

# Basidiomycota

*Phragmidium* sp  
*Ustilago maydis*  
*Cryptococcus neoformans*  
*Phanerochaete chrysosporium*  
*Hydnum repandum*  
*Amanita phalloides*  
*Agaricus bisporus*

636

PLFIVENQ-----QLLLKKEH  
 PVFIVNPHDM-----SLLIKKRH  
 PLFIVDQPTQ-----TLRLKRDH  
 PLFIVENN-----QLTLRKKH  
 PLFIVENQ-----QLLLKKEH  
 PLFIVENH-----QLALQKKH  
 PLFIVENQ-----QLLLGRKH

657

257

274

## Taphrinomycotina

*Taphrina deformans*  
*Pneumocystis carinii*  
*Schizosaccharomyces pombe*  
*Neolecta vitellina*

PLFVVDHDESAEK-SEAGSLVLKKEH  
 PLFIVDNNPESNS---RGQLMLKKEH  
 PLFIVDNNPNSER---RGELCIRKEH  
 PLFIVDNDHESPR---KNFLMLQRQH

KLKAAKVGs-----TGQTIAATLP  
 KLMSKSIEKG---AGQTIRACLTP  
 KLMARNTN-----SGQTI RATLP  
 KLLRNPQKTSVS--NGRLIKATLP

## Saccharomycotina

*Saccharomyces cerevisiae*  
*Candida glabrata*  
*Candida albicans*  
*Candida tropicalis*  
*Candida parapsilopsis*  
*Candida guilliermondii*  
*Candida krusii*

PLFIVEDDESIGH---K-ELKVRKGH  
 PLFIVEDDEELGR---K-ELKVRKGH  
 PLFIVDDNPDSET---KGEIKITKEH  
 PLFIVDDNEDSPT---KGDLMITKEH  
 PLFIVDDNPDSET---KGDLLKKEH  
 PLFIVDDDEPEST---KGEIKLQKEH  
 PLFIVDDDEPSEN---KGLLKITKEH

KLYGREGS-----SARTIKATLP  
 KLYGRESS-----SARTIKATLP  
 KLYGRDE--KGV--SGRTIKATLP  
 KLYGRDE--KGV--AGRTIKATLP  
 KLYGRDE--KSL--SARTIKATLP  
 KLYGREE--KST--SNRTIKATLP  
 KLSTG---AGG--VGRSIKTLP

663

683

# Ascomycota

## Peizomycotina

### Hymenoascmycetes

#### Lichens

**Pezizales** *Peziza quelepidotia*  
*Morchella elata*  
**Onygenales** *Trichophyton rubrum*  
*Byssoschlamys nivea*  
**Eurotiales** *Aspergillus fumigatus*  
*Aspergillus nidulans*  
**Caliciales (imperfect)** *Sphaerophorus globosus*  
*Thamnomia vermiculacis*  
**Leotiales** *Diabaeia baeomyces*  
*Baeomyces* sp  
**Graphidales** *Diploschistes muscorum*  
*Usnea cornuta*  
**Lecanorales** *Peltigera membranacea*  
*Xanthoria polycarpe*  
*Sclerotinia sclerotiorum*  
**Leotiales** *Botrytis cinerea*  
*Leotia viscosa*  
**Diaporthales** *Microglossum viride*  
*Cryphonectria parasitica*  
**Sordariales** *Neurospora crassa*  
*Chaetomium elatum*  
*Podospora anserina*  
**Microascales** *Microascus trigonosporus*  
**Hypocreales** *Fusarium verticillioides*

PLFVVDNDPASPR---RGELVLQKHH  
 PLFVVDNDPRSER---RGQLVLQKHE  
 PLFVVDNDPKSEN---SGSLVLKKEH  
 PLFVIDNDPKSEN---CGSLVLNKEH  
 PLFVVDNDPKSEN---CGSLVLNKH  
 PLFVVDNDPKSEN---CGNVLNKEH  
 PLFVIDNDPKSNN---CGNVLTKDH  
 PLFVIDNDAKSPN---KGSVLTKEL  
 PLFVIDNDAKKAN---KGSVLTKEL  
 PLFVIDNDKRSSR---RGELVLSKEL  
 PLFVIDNDPRSSN---RGNLVLTKDH  
 PLFVIDNDTRSMN---YGNLVLTKHE  
 PLFVIDNDPKSEN---GHTIMVDM  
 PLLVIDNDPDSPP---KGNLVLNKH  
 PLLVIDNDPDSAN---KGNLVLNKH  
 PLFVIDNDVNSKN---KGNLVLNKGH  
 PLFVIDNDVSSKN---KGNLVLNKGH  
 PLFVV-NTPDNENRSTRDLALTKHE  
 PLFVVEQEDNSVESGKGLILTKHE  
 PLFTVEQEPNGESGAEKGLILNKEH  
 PLFTVEQEKGNVGEVKGQLILNKH  
 PVFVVNRENNYEGVKGTLVLSKEQ  
 PVFTVHQEDDYENITKGLVLTKEH

KMPFGKMS- RGG--YQGTIKSTLP  
 KLYSKGE-ARGG--YNATIKSTLP  
 KLFSGKDSAKGG--FGPTIRSTLP  
 KLFSGKDSAKGG--FGPTIRSTLP  
 KLFAGKDSAKGG--FGPTIRSTLP  
 KLFSGKDSAKGG--FGPTIRSTLP  
 KLYEKGESKGG--FGQTIKCTLP  
 KLHSGKEGAKGG--FGQTIKSTLP  
 KLHSGKEGAKGG--FGQTIKATLP  
 KLHSGKEGAKGG--LQGTIKVTLP  
 KYHSRDKDKS---FGSSIKVTLP  
 KLYEKGESKGG--FGQTIKCTLP  
 KLFAGKDSAKGG--FGQTIKATLP  
 QLTTLAKTEGG---GHTIMVDM  
 KLYDKGDSGRGG--FGKTVKSTLP  
 KLYDKGDSNRGG--FGKTVKSTLP  
 KLHSGKDNQRGS--FGATIKSTLP  
 KLHSGKDNQRGS--FGSTVKSTLP  
 KLKAKGETARGG--FGQTIQATLP  
 RLHTKADQNKGR--LANTVSVTLP  
 KLHSGKSPKGR--LANTVSVTLP  
 KLHTKASNEKGR--LANTVSVTLP  
 RLYSKGGRGSS--SGAIVHATLP  
 KLYGKDSARGG--FGQTIQATLP

DDKDI---TDDEQ-----RYGWQG  
 DDHAL---PME-----RFGWEG  
 ADKEL---PPLDPEERRER--YFGWDG  
 QDKEL---PPLDPEERRER--YFGWDG  
 QDKEL---PADLDPEDRER--YFGWDG  
 EDKEL---PPMDPEDRER--YFGWDG  
 EDKEM---GMSMDAQEREDK--LMGWTG  
 DDKDL---PADMDPEKAAK--TMGWDG  
 DDKDL---PADMDPEKAAK--IMGWDG  
 DDKDI---PSDLDPDRAAR--YFGWDG  
 DDREL---PPLDPEKKEK--YFGWEG  
 MDREN---WATTEPDVREET--DMGWG  
 EDKEA---AIGMDRDELEAR--QMGWDG  
 DERDM---VLTMDPEERAEQ--YFGWEA  
 DDQSL---PSNMDKDEKVVHG--YFGFQG  
 DDATL---PLGLDLEEKQERG--YFGFQG  
 DDQLL---PANMDKDEKVRNG--YFGFQG  
 DD TTL---PLGLDLEEKQERG--YFGFQG  
 MPMKY---SRKDDDED-----YFGWDG  
 QDKEL---AKYHE-----YFGWQG  
 LDTEY---GKYHPD-----YWGWQG  
 RDKEL---GKYHPD-----YWGWQG  
 EERDL---PTEQR-----KLGWED  
 QEQA---PANMDKDEKVRNG--YFGWGD

### Loculoascmycetes

#### Lichens

**Dothideales** *Plowrightia insculpta*  
*Aureobasidium pullulans*  
*Mycosphaerella punctiformis*  
*Botryosphaeria rhodina*  
*Natrassia mangiterae*  
*Stemylaria branchyspora*  
*Curvularia botryosum*  
**Pleosporales** *Cochliobolus heterostrophus*  
*Didymella bryoniae*  
*Melanomma radicans*  
*Sporormiella minima*  
*Cenococcum geophilum*  
**Arthoniales** *Opegrapha varia*  
**Verrucariales** *Dermatocarpon reticulatum*  
*Exophiala jeanselmei*  
*Capronia mansonii*  
**Chaetothyriales** *Capronia pilosella*  
*Ceramothyrium linnaeae*  
*Coccodinium bartschii*

PLFVVDNEPTSER---RGHLVLARSN  
 PLFVVNDPASPT---KGLTLNRSR  
 PLFVVDNKPDAE---RGSVLRLQDQ  
 PLFIIDDDPSPN---KGNLALTRKH  
 PLFIIDDDPSPN---KGNLVLAREH  
 PLFVVENDIRKPN---RNHLIFTKEI  
 PLFVVENDFRREN---RGNLVTFKAI  
 PLFVVENDIRKPN---RNHLIFTKEI  
 PLFVVQNDVTKDD---RNHLVFNQDH  
 PLFVVENRNLQAN---VGLVLNKGH  
 PLFVVETYNKPN---RGSVLVTKAH  
 PLFVIENNPTKTN---RGSVLNKTTH  
 PLFVVQDVRKPN---RGSVLVTKQH  
 PLFVVVERDPSKDN---KGNLVLNKNH  
 PLFVVETDKASEN---VGNLVLNKEH  
 PLFVVETDRASEN---LGNLVLNKEH  
 PLFVETDRASEN---LGNLVLNKH  
 PLFVETDRSSDN---HGNLVLNKEH  
 PLFVVETDKASPT---HGHLKLTKEH

KLFSGKDSQKGG--LGGTIKATLP  
 KLYQKGEQKGG--LITGTIKATLP  
 KLYNQAVNANN---PGQTIKSLP  
 KLYEKPLWKEG--QGACLYATLP  
 KLYEKPLWKEG--QGACLYATLP  
 KWAENSLAGPGKRI PGPFAYATLP  
 KWAENSLAGHGKRI PGPFAYATLP  
 KWAENSLAGPGKRI PGPFAYATLP  
 KWAENSLA--GKRM PGPFAYATLP  
 KWTDNSLIL--KRT PGPFAYATLP  
 KWTDNSMIV--KRP PGPFAYAVLP  
 KWAESSLIA--KRAP PGFAYAILP  
 KWAENSMII--KRT PGPFVYAMLP  
 KLYRQVDGPEQTKIPNE-IRIQLP  
 KLFRRVDGPDGTKIDNP-IRVQLP  
 KLFRRVDGPEGTKIDNP-IRVQLP  
 KLFRRVDGPDGTKIDNP-IRVQLP  
 KLYRRVDGPDGSKIENP-IRVQLP  
 KLFRRAGDPGTKIENP-IRVQLP

TDREM---DLTGLSEQRDSN--IYGWKG  
 NARET---DTTGLSEEDRGT--IYGWKN  
 QDQENASLRGISSEDKALH--SYGWMG  
 ADQEI---DVSGLSIDQEK--RYGWQG  
 ADQEI---DVSGMNDERDEK--RYGWKG  
 AEQSETSTRQWSQEEVEQA--TYGWRG  
 AEQSETSTRQWSQEEVENA--TYGWRG  
 AEQSETSTRQWSQEEVEQA--TYGWRG  
 QEQA-QATAGIGEEKTAL--TYGWKG  
 DDREI---DTSGMSDDEASV--KFGWRG  
 ADKEI---DTSGMNDETAER--KYGWFG  
 EDKEI---DVSGLNDDEAKA--KFGWKG  
 ADKDI---DTKGYSDDEAAEM--KFGWKG  
 NTVYI---TEAQRPTEQWQEP--PFGWKD  
 QTNYL---KESGY-QFNDEVS--AYGWDD  
 QTAYL---KESGF-QWTDIEIR--PYGWTD  
 QTAYL---KEGGF-QWTDIEIR--PYGWTD  
 ETAYH---MEQEMGE PADG---YYRWLD  
 ESKAY---KENPDQAPAGWSMANDYNFWA