

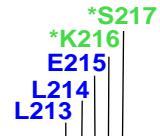
**S2 Table. Sequence alignment of the myosin I motor domains of phenamacril-sensitive (red box) and phenamacril-resistant species.**

Pocket residues are labeled with variable pocket residues highlighted in green. F. : *Fusarium*; M. : *Magnaporthe*; B. : *Botrytis*; A. : *Aspergillus*; S.: *Saccharomyces*; H. : *Homo*; D.: *Dictyostelium*; \*: Amino acid whose mutation cause high or medium resistance to phenamacril.

	1	10	20	30	40
F. <i>graminearum</i>	MGISRRP	KNKGAG	AAADGASGGAKP	KKATFETTKKKE	IGVSDLTLLSKV
F. <i>fujikuroi</i>	MGISRRP	KNKGAG	AAADGASGGAKP	KKATFETTKKKE	IGVSDLTLLSKV
F. <i>oxysporum</i>	MGISRRP	KNKGAG	AAADGASGGAKP	KKATFETTKKKE	IGVSDLTLLSKV
F. <i>verticillioides</i>	MGISRRP	KNKGAG	AAADGASGGAKP	KKATFETTKKKE	IGVSDLTLLSKV
F. <i>avenaceum</i>	MGISRRP	KNKGAG	PAADGANGVAKP	KKATFETTKKKE	IGVSDLTLLSKV
F. <i>solani</i>	MGISRRP	KNKDAR	AGAEAG...AKP	KKATFETTKKKE	IGVSDLTLLSKV
M. <i>grisea</i>	MGITRRG	KDKAAAGQ	AVAGGASGGRRAP	KKATFETSKKKD	DVGVSDDLTLSSKV
B. <i>cinerea</i>	MGISRRP	KGNNNAS	AAESAPSGKPNIT	QKAQFDTTKKKE	VEGVSDLTLLSKV
A. <i>flavus</i>	MGHSRRP	VGGEEKSRGFGRS	KVADVGDGRQAGKPPQV	KKATFETTKKKE	IGVSDLTLLSKV
S. <i>cerevisiae</i>	MAILKRG	ARKKVHQP	AKRSANI	KKATFDSSKKKE	VEGVSDLTLLSKV
H. <i>sapiens</i>					
D. <i>discoideum</i>					

	50	60	70	80	90	100
F. <i>graminearum</i>	SNEAINENLKKRFE	GR	EIYTYIGHVLVSVNPF	FRDLGIYTD	D	VLSQSYMGKNRLEMPPHVFA
F. <i>fujikuroi</i>	SNEAINENLKKRFE	GH	EIYTYIGHVLVSVNPF	FRDLGIYTD	Q	VLESYMGKNRLEMPPHVFA
F. <i>oxysporum</i>	SNEAINENLKKRFE	GH	EIYTYIGHVLVSVNPF	FRDLGIYTD	Q	VLESYMGKNRLEMPPHVFA
F. <i>verticillioides</i>	SNEAINENLKKRFE	GR	EIYTYIGHVLVSVNPF	FRDLGIYTD	Q	VLESYMGKNRLEMPPHVFA
F. <i>avenaceum</i>	SNEAINENLKKRFE	GA	EIYTYIGHVLVSVNPF	FRDLGIYTD	Q	VLESYMGKNRLEMPPHVFA
F. <i>solani</i>	SNEAINENLKKRFE	GA	EIYTYIGHVLVSVNPF	FRDLGIYTD	Q	VLDTYMGKNRLEMPPHVFA
M. <i>grisea</i>	SNEAINENLQKRFE	GR	EIYTYIGHVLVSVNPF	FRDLGIYTD	Q	VLDSYMGKNRLEMPPHVFA
B. <i>cinerea</i>	SNEAINENLKKRFD	NR	EIYTYIGHVLVSVNPF	FRDLGIYTD	A	VLDSYMGKNRLEMPPHVFA
A. <i>flavus</i>	SNEAINENLKKRFE	HD	EIYTYIGHVLVSVNPF	FRDLGIYTD	N	VLDSYMGKNRLEMPPHVFA
S. <i>cerevisiae</i>	SDEAINENLKKRFL	LNAT	EIYTYIGHVLVSVNPF	FRDLGIYTD	A	VMMNRYMGKNRLEMPPHVFA
H. <i>sapiens</i>						KEIEMVYQGAQQYENPPHIYA
D. <i>discoideum</i>						DIKAYNGRKYKEMPPHIYA

	110	120	130	140	150	160
F. <i>graminearum</i>	IAEASYYNMKAYS	DNOCVIIISGESGAGKTE	AAKRIMQYIASVSGGES	SDI	IKQIKDMVLAT	
F. <i>fujikuroi</i>	IAEASYYNMKAYS	DNOCVIIISGESGAGKTE	AAKRIMQYIASVSGGES	SDI	IKQIKDMVLAT	
F. <i>oxysporum</i>	IAEASYYNMKAYS	DNOCVIIISGESGAGKTE	AAKRIMQYIASVSGGES	SDI	IKQIKDMVLAT	
F. <i>verticillioides</i>	IAEASYYNMKAYS	DNOCVIIISGESGAGKTE	AAKRIMQYIASVSGGES	SDI	IKQIKDMVLAT	
F. <i>avenaceum</i>	IAEASYYNMKAYS	DNOCVIIISGESGAGKTE	AAKRIMQYIASVSGGES	SDI	IKQIKDMVLAT	
F. <i>solani</i>	IAEASYYNMKAYS	DNOCVIIISGESGAGKTE	AAKRIMQYIASVSGGES	SDI	IKQIKDMVLAT	
M. <i>grisea</i>	IAEASYYNMKAYS	DNOCVIIISGESGAGKTE	AAKRIMQYIASVSGGES	SDI	IQIKDMVLAT	
B. <i>cinerea</i>	IAEASYYNMKAYS	DNOCVIIISGESGAGKTE	AAKRIMQYIANVSGGS	SDI	IQIKDMVLAT	
A. <i>flavus</i>	IAEASYYNMKAYS	DNOCVIIISGESGAGKTE	AAKRIMQYIASVSGGS	SDI	IQIKDMVLAT	
S. <i>cerevisiae</i>	IAESMYYNMKAYS	DNOCVIIISGESGAGKTE	AAKRIMQYIAAAS	TH	ESIGIKDMVLAT	
H. <i>sapiens</i>	LADNMVYRNMI	IDRENOCVIIISGESGAGKTE	AAKYIMSYISRVSGG	GT	KVQHVVDIILQS	
D. <i>discoideum</i>	LANDAVYRSMR	QENOCVIIISGESGAGKTE	AAKKIMQFLTFVSS	Q	SPNGERISKMLLDS	



	170	180	190	200	210	220
F. <i>graminearum</i>	NPLLESFGNAKTL	ERNNNSRRGKYL	QIYFN	TQGEPEVGA	ITN	YLLKSRVVGQITNERNF
F. <i>fujikuroi</i>	NPLLESFGNAKTL	ERNNNSRRGKYL	QIYFN	TAQGEPEVGA	ITN	YLLKSRVVGQITNERNF
F. <i>oxysporum</i>	NPLLESFGNAKTL	ERNNNSRRGKYL	QIYFN	TAQGEPEVGA	ITN	YLLKSRVVGQITNERNF
F. <i>verticillioides</i>	NPLLESFGNAKTL	ERNNNSRRGKYL	QIYFN	TAQGEPEVGA	ITN	YLLKSRVVGQITNERNF
F. <i>avenaceum</i>	NPLLESFGNAKTL	ERNNNSRRGKYL	QIYFN	TQGEPEVGA	ITN	YLLQSRVVGQITNERNF
F. <i>solani</i>	NPLLESFGNAKTL	ERNNNSRRGKYL	QIYFN	TAQGEPEVGA	ITN	YLLKTRVVGQITNERNF
M. <i>grisea</i>	NPLLESFGNAKTL	ERNNNSRRGKYL	QIHFNS	VGEPEVGA	ITN	YLLKSRVVGQITNERNF
B. <i>cinerea</i>	NPLLESFGNAKTL	ERNNNSRRGKYL	QLOFN	TAQGEPEVGA	ITN	YLLKTRVVTIKDERNF
A. <i>flavus</i>	NPLLESFGNAKTL	ERNNNSRRGKYLE	LEFN	ANGEPEVGA	ITN	YLLKSRVVGQIANERNF
S. <i>cerevisiae</i>	NPLLESFGCAKTL	ERNNNSRRGKYLE	IKFN	QFEPACAGN	ITN	YLLKQRVVSQIKNERNF
H. <i>sapiens</i>	NPLLEAFGNAKTL	VRNNSRRGKYF	EIQF	SPGPE	DGGK	ISNFLLKSRVVMRNP
D. <i>discoideum</i>	NPLLEAFGNAKTL	VRNNSRRGKYMEM	QFN	AVGSP	IGGK	ITNYLLKSRVVGRTQGERSF

	230	240	250	260	270	280
F. <i>graminearum</i>	HIFYQFAK	GASQQYRETF	FGVQK	PETYVY	TSRSKCL	DVDGIDDLAEFEDTLNAMKVIIGLS
F. <i>fujikuroi</i>	HIFYQFAK	GASQQYRETF	FGVQK	PETYVY	TSRSKCL	DVDGIDDLAEFQDTLNAKVIIGLT
F. <i>oxysporum</i>	HIFYQFAK	GASQQYRETF	FGVQK	PETYVY	TSRSKCL	DVDGIDDLAEFQDTLNAKVIIGLT
F. <i>verticillioides</i>	HIFYQFAK	GASQQYRETF	FGVQK	PETYVY	TSRSKCL	DVDGIDDLAEFQDTLNAKVIIGLT
F. <i>avenaceum</i>	HIFYQFAK	GASEQYRQ	TFGVQK	PETYVY	TSRSKCL	DVDGIDDLAEFQDTLNAKVIIGLS
F. <i>solani</i>	HIFYQFTK	GASEHYRQ	TFGIQK	PETYVY	TSRSKCF	DVDGIDDLAEFQDTLNAKVIIGLS
M. <i>grisea</i>	HIFYQFTK	GASEHYRQ	TFGIQK	PETYVY	TSRSKCL	DVDGIDDLAEFQDTLNAKVIIGLS
B. <i>cinerea</i>	HIFYQFTK	GASQAYRE	NFGIQQ	PSQYL	YTSKAGCF	DVDGIDDLAEYQDTLNAKVIIGLS
A. <i>flavus</i>	HIFYQFTK	KAAPQYRQ	DMFGVQK	PQSYL	YTSRSKCF	DVPGVDDNAEFQDTLNAKVIIGMS
S. <i>cerevisiae</i>	HIFYQFTK	GASDAYRQ	TFGVQK	PQSYVY	TAAGCIS	SAETIDDLQDYQETLNAKVIIGL
H. <i>sapiens</i>	HIFYQLIE	GASAEQK	HSLGIT	MDYVY	YLSLSGS	YKVDDIDDRREFQETLNAKVIIGIF
D. <i>discoideum</i>	HIFYQML	KGLSQSK	LNELGLT	PNAPAYE	YLLKSGC	FVSTIDDSGEFKIIVKAMETLGLK

	290	300	310	320	330	340
<b>F. graminearum</b>	QPEOD	IFRMLSA	ILWIGNIQ	QEDQGG	.....	YAEVTD
<b>F. fujikuroi</b>	QAEOD	EIFRMLAA	ILWIGNIQ	QEDQGG	.....	YAEVID
<b>F. oxysporum</b>	QAEOD	EIFRMLAA	ILWIGNIQ	QEDQGG	.....	YAEVID
<b>F. verticillioides</b>	QAEOD	EIFRMLAA	ILWVGNIQ	QEDQGG	.....	YAEVID
<b>F. avenaceum</b>	QAEOD	IFRMLSA	ILWIGNIQ	QEDQNG	.....	YAEVKD
<b>F. solani</b>	QPEOD	EIFRMLAA	ILWIGNIQ	QEDQGG	.....	YAEVID
<b>M. grisea</b>	QEEOD	SVFRILAA	ILWTGNLVE	REDEEG	.....	YAAVTD
<b>B. cinerea</b>	QAEOD	EIFRMLAA	ILWTGNIQ	QREDEEG	.....	YAAVVD
<b>A. flavus</b>	EAEOD	NVFRMLAA	ILWIGNVQ	FAEDDSG	.....	NAALSD
<b>S. cerevisiae</b>	QEEOD	QIFRMLAA	ILWIGNVSE	ENEESG	.....	NAQVRD
<b>H. sapiens</b>	AEEOT	LVLQIVAG	ILHLGNISE	KEVGN	.....	YAAVES
<b>D. discoideum</b>	ESDON	SIWRILAA	ILHIGNIT	RAEAEQ	RTGTT	TVKVS

**M375**

	350	360	370	380	390
<b>F. graminearum</b>	ITIRILTP	PRNG...	EVIESPAN	PAQAQ	ATRDALAM
<b>F. fujikuroi</b>	ITIRILTP	PRNG...	EVIESPAN	PAQAQ	ATRDALAM
<b>F. oxysporum</b>	ITIRILTP	PRNG...	EVIESPAN	PAQAQ	ATRDALAM
<b>F. verticillioides</b>	ITIRILTP	PRNG...	EVIESPAN	PAQAQ	ATRDALAM
<b>F. avenaceum</b>	ITIRILTP	PRNG...	EVIESPAN	PSQAQ	ATRDALAM
<b>F. solani</b>	ITIRILTP	PRNG...	EVIESPAN	PSQAQ	ATRDALAK
<b>M. grisea</b>	ITIRILTP	PRSG...	EVIESPAN	VQAQ	ATRDALAK
<b>B. cinerea</b>	ITIRILTP	PRNG...	EVIESPAN	VPQAQ	ATRDALAK
<b>A. flavus</b>	LTIRIMET	TARGGRRG	SVYEVPLN	TVQAL	AVRDALSK
<b>S. cerevisiae</b>	LVERIMET	TNHGMKRG	SVYHVPLN	IVQAD	AVRDALAK
<b>H. sapiens</b>	LTSRQMSK	WGW.GKS	ESIHTV	TLNVE	QAQCYT
<b>D. discoideum</b>	LCYRSIST	GVG.KRC	SVISV	PMDCN	QAAYS

**\*E420**

Y409      F419      \*S418      C423      \*I424

	400	410	420	430	440	450
<b>F. graminearum</b>	TNTIG	LDIYGFEL	FEKNSFEOL	CINYN	NEKLOQ	IFIQ
<b>F. fujikuroi</b>	TNTIG	LDIYGFEL	FEKNSFEOL	CINYN	NEKLOQ	IFIQ
<b>F. oxysporum</b>	TNTIG	LDIYGFEL	FEKNTFEOL	CINYN	NEKLOQ	IFIQ
<b>F. verticillioides</b>	TNTIG	LDIYGFEL	FEKNTFEOL	CINYN	NEKLOQ	IFIQ
<b>F. avenaceum</b>	TNTIG	LDIYGFEL	FEKNSFEOL	CINYN	NEKLOQ	IFIQ
<b>F. solani</b>	TNTIG	LDIYGFEL	FEKNSFEOL	CINYN	NEKLOQ	IFIQ
<b>M. grisea</b>	SNSVGL	LDIYGFEL	FEKNSFEOL	CINYN	NEKLOQ	IFIQ
<b>B. cinerea</b>	SNSVGL	LDIYGFEL	FEKNSFEOL	CINYN	NEKLOQ	IFIQ
<b>A. flavus</b>	ANSVGL	LDIYGFEL	FEKNSFEOL	CINYN	NEKLOQ	IFIQ
<b>S. cerevisiae</b>	EKSIG	LDIYGFEL	FEKNSFEOL	CINYN	NEKLOQ	IFIQ
<b>H. sapiens</b>	Y.NIG	VLDIYGFEL	FQKNGFEQ	CINF	NEKLOQ	IFIQ
<b>D. discoideum</b>	GPVIG	LDIYGFEL	VQNNSEOL	LNINF	CNEKLOQ	IFIQ

	460	470	480	490	500	510
<b>F. graminearum</b>	FDNKVV	CDLIEQ	IRPVG	GIFSAMK	DATKTAHADP	AACDR
<b>F. fujikuroi</b>	FDNKVV	CDLIEQ	IRPVG	GIFSAMK	DATKTAHADP	AACDR
<b>F. oxysporum</b>	FDNKVV	CDLIEQ	IRPVG	GIFSAMK	DATKTAHADP	AACDR
<b>F. verticillioides</b>	FDNKVV	CDLIEQ	IRPVG	GIFSAMK	DATKTAHADP	AACDR
<b>F. avenaceum</b>	FDNKVV	CDLIEQ	VRPVG	GIFSAMK	DATKTAHADP	AACDR
<b>F. solani</b>	FDNKVV	CDLIEQ	IRPVG	GIFSAMK	DATKTAHADP	AACDR
<b>M. grisea</b>	FDNKVV	CDLIES	MRPVG	GIFSAMK	DATKTAHADP	AACDR
<b>B. cinerea</b>	FDNKVV	CDLIES	MRPVG	GIFSAMK	DATKTAHADP	AACDR
<b>A. flavus</b>	FDNKVV	CDLIEA	KRPVG	GIFSAMK	DATKTAHADP	AACDR
<b>S. cerevisiae</b>	FDNKVV	CDLIEA	KRPVG	GIFSAMK	DATKTAHADP	AACDR
<b>H. sapiens</b>	FNNKVV	CDLIENK	VNPPG	GIMSIL	DDVCA	TMHAVGE
<b>D. discoideum</b>	FNNKVIC	CELIE	KKPIGLIS	LLDEACL	IAKST	...DQ

N538

K537      D536      D540

	520	530	540	550	560
<b>F. graminearum</b>	N.....	FIKHYAGD	VYTV	VEGITD	KNKDQL
<b>F. fujikuroi</b>	N.....	FIKHYAGD	VYTV	VEGITD	KNKDQL
<b>F. oxysporum</b>	N.....	FIKHYAGD	VYTV	VEGITD	KNKDQL
<b>F. verticillioides</b>	N.....	FIKHYAGD	VYTV	VEGITD	KNKDQL
<b>F. avenaceum</b>	N.....	FIKHYAGD	VYTV	VEGITD	KNKDQL
<b>F. solani</b>	N.....	FIKHYAGD	VYTV	VEGITD	KNKDQL
<b>M. grisea</b>	S.....	FIKHYAGD	VYTV	VEGITD	KNKDQL
<b>B. cinerea</b>	N.....	FIKHYAGD	VYTV	VEGITD	KNKDQL
<b>A. flavus</b>	Q.....	FIKHYAGD	VYTV	VEGITD	KNKDQL
<b>S. cerevisiae</b>	K.....	FIKHYAGD	VYTV	VEGITD	KNKDQL
<b>H. sapiens</b>	G.....	FIKHYAGD	VYTV	VEGITD	KNKDQL
<b>D. discoideum</b>	SKDRS	IGDTC	FR	LKHYAGD	VYTV

\*A577

	570	580	590	600	610	620	
F. graminearum	TDNRKQ	PPSAGDRIR	ASANA	LVD	TLMKCO	PSYIRTIKPNENKSPTEYNGP	NVLEHQIKYLG
F. fujikuroi	QDNRKQ	PPSAGDRIR	ASANA	LVE	TLMKCO	PSYIRTIKPNENKSPTEYNSP	NVLEHQIKYLG
F. oxysporum	QDNRKQ	PPSAGDRIR	ASANA	LVD	TLMKCO	PSYIRTIKPNENKSPTEYNSP	NVLEHQIKYLG
F. verticillioides	QDNRKQ	PPSAGDRIR	ASANA	LVD	TLMKCO	PSYIRTIKPNENKSPTEYNSP	NVLEHQIKYLG
F. avenaceum	TDNRKQ	PPSAGDRIR	ASANA	LVD	TLMKCO	PSYIRTIKPNENKSPTEYNGP	NVLEHQIKYLG
F. solani	QDNRKQ	PPSAGDRIR	TSANA	LVD	TLMKCO	PSYIRTIKPNENKSPTEYNGP	NVLEHQIKYLG
M. grisea	QDNRKQ	PPSAGDRIR	TSANA	LVE	TLMKCO	PSYIRTIKPNENKSPTEYNSP	NVLEHQIKYLG
B. cinerea	QDNRKQ	PPSAGDKIK	SAND	LVA	TLMKA	TPSYIRTIKPNENKSPTEYNEKN	NVLEHQVKYLG
A. flavus	QDDKRR	PPSAGDKIK	SAND	LVA	TLMKA	TPSYIRTIKPNENKSPTEYNSP	NVLEHQIKYLG
S. cerevisiae	RESKRR	PPSAGDKIK	SAND	LVE	TLSKA	TPSYIRTIKPNENKSPTEYNSP	NVLEHQIKYLG
H. sapiens	ADKKGR	PPSAGDKIK	SAND	LVE	TLSKA	TPSYIRTIKPNENKSPTEYNSP	NVLEHQIKYLG
D. discoideum	EDSKKR	PPSAGDKIK	SAND	LVE	TLSKA	TPSYIRTIKPNENKSPTEYNSP	NVLEHQIKYLG

	630	640	650	660	670	680	
F. graminearum	LQENVRI	RRAGFAVRQ	DFDKFVDRFFLL	LSPA	TSYAGEFTWE	GTTEAAVKQI	LKDTSSIPKE
F. fujikuroi	LQENVRI	RRAGFAVRQ	DFDKFVDRFFLL	LSPA	TSYAGEFTWE	GTTEAAVKQI	LKDTSSIPKE
F. oxysporum	LQENVRI	RRAGFAVRQ	DFDKFVDRFFLL	LSPA	TSYAGEFTWE	GTTEAAVKQI	LKDTSSIPKE
F. verticillioides	LQENVRI	RRAGFAVRQ	DFDKFVDRFFLL	LSPA	TSYAGEFTWE	GTTEAAVKQI	LKDTSSIPKE
F. avenaceum	LQENVRI	RRAGFAVRQ	DFDKFVDRFFLL	LSPA	TSYAGEFTWE	GTTEAAVKQI	LKDTSSIPKE
F. solani	LQENVRI	RRAGFAVRQ	DFDKFVDRFFLL	LSPA	TSYAGEFTWE	GTTEAAVKQI	LKDTSSIPKE
M. grisea	LQENVRI	RRAGFAVRQ	DFDKFVDRFFLL	LSPA	TSYAGEFTWE	GTTEAAVKQI	LKDTSSIPKE
B. cinerea	LQENVRI	RRAGFAVRQ	DFDKFVDRFFLL	LSPA	TSYAGEFTWE	GTTEAAVKQI	LKDTSSIPKE
A. flavus	LQENVRI	RRAGFAVRQ	DFDKFVDRFFLL	LSPA	TSYAGEFTWE	GTTEAAVKQI	LKDTSSIPKE
S. cerevisiae	LQENVRI	RRAGFAVRQ	DFDKFVDRFFLL	LSPA	TSYAGEFTWE	GTTEAAVKQI	LKDTSSIPKE
H. sapiens	LQENVRI	RRAGFAVRQ	DFDKFVDRFFLL	LSPA	TSYAGEFTWE	GTTEAAVKQI	LKDTSSIPKE
D. discoideum	LQENVRI	RRAGFAVRQ	DFDKFVDRFFLL	LSPA	TSYAGEFTWE	GTTEAAVKQI	LKDTSSIPKE

	690	700	710	720	730	740	
F. graminearum	EWQMGVT	KAFIKAPET	LFAL	EHRDRYWHNMAT	RIORMWR	AYLAYRAES	ATRIQRFLWRKK
F. fujikuroi	EWQMGVT	KAFIKAPET	LFAL	EHRDRYWHNMAT	RIORMWR	AYLAYRAES	ATRIQRFLWRKK
F. oxysporum	EWQMGVT	KAFIKAPET	LFAL	EHRDRYWHNMAT	RIORMWR	AYLAYRAES	ATRIQRFLWRKK
F. verticillioides	EWQMGVT	KAFIKAPET	LFAL	EHRDRYWHNMAT	RIORMWR	AYLAYRAES	ATRIQRFLWRKK
F. avenaceum	EWQMGVT	KAFIKAPET	LFAL	EHRDRYWHNMAT	RIORMWR	AYLAYRAES	ATRIQRFLWRKK
F. solani	EWQMGVT	KAFIKAPET	LFAL	EHRDRYWHNMAT	RIORMWR	AYLAYRAES	ATRIQRFLWRKK
M. grisea	EWQMGVT	KAFIKAPET	LFAL	EHRDRYWHNMAT	RIORMWR	AYLAYRAES	ATRIQRFLWRKK
B. cinerea	EWQMGVT	KAFIKAPET	LFAL	EHRDRYWHNMAT	RIORMWR	AYLAYRAES	ATRIQRFLWRKK
A. flavus	EWQMGVT	KAFIKAPET	LFAL	EHRDRYWHNMAT	RIORMWR	AYLAYRAES	ATRIQRFLWRKK
S. cerevisiae	EWQMGVT	KAFIKAPET	LFAL	EHRDRYWHNMAT	RIORMWR	AYLAYRAES	ATRIQRFLWRKK
H. sapiens	EWQMGVT	KAFIKAPET	LFAL	EHRDRYWHNMAT	RIORMWR	AYLAYRAES	ATRIQRFLWRKK
D. discoideum	EWQMGVT	KAFIKAPET	LFAL	EHRDRYWHNMAT	RIORMWR	AYLAYRAES	ATRIQRFLWRKK

	750	760	770	780	790	800			
F. graminearum	RTGAEYL	QLRDGHQ	VLGGRKERRR	MSLLG	RRFLGDYMGV	NASTGPG	GAQIRNAAGIGSN		
F. fujikuroi	RTGAEYL	QLRDGHQ	VLGGRKERRR	MSLLG	RRFLGDYMGV	NASTGPG	GAQIRNAAGIGSN		
F. oxysporum	RTGAEYL	QLRDGHQ	VLGGRKERRR	MSLLG	RRFLGDYMGV	NASTGPG	GAQIRNAAGIGSN		
F. verticillioides	RTGAEYL	QLRDGHQ	VLGGRKERRR	MSLLG	RRFLGDYMGV	NASTGPG	GAQIRNAAGIGSN		
F. avenaceum	RTGAEYL	QLRDGHQ	VLGGRKERRR	MSLLG	RRFLGDYMGV	NASTGPG	GAQIRNAAGIGSN		
F. solani	RTGAEYL	QLRDGHQ	VLGGRKERRR	MSLLG	RRFLGDYMGV	NASTGPG	GAQIRNAAGIGSN		
M. grisea	RTGAEYL	QLRDGHQ	VLGGRKERRR	MSLLG	RRFLGDYMGV	NASTGPG	GAQIRNAAGIGSN		
B. cinerea	REGKEFL	ELREKGHQ	VLGGRKERRR	MSLLG	RRFLGDYMGV	NASTGPG	GAQIRNAAGIGSN		
A. flavus	TGGLLEL	LKVRDGHQ	VLGGRKERRR	MSLLG	RRFLGDYMGV	NASTGPG	GAQIRNAAGIGSN		
S. cerevisiae	KEGNRYE	KLRDYGT	VLGGRKERRR	MSLLG	RRFLGDYMGV	NASTGPG	GAQIRNAAGIGSN		
H. sapiens	..KRYV	QMR	ELASDLLLN	KKERRR	MSLLG	RRFLGDYMGV	NASTGPG	GAQIRNAAGIGSN	
D. discoideum	..SKWN	OR	KAATIK	IQLFYRSY	RYKWF	..RE	LHRAF	KDVARDPQW	GKQVFWPKHPSIL

	810	820	830	840	850	860	
F. graminearum	EKAVFS	CRGEILEAKFGRSS	KASPR	IIVV	NSKF	YIIAQMLVNGQF	QITVEKSVPLG..A
F. fujikuroi	EKAVFS	CRGEILEAKFGRSS	KASPR	IIVV	NSKF	YIIAQMLVNGQF	QITVEKSVPLG..A
F. oxysporum	EKAVFS	CRGEILEAKFGRSS	KASPR	IIVV	NSKF	YIIAQMLVNGQF	QITVEKSVPLG..A
F. verticillioides	EKAVFS	CRGEILEAKFGRSS	KASPR	IIVV	NSKF	YIIAQMLVNGQF	QITVEKSVPLG..A
F. avenaceum	EKAVFS	CRGEILEAKFGRSS	KASPR	IIVV	NSKF	YIIAQMLVNGQF	QITVEKSVPLG..A
F. solani	EKAVFS	CRGEILEAKFGRSS	KASPR	IIVV	NSKF	YIIAQMLVNGQF	QITVEKSVPLG..A
M. grisea	EKAVFS	CRGEILEAKFGRSS	KASPR	IIVV	NSKF	YIIAQMLVNGQF	QITVEKSVPLG..A
B. cinerea	EATIFS	CRGEILEAKFGRSS	KASPR	IIVV	NSKF	YIIAQMLVNGQF	QITVEKSVPLG..A
A. flavus	DDILFS	CRGEILEAKFGRSS	KASPR	IIVV	NSKF	YIIAQMLVNGQF	QITVEKSVPLG..A
S. cerevisiae	EKAVFS	CRGEILEAKFGRSS	KASPR	IIVV	NSKF	YIIAQMLVNGQF	QITVEKSVPLG..A
H. sapiens	DTVTK	..	YDRRF	KGVK	RD	LLTPKCL	YLIGREKVKQGPDKGLVKEVLRKRRIE
D. discoideum	DRAVQ	..	LTHKI	HNCWR	..	..	..

870 880 890 900 910 920  
F. graminearum IKF IGVSSARDDWFSLGI GSPQEADPLMNC F KTE MFT QMQRVMPGG. F NLKI AET IEYA  
F. fujikuroi IKF IGVSSARDDWFSLGI GSPQEADPLMNC M LKTE MFT QMQRVMPGG. F NLKI AET IEYA  
F. oxysporum IKF IGVSSARDDWFSLGI GSPQEADPLMNC M LKTE MFT QMQRVMPGG. F NLKI AET IEYA  
F. verticillioides IKF IGVSSARDDWFSLGI GSPQEADPLMNC M F KTE MFT QMQRVMPGG. F NLKI AET IEYA  
F. avenaceum IKF IGVSSARDDWFSLGI GSPQEADPLMNC M F KTE MFT QMQRVMPGG. F NLKI AET IEYA  
F. solani . . . . .  
M. grisea IKF IGVSSARDDWFSLGI GSPQEADPLMNC V LKTE MFT QMERVMPGG. F NLKI GDS IEYA  
B. cinerea IKF VSI STCRDDWFSLGI GSPQEADPLMNC V F KTE LFT HMQGAMPGGGF NLKI GDS IEYA  
A. flavus IKA VST SNLKD WFS LII GGG. QEP DPLIN CV F KTE F FT HLQTALRGQ. L NLKV SEN IEYN  
S. cerevisiae IQAVSL TNLQDDWVAIKL ASSGQPP DPLIN TY F KTE LIT H LK. . RLNDKI QIKI GSA IEYQ  
H. sapiens IER ILSVSLSTMDD I F I LHE QEY D S L L E S V F KTE F L S L LAKRYE EKT QKQL LKFSNTL  
D. discoideum EKM ILSL GAG QNH MRQ KVMAY D I F H G K K K W D F R R H F D A D Y L E K P S N P N Q Q K Y V L A M Q N L F

930 940 950 960 970 980  
F. graminearum KKP GK I Q Q V L K D . . S Q V P A D Y Y K S G A V H C Q P G E P P S S V S R P T P K G K P V P P R P I T R G K L  
F. fujikuroi KKP G K M Q Q V K V L K D . . S Q L P V D Y Y K S G A V H T Q P G E P P S S I S R P T P K G K P V P P R P I T R G K L  
F. oxysporum KKP G K M Q Q V K V L K D . . S Q L P V D Y Y K S G A V H T Q P G E P P S S V S R P T P K G K P V P P R P I T R G K L  
F. verticillioides KKP G K M Q Q V K V L K D . . S Q L P V D Y Y K S G A V H T Q P G E P P S S I S R P T P K G K P V P P R P I T R G K L  
F. avenaceum KKP N K M Q Q V K V M K D . . S Q L P V D Y Y K S G A V H T Q P G E P P S S G S K P T P K G K P V P P R P I T R G K L  
F. solani . . . . .  
M. grisea KKP G K M Q V V K V L K D . . S P N P V D F Y K S G A V H T Q Q G E P P S S V S R P T P K G K P V P P R P I T R G K L  
B. cinerea KKP N K M Q L I K V V K D . . S Q A Q D H Y K S A T I H T Q A G E P P T S R S K P L P K G K P V A P K P F T S G R L  
A. flavus KKP G K L A T V K A I K D P A A S P N V D T Y K S H T I H T S P G E P P S S V S K P T P K A K Q V A A R P V T K G K H  
S. cerevisiae KKP G K L H S V K C Q I N E S A P K Y G D I Y K S S T I S V R R G N P P N S Q V H K K P R K K S . . . . . I S S G Y H  
H. sapiens E L K L K K E N W G P W S A G G S R Q V Q F H Q G F G D L A V L K P S N K V L Q V S I G P G . . . . . L  
D. discoideum S T Y G . . . . . D T E V L F A D Y V I K . . . . .

990 1000 1010 1020 1030  
F. graminearum IKP G G P N G R P S R I Q G N R A A K P R P G G G A R A V P Q P P V A V S A A A S I P A A V P . . . . .  
F. fujikuroi IKP G G P N G R P S R I Q G N R T A K P R P G . A G R A V P Q P P A A V S N I A A V P A A A A Q S T P R I A P R P G A  
F. oxysporum IKP G G P N G R P S R I Q G N R T A K P R P G . A G R A V P Q P P A A V S N I A A V P A A A T Q S T P R I A P R P G A  
F. verticillioides IKP G G P N G R P S R I Q G N R T A K P R P G . A G R A V P Q P P A A V S N I A A V P A A A T Q S T P R I A P R P G A  
F. avenaceum I R P G G P N G R P S R I Q A T . . . K P R P G A G T R A V P Q P P A A L A A A S I P A A A T Q A T P R I A P R P V A  
F. solani . . . . .  
M. grisea I R P G G P N G R P A R G I T N R T P Q P R P G G A S A S A V A S R P V P Q A Q P . . . . .  
B. cinerea I K P G G P G G R P S K L T N G N R P T P K P V P S P A A A R P V P T P A A A A M P I P A P I P A A N . . . . .  
A. flavus L R P G G P G G G P S K L A S R P A S R P T P K P Q P L P Q S Q P A T A Q P I P A P Q P A A V P . . . . .  
S. cerevisiae A S S S Q A T R R P V S I A A A Q H V P T A P A S R H S K K P A P P P P G M Q N K A A T R R S V P N P A S T L T A S K S  
H. sapiens P K N S R P T R R N T T O N T G Y S S G T A N A N Y P V R A A P P P P G . . . . .  
D. discoideum N P K G V P Q R R G I V V T G T N I Y K H D E K N Y K V K K W G T P L V . . . . .

1040 1050 1060 1070 1080  
F. graminearum . . . A P A A A T H N A L P S H A K A A S A A G R A P P P P P P P A A P A R P P S P P R V M A K V L Y D F A G Q R E N E  
F. fujikuroi N A A T I P A A H N A L P S H T R N A S G A G R A P P P P P P . A V A A R P P S P P K V M A K V L Y D F A G Q R E N E  
F. oxysporum N A A A P I P A A H N A L P S H T R N A S G A G R A P P P P P P . P V A A R P P S P P K V M A K V L Y D F A G Q R E N E  
F. verticillioides N A A A P V P A A H N A L P S H T R N A S G A G R A P P P P P P P P A A A R P P S P P K V M A K V L Y D F A G Q R E N E  
F. avenaceum A S A A P T P A A H N P L P S H T R N A S G A G R A P P P P P P P P A A P A R P P S P P K V L A K V L Y D F A G Q R E N E  
F. solani . . . . .  
M. grisea . . . Q A Q A Q V A A S I P V R T Q Q S Q T S S A S V R A P P P P P A A P P A K A K I M A K V L Y D F A G Q K E N E  
B. cinerea . P I A A S I P V H T R N P S L Q S A Q S T R A V P P P P P P P A P P A P P A P A S K E P Q Y R V L Y E F A G Q S A N E  
A. flavus . . . . . R P V P Q P V A A A A S H T R N A S S G S V R A P P P P P A S P P A P K K A T A K A L Y D F T S A Q S N E  
S. cerevisiae N A R P S P P T A A T R A T P A A A A M G S D R Q A N I P P P P P P P S S K P K E P M F E A A Y D F S G S G S P S E  
H. sapiens . . . . . Y H O N G V I R N Q Y V P Y P H A P G S Q R S N Q K S L Y T S M A R P P L P R Q O S T S D R V S  
D. discoideum . . . . . D V T S I S I S . . . . . P M A D T F L V L H C K A P Q R D F V L D L G C N G Y E A V

1090 1100 1110 1120 1130 1140  
F. graminearum L S I T A A G E I V E I V Q K E S N G W W L A K N P Q T A Q Q A W V P A A Y V E E Q A P P A P . . . . . R A P P A P P  
F. fujikuroi L T I T A N E I V E I V Q K E S N G W W L A K N P Q T A Q Q A W V P A A Y V E E Q A P P A P . . . . . R A P P A P P  
F. oxysporum L T I T A N E I V E I V Q K E S N G W W L A K N P Q T A Q Q A W V P A A Y V E E Q A P P A P . . . . . R A P P A P P  
F. verticillioides L T I T A N E I V E I V Q K E S N G W W L A K N P Q T A Q Q A W V P A A Y V E E Q A P P A P . . . . . R A P P A P P  
F. avenaceum L T I T A G Q L V E I V Q K E T N G W W L A K N P N T E Q A W V P A A Y V E E Q A P P A P . . . . . R A P P A P P  
F. solani . . . . .  
M. grisea M S I K E G D L I E I V Q K E N N G W W L A K S . . G N Q Q A W V P A A Y V E E Q K Q A P P P V A A S R P P P P P A P P A  
B. cinerea F S L K Q G E I V T V L Q K E T N G W W L T K N . . V R G Q G W A P T A Y L E E V A P P P P P I A S R P T P P P P P G  
A. flavus L D I R A G D V V Q I V S K E N G W W L C M N M A T S V Q G W T P Q A Y L E E Q V A P T P K A P P P P P P A A P R A  
S. cerevisiae L P L K K G D V I Y I T R E E P S G W S L G K L L D G S K E G W V P T A Y M K P H S G N N . . . . .  
H. sapiens Q T P E S L D F L K V P D Q G A A G V R R Q T T S R P P P A G G R P K P Q P K P K P Q V P Q . . . . .  
D. discoideum S E I T T V I V Q V K L T G V K L S V Q F T S S I T Y N A R P K G S . . . . .

	1150	1160	1170	
<b>F. graminearum</b>	.....RSKPTPPAPPAPKRPAAAG...RKP	AELQQ	RDSGMSLNT	.PNGSD
<b>F. fujikuroi</b>	.....RSKPTPPAPPAPKRPAAAN...RKP	AELQQ	RDSGMSLNT	.PNGGD
<b>F. oxysporum</b>	.....RSKPTPPAPPAPKRPAAAN...RKP	AELQQ	RDSGMSLNT	.PNGGD
<b>F. verticillioides</b>	.....RSKPTPPAPPAPKRPAAAN...RKP	AELQQ	RDSGMSLNT	.PNGGD
<b>F. avenaceum</b>	.....RSKPMPPAPPAPKRPAAAG...RKP	AELQQ	RDSGMSLNT	.PNGGS
<b>F. solani</b>	.....			
<b>M. grisea</b>	.....ANGKNKPLPPAKRPAAAG...KKP	ASLQP	RDSGMSLNG	.SDG..
<b>B. cinerea</b>	PPKMNGA...NGAAVRSKPTPPAPPAPKRPVAG...RKP	APPAP	RDSGMSIS	SNNGSGNN
<b>A. flavus</b>	SPVPSANGAAAATAAAAKAKPAPPAPPAPKRPNMAGRKAVP	APPAP	RDSAVSMNS	HDSSGG
<b>S. cerevisiae</b>	.....	IP	TPPNR	NDVPKPVLNSVQHDN
<b>H. sapiens</b>	.....	CKA	LYAYDAQDT	DELSFNANDIID
<b>D. discoideum</b>	.....	L	.....	DTILTFA

	1180	1190	1200	1210		
<b>F. graminearum</b>	SRSSTP	TPSLGGS	LADALLARK	NAMQ	.....KEKEDDD	DW
<b>F. fujikuroi</b>	SRSSTP	TPSLGGS	LADALLARK	NAMQ	.....KEKEDDD	DW
<b>F. oxysporum</b>	SRSSTP	TPSLGGS	LADALLARK	NAMQ	.....KEKEDDD	DW
<b>F. verticillioides</b>	SRSSTP	TPSLGGS	LADALLARK	NAMQ	.....KEKEDDD	DW
<b>F. avenaceum</b>	SRSSTP	TPSLGGS	LADALLARK	NAMQ	.....KEKEDDD	DW
<b>F. solani</b>	.....					
<b>M. grisea</b>	SRSNSTP	TPSLGNS	LADALLARK	QAMA	.....KKD	DDDDW.
<b>B. cinerea</b>	SGRSTP	TPSLAG	GLAEALRAR	QAMQGN	.....AKK	EDEDDW
<b>A. flavus</b>	SGRGTP	NSTSNAS	LAGGLAEALRAR	QHMQG	.....KH	DDDDW
<b>S. cerevisiae</b>	TSANVIP	AAAQAS	LDGLANALAR	ANKMR	LES	DDEEANED
<b>H. sapiens</b>	IIKEDP	SGWWT	GRLRG	KQGLFP	NNYVTKI	.....
<b>D. discoideum</b>	PIINDE	KLIGS	QFKK	GKGNQATI	QFKD	.....