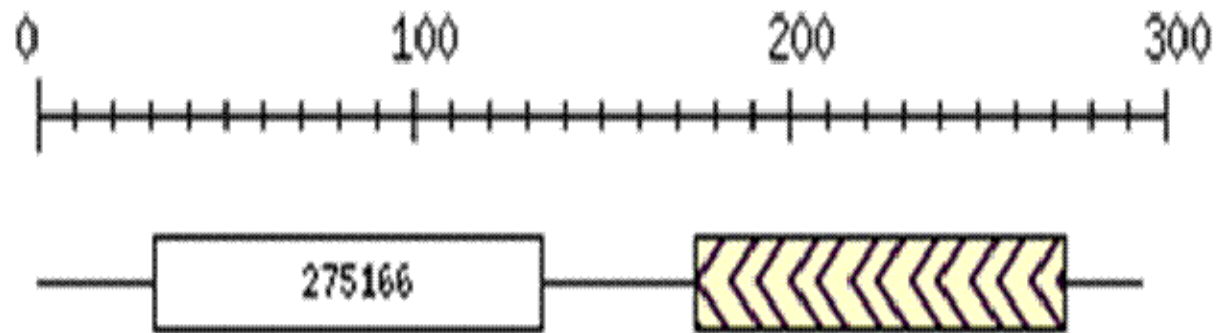


# VirB9



	<u>Domain ID</u>	<u>BEGIN</u>	<u>END</u>	<u>Total ID</u>
1.	PD275166	31	133	73
2.	PD013911	175	272	76

1 10 20 30 40 50 60 70 80 90 100 110 120 130

J25263\_HELPY(65-107) TVIQLEKDEETISYI---TFGNKGSII---VPNSNHIFIQPKSVKSNLM  
 J92LU9\_HELPJ(65-107) TVIQLEKDEETISYI---TFGNKGSII---VPNSNHIFIQPKSVKSNLM  
 J9JMX7\_HELPY(65-107) TVIQLEKDEETISYI---TFGNKGSII---VPNSNHIFIQPKSVKSNLM  
 J50336\_ECOLD(22-129) DVPSSSRYDHRIRYVYTPADYVQVDTVLG VATHIHLEEGEQYLTH---AFGIPKPMPL---P---GRAGIFLSSRTAELA---NTNLIVYTD  
 J46704\_ECOLD(33-109) DYRJKSVVYNPVYVVKIDAVAGVATHIVVAPDETYLTH---AFGDSERTF---A---HKMHFFVFKPKQMS---DTNLIVYTD  
 J66289\_AGRTO(31-143) DPRMRYLAYNPDDQVYVRLSTAVGATLVVTFGANEVTYAV---AVSNKDLAA---L---PRGNLYFFKASQVLP---PQPVVVLT  
 J93V30\_AGRTO(31-143) DPRMRYLAYNPDDQVYVRLSTAVGATLVVTFGANEVTYAV---AVSNKDLAA---L---PRGNLYFFKASQVLP---PQPVVVLT  
 VIB9\_AGR5(31-143) DPRMRYLAYNPDDQVYVRLSTAVGATLVVTFGANEVTYAV---AVSNKDLAA---L---PRGNLYFFKASQVLP---PQPVVVLT  
 J9RP10\_RHIET(76-188) DPRMRYLAYNPDDQVYVRLSTAVGATLVVTFGANEVTYAV---AVSNKDLAA---L---PRGNLYFFKASQVLP---PQPVVVLT  
 VIB9\_AGRTO(31-139) DPRMRYLAYNPDDQVYVRLSTAVGATLVVTFGANEVTYAV---AVSNKDLAA---L---PRGNLYFFKASQVLP---PQPVVVLT  
 VirB9(31-133)  
 J8VT94\_AGRTO(31-139) DPRMRYLAYNPDDQVYVRLSTAVGATLVVTFGANEVTYAV---AVSNKDLAA---L---PRGNLYFFKASQVLP---PQPVVVLT  
 J9F594\_AGRRH(31-139) DPRMRYLAYNPDDQVYVRLSTAVGATLVVTFGANEVTYAV---AVSNKDLAA---L---PRGNLYFFKASQVLP---PQPVVVLT  
 Q8KJ1\_RHILO(5-143) AFLALACSLLLTLEASREDT---PLAGKDHMRYLAYRDPDEYVRLSTAVGATLVVTFGANEVTYAV---AVSNKDLAA---L---PRGNLYFFKASQVLP---PQPVVVLT  
 J847E1\_PSEPU(30-132) ALSSDNRYKQVYDPNQIYELVGTGYGQTSIEFEADHMKVY---ALGDTISMQS---M---PFRMRVFLKPVEDNA---DTNMLVITS  
 J8VMF4\_PSEPU(30-132) ALSSDNRYKQVYDPNQIYELVGTGYGQTSIEFEADHMKVY---ALGDTISMQS---M---PFRMRVFLKPVEDNA---DTNMLVITS  
 J8PRJ3\_XANAC(33-138) SLVTDORVQVYDPNQIYELVGTGYGQTSIEFEADHMKVY---ALGDTISMQS---M---PFRMRVFLKPVEDNA---DTNMLVITS  
 Q8GB64\_RICTY(1-158) MTIVRFYFLAFLLLSGFTAQRACPVYDVSFNSSNHYVDDL SLTKDNRIKTYIYNPMEYVLLVLFHFGQSHIEFAKNEEIQNI---ILGDAYAWKI---T---PLANRFLFKPLEKDI---RTNMTIITN  
 Q920N7\_RICPR(1-157) MTIVRFYFLVFLLSGFTYQRACPVYDVSFNSSNHYVDDL SLTKDNRIKTYIYNPMEYVLLVLFHFGQSHIEFAKNEEIQNI---ILGDAYAWKI---T---PLANRFLFKPLEKDI---RTNMTIITN  
 Q92IN2\_RICCN(1-157) MTIVRFYFLVFLLSGFTYQRACPVYDVSFNSSNHYVDDL SLTKDNRIKTYIYNPMEYVLLVLFHFGQSHIEFAKNEEIQNI---ILGDAYAWKI---T---PLANRFLFKPLEKDI---RTNMTIITN  
 J8GB65\_RICTY(28-139) RDPLRVHIYNPDDVFKFTGYGYGQASIELAKEEIVSI---SMGDTTSHQI---V---PAGHRIFIKPMEPDA---TNTMLITN  
 J92DP1\_RICPR(28-139) RDPLRVHIYNPDDVFKFTGYGYGQASIELAKEEIVSI---SMGDTTSHQI---V---PAGHRIFIKPMEPDA---TNTMLITN  
 J92IN6\_RICCN(28-139) RDPLRVHIYNPDDVFKFTGYGYGQASIELAKEEIVSI---SMGDTTSHQI---V---PAGHRIFIKPMEPDA---TNTMLITN  
 J8RPL6\_ANAPH(25-162) CFASTNI---GVPYVSDSRIKTFYVSNPNEVFTVYVFSQGYYSYIEFAEGEKVKNI---AVGDASSUKI---N---PYDNKLLVMPFEVSS---RTNMIITN  
 J8RPM2\_EHRCH(27-156) NRY---DMPYVSDSRIKTFYVSNPNEVFTVYVFSQGYYSYIEFAEGEKVKNI---AVGDASSUKI---N---PYDNKLLVMPFEVSS---RTNMIITN  
 J9K439\_BBBB(13-154) LVSGNLNWSIN---NPKISVSDSRIKTFYVSNPNEVFTVYVFSQGYYSYIEFAEGEKVKNI---AVGDASSUKI---N---PYDNKLLVMPFEVSS---RTNMIITN  
 J9K46\_BBBB(17-151) NASIN---NPKISVSDSRIKTFYVSNPNEVFTVYVFSQGYYSYIEFAEGEKVKNI---AVGDASSUKI---N---PYDNKLLVMPFEVSS---RTNMIITN  
 J8RPD9\_LEGPN(25-135) SLSTDTRIKKVVYRENDVIPVHGIPFTTTQIQFAKQERVLDI---EGGDTTAMV---YTHPQLENMIFIKPTHFDS---KTNMTVITN  
 J9RLR5\_LEGPN(25-135) SLSTDTRIKKVVYRENDVIPVHGIPFTTTQIQFAKQERVLDI---EGGDTTAMV---YTHPQLENMIFIKPTHFDS---KTNMTVITN  
 J84B45\_BARQU(30-143) VSARKDNRIKTYIYNPMEYVLLVLFHFGQSHIEFAKNEEIQNI---ILGDAYAWKI---T---PLANRFLFKPLEKDI---RTNMTIITN  
 J8GJ59\_BBBB(30-143) VSARKDNRIKTYIYNPMEYVLLVLFHFGQSHIEFAKNEEIQNI---ILGDAYAWKI---T---PLANRFLFKPLEKDI---RTNMTIITN  
 J9RNC9\_BARHE(30-143) VSARKDNRIKTYIYNPMEYVLLVLFHFGQSHIEFAKNEEIQNI---ILGDAYAWKI---T---PLANRFLFKPLEKDI---RTNMTIITN  
 J8KIN3\_RHIET(29-138) TQDSRIRFVYDQYVYNYITRIVVGTLRSSVQVEFADEEIAHV---ALGNSVAVY---A---PAGNIFLKPENQ---VTNISVYTT  
 J93DB6\_AGRTO(29-138) TQDSRIRFVYDQYVYNYITRIVVGTLRSSVQVEFADEEIAHV---ALGNSVAVY---A---PAGNIFLKPENQ---VTNISVYTT  
 J92201\_RHIME(28-137) TQDSRIRFVYDQYVYNYITRIVVGTLRSSVQVEFADEEIAHV---ALGNSVAVY---A---PAGNIFLKPENQ---VTNISVYTT  
 J9PHJ2\_XYLF(27-134) DPHIRIVYDYNPMLVKLSTFYGVSTHVFADGETIQAQV---ALGDDQAKVY---V---NRENHLFVFKPQAKA---DTNLIVYTD  
 J981S0\_RHILO(30-138) SRDSRIRFVYDQYVYNYITRIVVGTLRSSVQVEFADEEIAHV---ALGNSVAVY---A---PAGNIFLKPENQ---VTNISVYTT  
 J9A5M6\_CAUCR(18-130) NPVASANARPQVRVRYVYVDDQVYVRLDATALGCVYVTFEGEDERIEV---AVGDSLGMQI---TPN---RRARVFLVFKPNERAT---ATNMTVYTT  
 J8VRD0\_HAEAE(31-133) DRRIRVYVYDQYVYNYITRIVVGTLRSSVQVEFADEEIAHV---ALGNSVAVY---A---PAGNIFLKPENQ---VTNISVYTT  
 J9F528\_ECOLD(31-132) RDGRITQVYDQYVYNYITRIVVGTLRSSVQVEFADEEIAHV---ALGNSVAVY---A---PAGNIFLKPENQ---VTNISVYTT  
 J8P7X5\_XANCP(29-137) VQEYETPDRIYQVRTGLGTTTQVLELSPNEKILDY---STFTGGHEL---T---RRENVFYLPKPNVDV---DTNMTVYTT  
 J8PJB5\_XANAC(29-137) VQEYETPDRIYQVRTGLGTTTQVLELSPNEKILDY---STFTGGHEL---T---RRENVFYLPKPNVDV---DTNMTVYTT  
 Q8YDZ1\_BRUME(3-103) VRALPGVGARIVFAPGENIEDV---ASGFTQGEF---K---ASHNILYKARSMTL---SHSNQSIDHA  
 J9RPX6\_BRUSU(29-145) DSRIRYVYDQYVYNYITRIVVGTLRSSVQVEFADEEIAHV---ALGNSVAVY---A---PAGNIFLKPENQ---VTNISVYTT  
 Q1UR5\_RHIME(7-155) ALSLVLGFASSAAYAVDVTSSRYDNRIRYVYVDDQVYVRLDATALGCVYVTFEGEDERIEV---AVGDSLGMQI---TPN---RRARVFLVFKPNERAT---ATNMTVYTT  
 J91U48\_ECOLD(29-151) DNRIRYVYVDDQVYVRYAVAGLGARVYVFPAGEITLDV---ASGFTQGEF---S---DRRNLVYIKPKSVYV---GQVPA-MA  
 J9AG68\_ACTAC(32-146) DDRIQSQVYVYDQYVYNYITRIVVGTLRSSVQVEFADEEIAHV---ALGNSVAVY---A---PAGNIFLKPENQ---VTNISVYTT  
 J9F251\_ACTAC(32-146) DNRIRYVYVDDQVYVRYAVAGLGARVYVFPAGEITLDV---ASGFTQGEF---S---DRRNLVYIKPKSVYV---GQVPA-MA  
 Q847A7\_CAMJE(27-87) DKRIAYVYVYDQYVYNYITRIVVGTLRSSVQVEFADEEIAHV---ALGNSVAVY---A---PAGNIFLKPENQ---VTNISVYTT  
 J9EUF2\_ECOLD(31-100) DPRNQVYVYDQYVYNYITRIVVGTLRSSVQVEFADEEIAHV---ALGNSVAVY---A---PAGNIFLKPENQ---VTNISVYTT  
 J66177\_AGRTO(88-174) IELQGGEVYRD---VLVGDIVRMLKVEPATSGAAGGQAIHLIVKPSPEPGLTSMVYVTS  
 J8U694\_AGR5(95-181) IELQGGEVYRD---VLVGDIVRMLKVEPATSGAAGGQAIHLIVKPSPEPGLTSMVYVTS  
 J92483\_AGR5(92-178) IELQGGEVYRD---VLVGDIVRMLKVEPATSGAAGGQAIHLIVKPSPEPGLTSMVYVTS  
 J84647\_RHILV(77-163) IELQGGEVYRD---VLVGDIVRMLKVEPATSGAAGGQAIHLIVKPSPEPGLTSMVYVTS  
 J9F5D0\_AGRRH(77-163) IELQGGEVYRD---VLVGDIVRMLKVEPATSGAAGGQAIHLIVKPSPEPGLTSMVYVTS  
 J84HS9\_RHIET(77-163) IELQGGEVYRD---VLVGDIVRMLKVEPATSGAAGGQAIHLIVKPSPEPGLTSMVYVTS  
 J93UX4\_AGRTO(77-163) IELQGGEVYRD---VLVGDIVRMLKVEPATSGAAGGQAIHLIVKPSPEPGLTSMVYVTS  
 TRB6\_RHISM(77-163) IELQGGEVYRD---VLVGDIVRMLKVEPATSGAAGGQAIHLIVKPSPEPGLTSMVYVTS  
 TRB6\_AGRTO(88-174) IELQGGEVYRD---VLVGDIVRMLKVEPATSGAAGGQAIHLIVKPSPEPGLTSMVYVTS  
 J71182\_ENTAE(100-180) VALQPGEQVNS---INLGDITARTVYEPATITGSGATEVQHLIIPMDVGLTSLVYVITN  
 J9AHH2\_COMTE(100-180) VALQPGEQVNS---INLGDITARTVYEPATITGSGATEVQHLIIPMDVGLTSLVYVITN  
 J03541\_ECOLD(91-171) VALQPGEQVNS---INLGDITARTVYEPATITGSGATEVQHLIIPMDVGLTSLVYVITN  
 J8RSJ1\_PRBO2(98-178) VALQPGEQVNS---INLGDITARTVYEPATITGSGATEVQHLIIPMDVGLTSLVYVITN  
 J9PBT7\_XYLF(91-174) IALQPGENVNG---TNIQDP---RYHVEPAVTGSGASQIHLILKPLDVLGDTLVLVTTD  
 J9PHG5\_XYLF(91-170) IALQPGENVNG---TNIQDP---RYHVEPAVTGSGASQIHLILKPLDVLGDTLVLVTTD  
 J84EM6\_BBBB(113-205) YQVYARVGRVYIALQPGEELVY---VARGDITVRMLKVEPATSGAAGGQAIHLIVKPSPEPGLTSMVYVTS  
 J8XW99\_RALSO(120-212) YQVYARVGRVYIALQPGEELVY---VARGDITVRMLKVEPATSGAAGGQAIHLIVKPSPEPGLTSMVYVTS  
 J989I8\_RHILO(108-198) YQLYARPERVTDIALQPGEELVY---VARGDITVRMLKVEPATSGAAGGQAIHLIVKPSPEPGLTSMVYVTS  
 J9A4Y6\_CAUCR(100-203) IQYYPHTEGALRYLTAPERVSDVLEPGEQLTA---VSGDITVRMLKVEPATSGAAGGQAIHLIVKPSPEPGLTSMVYVTS  
 J89B85\_BRAJA(140-235) YQVYAPGQITDVALQEGEQLVY---SGPYARGDITVRMLKVEPATSGAAGGQAIHLIVKPSPEPGLTSMVYVTS  
 J89U03\_BRAJA(99-207) QIYAYSPGALYQIYARPGQITDIALQEGEQLTG---SGPIARGDITVRMLKVEPATSGAAGGQAIHLIVKPSPEPGLTSMVYVTS  
 J98P56\_RHILO(12-117) IQIYPHSEGALYQVYARPGQITDIALQEGEQLTG---DGPARGDITVRMLKVEPATSGAAGGQAIHLIVKPSPEPGLTSMVYVTS  
 J8KJN5\_RHILO(134-208) PGEKLT---VSGDITVRMLKVEPATSGAAGGQAIHLIVKPSPEPGLTSMVYVTS  
 Q8K425\_BBBB(2-78) TTIIEGEGESIRS---IIAGDITGEGEIDGVPGGQA---FAIKPVARGVHTMTVYVITN

Consensus  
 .....d.r.....y.....g....i.f...E..... ..Gd...u.....n.....k.....tn...v.t.

131 140 150 160 170 180 190

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025263_HELPY(65-107)
092LU9_HELPJ(65-107)
09JMX7_HELPY(65-107)
050336_ECOLI(22-129) R----RSYKFRQLQMR-----NDRNGAMYELAFRYPD
046704_ECOLI(33-109) K----RTY
066289_AGR TU(31-143) SDAG-MRRYVFSISSK-----TLPHLDKEQADLYYSVQFAYPADDA
093Y30_AGR TU(31-143) SDAG-MRRYVFSISSK-----TLPHLDKEQADLYYSVQFAYPADDA
VIB9_AGR T5(31-143) SDAG-MRRYVFSISSK-----TLPHLDKEQADLYYSVQFAYPADDA
Q9RP10_RHIET(76-188) SDAG-MRRYVFSISSK-----TLAHLDKQEPDLYYSVQFAYPADEA
VIB9_AGR TU(31-139) SDSG-MRRYVFSISSK-----TSLHLDKEQADLYYSVQFAYP
VirB9(31-133) SDSG-MRRYVFSISSK-----TSLHLDKEQADLYYS
08YT94_AGR TU(31-139) SDAG-MRRYVFSLATR-----TMSRLDKEQADLYYSVQFTYP
09F594_AGR RH(31-139) SDAG-MRRYVFSLATR-----TMSRLDKEQADLYYSVQFTYP
Q8KJM1_RHILO(5-143) SESG-TRRYVFSISTR-----AMPKLEQADLYYSVQFTYPGDEA
Q847E1_PSEPU(30-132) K----RTYFQLNST-----KAKTSQSYLIRFYYP
Q8VMF4_PSEPU(30-132) K----RTYFQLNST-----KAKSGQSYLIRFYYP
Q8PRJ3_XANAC(33-138) K----RTYFKLTSS-----KSAARMTFLVRFYYPNSN
Q8GB64_RICTY(1-158) K----RTYEFDIAS-----ELMHGNERDLVYVIKFYYPKKSNGMYMARF
Q9ZDN7_RICPR(1-157) K----RTYEFDIAS-----ELMHGNERDLVYVIKFYYPKKSNGMYMARF
Q92IN2_RICCN(1-157) K----RTYEFDIAS-----ELMHGNERDLVYVIKFYYPKKSNGMYMARF
Q8GB65_RICTY(28-139) K----RTYFFELYAA-----ETLDIRDPEHVFYKFLYPDDENDNMS
Q9ZDP1_RICPR(28-139) K----RTYFFELYAA-----ETLDIRDPEHVFYKFLYPDDENDNMS
Q92IN6_RICCN(28-139) K----RTYFFELYAA-----ETLDIRDPEHVFYKFLYPDDENDNMS
Q8RPL6_ANAPH(25-162) KG----RSYAFDLISTAIPLSGGARSSINKLGTKNSALADLAYVYRFYYPQSDRNF
Q8RPM2_EHRCH(27-156) KG----RSYAFDLICR-----SAMESDDNDQAGYSOLIDLTYVRFYYPKTEEDF
Q9K439_BBBBB(13-154) KK----RNYIFDLISRP-NYDKYPTDARKYDHDYSAEKDISYVYRFYYPQEEGEF
Q9K446_BBBBB(17-151) KK----RNYIFDLISRP-NYDKYPTDADAKKVDHDYSVEKDISYVIRFYYPQEEGEF
Q8RPD9_LEGPN(25-135) Q----RAYYFSLTSA-----KKLEQEPGKTYALKFEYYPK
Q9RLR5_LEGPN(25-135) Q----RAYYFSLTSA-----KKLEQEPGKTYALKFEYYPQ
Q84BH5_BARQU(30-149) RQDGTKRSYQFELKFY-----KATFH--RRYFVYVYIYKQNFQAQKLA
Q8GJ59_BBBBB(30-143) RQDGTKRSYQFELQIR-----EGDVSAGNETYFLVKFRYPE
Q9RNC9_BARHE(30-143) RQDGTKRSYQFELQYR-----EGDVSAGNETYFLVKFRYPE
Q8KIN3_RHIET(29-138) RRDGSTRSYQHELTVR-----DGSVEAGQNTYFYVKYRYP
Q93DB6_AGR TU(29-138) RRDGSTRSYQHELTAR-----DGSVEAGQNTYFYVKYRYP
Q92Z01_RHIHE(28-137) RRDGSTRSYQHELTVR-----DGSVEAGQNTYFYVKYRYP
Q9PHJ2_XYLFA(27-134) LRTYEFALVYHPRRPN-----DSTAWADPNLIFSLTRYP
Q981S0_RHILO(30-138) K----RSYVFLKGE-----FRPYAQQ-VYAIKFRYPEREASD
Q9A5M6_CAUCR(18-130) L----RSYNFDLRAY-----ASSRARQPLFLSLRFDYP
Q8VRD0_HAEAE(31-133) K----RTYLFNLVSV-----KNRNSAYNGIRFSYP
Q9F528_ECOLI(31-132) K----HIYPLYLST-----TKQPT--YILRFHYPKPPS
Q8P7X5_XANCP(29-137) -----DTNHMIRTATHSYILELKVATDWRLEQAKQAGVQYKVVFSYPKDTS
Q8PJ65_XANAC(29-137) -----DTNHMIRTATHSYILELKVATDWRLEQAKQAGVQYKVVFSYPKDTS
Q8YDZ1_BRUME(3-103) PEPGKWDNLHVTTDQRHYDFDLRLHPGRNN-----QRVAYRYQFRYP
Q9RXP6_BRUSU(29-145) PEPGKWDNLHVTTDQRHYDFDLRLHPGRNN-----QRVAYRYQFRYP
Q91UR5_RHIHE(7-155) PKAGDWDNLHVTTNKYHYDIDLKLPGGGNDGKPAINQRVAYRYQVLYP
Q91UW8_ECOLI(29-151) PEAGKWDNLHVTTNLRHYDIDLHLLPSNNSGKAPA--NRVAYRYVEYRPADE
Q9AG68_ACTAC(32-146) PTPGQWNTNLFINTNKRTYSFDLILVPENST-----SSYQVNFYSYP
Q9F251_ACTAC(32-146) PTPGQWNTNLFINTNKRTYSFDLILVPENST-----SSYQVNFYSYP
Q847A7_CAMJE(27-87)
Q9EUF2_ECOLI(31-100)
066177_AGR TU(88-174) R----RTYHIQLKSH-----ANQYMARVGFYEYEDVSTRLA
Q8UG94_AGR T5(95-181) R----RTYHIQLKSH-----ANQYMARVGFYEYEDVSARLA
Q92483_AGR T5(92-178) R----RTYHIQLKSH-----ANQYMARVGFYEYEDVSARLA
Q84647_RHILV(77-163) R----RTYHIQLKSH-----PSQYMARVGFYEYEDVSTKLA
Q9F5D0_AGR RH(77-163) R----RTYHVQLKSH-----PSQYMARVGFYEYEDVSTKLA
Q84HS9_RHIET(77-163) R----RTYHIQLKSH-----PSQYMARVGFYEYEDVSTKLA
Q93UX4_AGR TU(77-163) R----RTYHIQLKSH-----PSQYMARVGFYEYEDVSTKLA
TRBG_RHISN(77-163) R----RTYHIQLKSH-----PSQYMARVGFYEYEDVSTKLA
TRBG_AGR TU(88-174) R----RTYHIQLKSH-----PTQYMARVGFYEYEDVSTKLA
P71182_ENTAE(100-180) R----RSYHFRLRS-----RTEYMPQVSFTYPEE
Q9AAH2_COMTE(100-180) R----RSYHFRLRS-----RTEYMPQVSFTYPEE
Q03541_ECOLI(91-171) R----RSYHMRLRS-----RTQYMPQVSFTYPED
Q8RSJ1_PRB02(98-178) R----RAYHLRLRS-----RTEYMPQVSFTYPED
Q9PBT7_XYLFA(91-174) R----RTYHFRLRSS-----RTQLMPFVSFTYPEDANAK
Q9PHG5_XYLFA(91-170) R----RTYHFRLRSS-----RTQLMPFVSFTYPED
Q84EM6_BBBBB(113-205) R----RTYLLELTST-----EKTAMASVSHWYPKD
Q8X499_RALSO(120-212) R----RTYLLELTST-----EKTAMASVSHWYPKD
Q989I8_RHILO(108-198) R----RTYHLQLST-----EKTSHAAISATYS
Q9A4Y6_CAUCR(100-203) R----RAYHLALEST-----DTTAMAAISAWYYPQD
Q89B85_BRAJA(140-235) R----RTYLLELCST-----EKTAMASVSHWYYPED
Q89U03_BRAJA(99-207) R----RTYLIELRS-----ERPYPSPVSHWYYPETARE
Q98P56_RHILO(12-117) R----RSYHLELRAG-----AKPYMPVSHWYYP
Q8KJN5_RHILO(134-208) R----RTYHLQLST-----EKTSHAAISATYS
Q8K425_BBBBB(2-78) R----RSYFNVQEV-----RSPTFYVYQFRYPD
Consensus .....r.y...l.s.....v.f.jp.....

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1 10 20 30 40 50 60 70 80 90 100 110 116

024881\_HELPY(169-238) SLMPKE-IFNDKQFYFKFD-KRLALSKFPVIYKV-V---DGYDNPVNTRIVGD---YIIAEDVSAKHTLRGKDYLCI
092KE9\_HELPY(248-317) SLMPKE-IFNDKQFYFKFD-KRLALSKFPVIYKV-V---DGYDNPVNTRIVGD---YIIAEDVSAKHTLRGKDYLCI
Q92N25\_HELPJ(250-319) SLMPKE-IFNDKQFYFKFD-KRLALSKFPVIYKV-V---DGYDNPVNTRIVGD---YIIAEDVSAKHTLRGKDYLCI
Q8RMY7\_HELPY(468-544) VKSKYKDLPTQ-IFNDEQFYFKFD-RSNARSKFPVYIKV-I---DGYDNPVNSRVYGD---YIIAEDVSAKHTLRGKDYLCI
Q9ZKL2\_HELPJ(80-149) DIKVLQ-VFDGQKTYFYRYD-RDQAFSKFPYTYKV-V---DGYDNPVNSRVYGD---YIIAEDVSAKHTLRGKDYLCI
Q9KTS1\_CAMJE(282-346) E-IFNDKQFYFKFD-KK-MPQVPAIFAV-I---DKQDQSPVETRIIGN---YIIAETAKKFTIKSGDYVYCV
050336\_ECOLI(157-237) NLKYNMSSGD---KDIAPVNM-ARDQGRFTYLF--SAR--ADLPVSIYFVDA--EGNESLVPRTTVGSSN-NIIAVHKVNPKNMIRLGNRALAI
Q46704\_ECOLI(177-262) AGAKNYQVYHSEQPEMRSIOPVH-VMDNYRFRTEF--PAN--AELPQVYHISA--SGKETLPSHVVGENR-NIIIEVETVAKEMRIRLGDQVY
Q8R000\_HNEAE(144-234) ARPC-QGQTYNYRYFVQGEEDKIKFLE-ARDNGFTICFKF--PIG--NDLPVIFKFLP--DGKEGLVNSHV--EN-DYIVETINAEYRIRLGDLYVGVK
Q9F528\_ECOLI(142-227) PCTDGGIINGHYQLKG---DKSIFPYQ-VMDNGEFTCMRW--TNK--QELPVLRYVDA--DGNELVNGDR--NK-NTHVYVYDAEMLRLRLGDQVADI
Q847A7\_CAMJE(197-267) DISPMF-AYDDGVTYLYGF--DNT--KTFPAVFMY-D---NGKESILNTHIKKDGNYEVLVQKITKQILLRSGDKVYGI
Q8YDZ1\_BRUME(130-223) VNMNYTHQVGTNSASIAPTL-AYDDGFRFTYLF--PNN--RDFPAFLVAE--DKSEIYNSHI-DPSAPDILVLRHVAKQMVLRGNKVIIGYINESFNPDG
Q9RXP6\_BRUSU(172-265) VNMNYTHQVGTNSASIAPTL-AYDDGFRFTYLF--PNN--RDFPAFLVAE--DKSEIYNSHI-DPSAPDILVLRHVAKQMVLRGNKVIIGYINESFNPDG
Q91U48\_ECOLI(176-268) NMNYSHQIGDASENIAPTH-AYDDGFRFTYLF--PNN--RDFPAFLVAE--DKTESLVNSHI-DPAVPDVLVLRQVSKEMVLRGNVAVVGTYNDSFDPDG
Q91UR5\_RHIME(183-275) NMNYSHEIGDNSEGIAPTH-AYDDGFRFTYLF--PNN--RDFPAFLVAE--DGTESIPNSHI-DPNNPVPLVLRHVYREFALRGNISVGVYINESFDPDG
Q9AG68\_ACTAC(180-269) KNMDYVMKVKAGSEITIPNY-AYDDGIFTYLGF--APN--KTFPAFLV-E---GSTESLNTNVKQDQNYQVVLVQKTAELVLRSGEKVYVGTYNQSY
Q9F251\_ACTAC(180-269) KNMDYVMKVKAGSEITIPNY-AYDDGIFTYLGF--APN--KTFPAFLV-E---GSTESLNTNVKQDQNYQVVLVQKTAELVLRSGEKVYVGTYNQSY
Q92L10\_XYLF(168-254) GKNTDYVW---AGSEKISPTA-ARDQGRFTYLF--TNN--RDMPAVYEVDE--KGNEALINTNYDGN---TIYVQRLVRRLLRKRGDVAVSINKSFD
Q9EUF2\_ECOLI(201-285) NMQYKRVAREGSDISPDY-AYDDGRYTLGFG--SPT--KKIPSVYFM---SGMEETINPVIYTRGANTLLGVVYDKRFVLRGLKQVYVGIEN
Q8GB65\_RICTY(156-244) HPEKYNFYIYI---SGSEIAPIK-IFDDGFTYLFQR-DKN--AETSIGFAVDD--SLRESLVNRYLAQDN-PNMHILEQVFPKLAIRKQKVCYFN
Q9ZDP1\_RICP(156-244) HPEKYNFYIYI---SGSEIAPIK-IFDDGFTYLFQR-DKN--AETSIGFAVDD--SLRESLVNRYLAQDN-PNMHILEQVFPKLAIRKQKVCYFN
Q92IN6\_RICCN(156-244) HPEKYNFYIYI---SGSEIAPIK-IFDDGFTYLFQR-DKN--AETSIGFAVDD--SLRESLVNRYLAQDN-PNMHILEQVFPKLAIRKQKVCYFN
Q66289\_AGRU(175-272) QPATT-VGAGDKNMHYVQAQDORSLLPLE-VFDGFTTYFHF--PGN--VRMPSIYIINP--DG-KEAVANYSVKGS---YVEISSVSRGMLRDGHTVLCIWNATYDPVY
Q93Y30\_AGRU(175-272) QPATT-VGAGDKNMHYVQAQDORSLLPLE-VFDGFTTYFHF--PGN--VRMPSIYIINP--DG-KEAVANYSVKGS---YVEISSVSRGMLRDGHTVLCIWNATYDPVY
YIB9\_AGR5(175-272) QPATT-VGAGDKNMHYVQAQDORSLLPLE-VFDGFTTYFHF--PGN--VRMPSIYIINP--DG-KEAVANYSVKGS---YVEISSVSRGMLRDGHTVLCIWNATYDPVY
Q9R1P0\_RHIET(220-317) QPATT-GATGDRNMHYVQAQDORSLLPLE-VFDGFTTYFHF--PGN--VRMPSIYIINP--DG-KEAVANYSVKGS---YVEISSVSRGMLRDGHTVLCIWNATYDPVY
YIB9\_AGRU(175-263) QPVTALGATDSNMHYVQAQDORSLLPLE-VFDGFTTYFHF--PGN--VRMPSIYIINP--DG-KEAVANYSVKGS---DVEISSVSRGMLRDGHTVLCI
YiB9(175-272) QPVTALGATDSNMHYVQAQDORSLLPLE-VFDGFTTYFHF--PGN--VRMPSIYIINP--DG-KEAVANYSVKGS---DVEISSVSRGMLRDGHTVLCIWNATYDPVY
Q8KJM1\_RHILO(175-272) RPPGT-ASSDESNFYHVKGDORSLLPLE-VFDGFTTYFHF--ASN--SRIPSLYIINP--DG-KEAANFTYKGD---YVEYSVAREHMLRDGHTVLCIWNATYDPVY
Q9F594\_AGRH(175-263) RPPAG-GSTDAKNMYSVQAQDORSLLPLE-VFDGFTTYFHF--PGN--VRVPSIYIINP--DG-KEATANYSVKGD---YVEYSVAREHMLRDGHTVLCI
Q8Y9T4\_AGRU(186-263) NMYSVQAQDORSLLPLE-VFDGFTTYFHF--PGN--VRVPSIYIINP--DG-KEATANYSVKGD---YVEYSVAREHMLRDGHTVLCI
Q84B45\_BARRQ(175-261) NMAYEAQGSLLIEPAS-VYDNGKTTTTFTF--LGN--TEIPAIYLVSL--DG-QESLVPSKIKGN--KVIYHATAAQFTLRGGNDVLCIFNKRFPVPEG
Q9RNC9\_BARRH(179-265) NMAYEAQGSLLIEPAS-VYDNGKTTTTFTF--LGN--TEIPAIYLVSL--DG-QEALVPKTIKGN--KVIYHATAAQFTLRGGNDVLCIFNKRFPVPEG
Q8B6J5\_BBBB(179-265) NMAYEAQGSSTLIEPTS-VYDNGKTTTTFTF--LGN--VEIPTIYLVTP--DG-QESLIPKSIKGN--QVIYHATAAQFTLRGGNEVLCIFNKRFPVPEG
Q8KIN3\_RHIET(175-262) NMARYSAQGSQALEPQAS-VYDNGKVTTFRAF--AGN--QEMPAIYIENS--DG-SESLVPKSVYDGN--LVLVHAISRKFLRRGGDVLVCFNEAYDRYGT
Q92201\_RHIME(174-260) NMARYSAQGAQALEPQS-VYDNGKVTTFRAF--VGN--QEMPAIYIENS--DG-SESLVPKSVYDGN--LVLVHAISRKFLRRGGDVLVCFNEAYDRYGT
Q93DB6\_AGRU(175-261) NMARYSSQGSQALEPQS-VYDNGKTTTTFRAF--VGN--QEMPAIYIENS--DG-SESLVPKSVYDGN--LVMYHATAAQFTLRGGDVLVCFNEAYDRYGT
Q8RPD9\_LEGPN(146-238) PNKT-VHPKVNTAYRFSGSPQLVPRH-VFDGKFTYFEL--SQG--GSVPAIFAVDD--QSGKESTVNTREK--YIVYQRLAPQFTLRQGLTASVFNAP
Q9RLR5\_LEGPN(146-238) PNKT-VHPKVNTAYRFSGSPQLVPRH-VFDGKFTYFEL--SAQ--GSVPAIFAVDD--QSGKESTVNTREK--FIVYQRLAPQFTLRQGLTASVFNAP
Q9A5H6\_CAUCR(150-239) PPQEVNKAYSFGSSGQGLPER-VFDGVSITTFV--PAG--VDYPAIFAVDD--DN-KEAVVNAIQDQ--FIVYVDRLASAFVLRGGQVYTRIIDQGYRE
Q981S0\_RHILO(149-242) ASQPNRQGFKAENANSYAYKGSANPLV-IYDNGKVTTFRAF--DPA--REVPRIYVDS--ER-METLVNRYREGA--FIVYVDRLASAFVLRGGHATCVFN
Q847E1\_PSEPU(155-244) TSTGTSPSPNINYGYSQDKEATIGLQGVYDNGQFTKFLM--KKG--ADLPQFYRVLP--DG-TEAMYNARREG--YVYVDRLASAFVLRGGHATCVFN
Q981S0\_PSEPU(151-244) PYTSSGTPASPNINYGYSQDKEATIGLQGVYDNGQFTKFLM--KKG--ADLPQFYRVLP--DG-TEAMYNARREG--YVYVDRLASAFVLRGGHATCVFN
Q8PR13\_XANAC(161-243) NLGYGTSNKTAPIKRAFDDGQFTYFHF--DQN--AETPSVYIYQF--DG-TETVNTREKQ--YLVYERTASQFTLRNGMNSHLCYQNNNA
Q8K425\_BBBB(82-173) PTRAHAAQAPVNYGASARTEFTPTR-VMDGFTYFHF--PRN--APVPAIFRYA--NGRERTVNTQVTEG--YIVYVDRLASAFVLRGGHATCVFN
Q8RPH2\_EHRC(189-257) HYILETKSENQILPVE-LFDGGLTYLKF--NSD--QITPQIFTYNN--SEKKVCPCKMLLQ--YVITKGVHKLMLRVEGDEVEIINRS
Q9K439\_BBBB(185-265) YNYTYIDEGGNADIYPIE-LFDGGLTYLKF--NMM--KI-PQVFEVE--DK--PCKRLLFD--YVITKGVHKLMLRVEGDEVEIINRS
Q9K446\_BBBB(182-260) YNYTYIDEGSNVDIYPIE-LFDGGLTYLKF--NSD--KI-PQVFEVE--K--SCKRLLDG--YVITKGVHKLMLRVEGSEVEIINRS
Q66177\_AGRU(186-257) PGAGVPAEQLSFSYSVSG-SAGWRPTRYYSDEKTYIQFP-RSISGQDAPVLFVY---SGGQNRIVNRYRKNKD---HMVY
Q8U694\_AGR5(193-276) PGAGVPAEQLSFSYSVSG-SAGWRPTRYYSDEKTYIQFP-RSISGQDAPVLFVY---SGGQNRIVNRYRKNKD---HMVYDYNDRAYLVSG
Q92483\_AGR5(190-273) PGAGVPAEQLSFSYSVSG-SAGWRPTRYYSDEKTYIQFP-RSISGQDAPVLFVY---SGGQNRIVNRYRKNKD---HMVYDYNDRAYLVSG
TRBG\_AGRU(186-257) PGTGVPAEQLSFSYSVSG-SAGWRPTRYYSDEKTYIQFP-RSISGQDAPVLFVY---SGGQNRIVNRYRKNKD---HMVY
Q84647\_RHILV(175-250) PGTAPDKLNFYSYSTSG-SASMKPKRYYSDEKTYIQFP-RSISGQDAPVLFVY---SGGQNRIVNRYRKNKD---HMTVDYAIK
Q93UX4\_AGRU(175-254) PGTAPDKLNFYSYSTSG-SASMKPKRYYSDEKTYIQFP-RSISGQDAPVLFVY---SGGQNRIVNRYRKNKD---HMTVDYAIKAILL
Q9F5D0\_AGRH(175-250) PGTAPDKLNFYSYSTSG-SAPMKPKRYYSDEKTYIQFP-RSISGQDAPVLFVY---SGGQNRIVNRYRKNKD---HMTVDYAIK
TRBG\_RHISN(175-250) PGTAPDKLNFYSYSTSG-SAPMKPKRYYSDEKTYIQFP-RSISGQDAPVLFVY---SGGQNRIVNRYRKNKD---HMTVDYAIK
Q84HS9\_RHIET(179-250) PDKLNFYSYSTSG-SASMKPKRYYSDEKTYIQFP-RSISGQDAPVLFVY---SGGQNRIVNRYRKNKD---HMTVDYAIK
PVTGEYLGDLSFDYELSG-SASMKPVRYVYDNGRKTIIEM--GTHQTEAPTLVYRKEGGLFDDTETLVNRYRQGN---RYIVDTYFORAIL
Q9AHH2\_COMTE(202-289) PATGEYLGDLSFDYELSG-SASMKPVRYVYDNGRKTIIEM--GTHQTEAPTLVYRKEGGLFDDTETLVNRYRQGN---RYIVDTYFORAIL
Q8RS11\_PRBQ(211-287) FQYDLSG-SASMKPVRYVYDNGRKTIIEM--GTHQTEAPTLVYRREGGLFDDTETLVNRYRQGN---RYIVDTYFORAIL
Q03541\_ECOLI(204-280) FNYSVSG-STSMKPVRYVYDNGKKTIIEM--HMEQTEAPTLVYRREGGLFDDTETLVNRYRQGN---RYIVDTYFORAIL
Q9PBT7\_XYLF(203-282) FDYVYSG-SYRMPKPVRYVYDNGRKTIIEM--SKNQSEAPALLVYHKGSLFKDDEETQVNYRYQDA---RYIVDTIFDKAILVSG
Q9PHG5\_XYLF(203-282) FDYVYSG-SYRMPKPVRYVYDNGRKTIIEM--SKNQSEAPALLVYHKGSLFKDDEETQVNYRYQDA---RYIVDTIFDKAILVSG
Q84EN6\_BBBB(234-318) FRYAISGTPPKLRAFDDGQKTYIQFP-PGTAQGLPPLFVIG---AQDQGLVNYRFRSP---YVYDRLFAAELRLGGDKGQVYRIE
Q8X499\_RAL50(241-325) FRYAVSISGTPPKLRAFDDGQKTYIQFP-PGTAQGLPPLFVIG---AQDQGLVNYRFRSP---YVYDRLFAAELRLGGDKGQVYRIE
Q8KJN5\_RHILO(239-322) FRYISITGTPPWRPRAFDDGSKVYIEFP-RRIDQGEAPPLFVIG---ADGNQGLVNYRFRSGN---YVYDRLFAAELRLGAKQKQVYRIE
Q989I8\_RHILO(214-312) AAAPVSSNVTLENIRFRYSISGTPPWRPRAFDDGSKVYIEFP-RRIDQGEAPPLFVIG---ADGNQGLVNYRFRSGN---YVYDRLFAAELRLGAKQKQVYRIE
Q9A4Y6\_CAUCR(217-315) RAQPAHVNVAVDSLFRYYSISGTPPWRPRAFDDGSKVYIEFP-ERLDQGEAPPLFVIG---PLDGTQLVNYRFRSGN---HYVYDRLFAAELRLGAKQKQVYRIE
Q89B85\_BRAJA(263-340) NFRYSIEGDDPWRPRAFDDGSKVYIEFP-SGTAQGEAPPLFVIG---PAGGSELVNYRFRSGN---YVYDRLFAAELRLGAK
Q89U03\_BRAJA(227-303) RYATIEGDDPWRPRAFDDGSKVYIEFP-QGTVQGEAPPLFVIG---PDGKTELVNYRFRSGN---VLIVDRLFAAELRLG6EH
Q98P56\_RHILO(137-195) ARMYRYGLTGNPPHTPVYVYDGRRYVEFP-RGTVQGEAPPLFVIG---PDGEAETNSRY
Q8P7X5\_XANAC(167-248) YDYATRTRKSKSLVPSRYVYDGGKFTYINMQLTRFPTGNPFAVFAREK---EHSEDFLVNTYVEGN---TLIVHGTYPFLVYRGGDMVYV
Q8PJB5\_XANAC(167-248) YDYATRTRKSKSLVPSRYVYDGGKFTYINMQLTRFPTGNPFAVFAREK---EHAEDFLVNTYVEGN---TLIVHGTYPFLVYRGGDMVYV
Q25263\_HELPY(400-447) NYNYQAPEKRSKHIEMSEIFDDGFTYFYG--KNITLQPAIFVYVQDQK
Q9ZLU9\_HELPJ(400-447) NYNYQAPEKRSKHIEMSEIFDDGFTYFYG--KNITLQPAIFVYVQDQK
Q9JMX7\_HELPY(400-447) NYNYQAPEKRSKHIEMSEIFDDGFTYFYG--KNITLQPAIFVYVQDQK
Q8RPL6\_ANAPH(189-241) PNAATRYMFTGGSANVSLAPQAFDDGFTYFYG--KNITLQPAIFVYVQDQK
Consensus .....y...g.....p.....d#G..tyf..f.....p..f.v..... .....v.....lr.g.....