREPLDVLRLRPYISGGHPRDRISTRVYSVDGTPLESSGYGRATLGAGEHSIKL 1728
pCf587        SGSNKYEREPLDVLRLRPYISGGHPRDRILTHVYSVDGTPLENSGYGKATLRAGEHSIKL 1728
*****:*****:*****:*****:*****:*****:*****:*****

pKAZ3          KITSEMGHEAEGEVNINVAENKLPACSLSSRET VGSWIVYANCEDTDGRMKS YEWTIAGE 1803
pMS6198A      KITSEMGHEAEGEVNINVAENKLPACSLSSRET VGSWIVYANCEDTDGRMKS YEWTIAGE 1788
pKp55         KITSEMGHEAEGEVNINVAENKLPACSLSSRET VGSWIVYANCEDTDGRMKS YEWTIAGE 1792
pEc19         KITSEMGHEAEGEVNINVAENKLPACSLSSRET VGSWIVYANCEDTDGRMKS YEWTIAGE 1792
pAPEC1990     KITSEMGHEAEGEVNINVAENKLPACSLSSRET VGSWIVYANCEDTDGRMKS YEWTIAGE 1788

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pNDM-KN KITSEMGHEAEGEVNINVAENKLPACSLSSRETVGSWIVYANCEDTDGRMKS YEWTIAGE 1788
pUMNK88 KITSEMGHEAEGEVNINVAENKLPACSLSSRETVGSWIVYANCEDTDGRMKS YEWTIAGE 1788
pCf587 KITSEMGHEAEGEVSINVAENKLPVCSLKSRETVGSWIVYANCEDTDGRMKS YEWTIAGE 1788
*****.*****.***.*****

pKAZ3 LQSISSDRVTISKGT YETMPTISLVGVDDSGGKSEAVTMN 1843
pMS6198A LQSISSDRVTISKGT YETMPTISLVGVDDSGGKSEAVTMN 1828
pKp55 LQSISSDRVTISKGT YETMPTISLVGVDDSGGKSEAVTMN 1832
pEc19 LQSISSDRVTISKGT YETMPTISLVGVDDSGGKSEAVTMN 1832
pAPEC1990 LQSISSDRVTISKGT YETMPTISLVGVDDSGGKSEAVTMN 1828
pNDM-KN LQSISSDRVTISKGT YETMPTISLVGVDDSGGKSEAVTMN 1828
pUMNK88 LQSISSDRVTISKGT YETMPTISLVGVDDSGGKSEAVTMN 1828
pCf587 LKSISSDRVTISKGP NKT MPTISLVGVDDSGGRSEAVTMN 1828
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