

S.schencki 1 : M D F A A S K M S C N --- A T A S G R G P A E G T N - E A K T S G T - E Q I T A D V -- A P V R R R Q R S S F S R P R R R K S L A N H - I I D S E E S I L L K F D L F L T E L E R R L E S L E S Y G E
M.oryzae 1 : M A L S P S E L C T S Q L N R A S P S I S A N E D D Y - S S A Q A S G - R E G S D D V -- R P R R R R R H S S Y F P Q R R K S I V N H - I M D G E E H I L L K V D L F L T E L E R R L D F L E S Y G E
T.reesei 1 : M A G V T -- T A --- L T S A C G F S H D S D A A - S S T A T S G - S D P R R E A --- Q Q A R R R R H S F F I P R R R K S I V G H - I M E G E E N L L L K V D L F L T E L E R R L E F I E N Y V D
F.oxysporu 1 : M S D V T -- T A --- I T T A C A Y K A R - D G D N I A S T S G -- S D I R P D V --- E - P R R R R H S F F I P R R R S I V G H - I M D G E E G L L L K V D L F L S E I E R R L D F I E N Y V D
G.zeae 1 : M S D V T -- T A --- I T T A C T Y K A R - D S D N I A T T S G -- S D I R P D A --- G - P R K R R H S F F I P R R R S I V G H - I M D G E E G L L L K V D L F L S E I E R R L D F I E N Y V D
N.crassa 1 : --- M E C A --- S P F S F A A H D D N T - E A R A S G A - A N A P -- E -- R P A L R N R R K S Q L N A R R K S F V N S - I V D G E E A L L L K M D A F L V E L E S R L E Y W E N Y G E
C.globosum 1 : M D V S S - N M G C P --- A P F S F S C D D A A - K G - A S S G - A E P H -- N -- R P A A R - R R H S H F M Q R R K S I V N H - L M D G E E A L L L K L D L F L T E L E R R L E Y W E N Y A E
P.anserina 1 : M D V S P - G L G C P --- S P F T F S A C E D A P - E A G Q S S G - A Q A Q -- E -- R P A L R Q R R P S H F K Q R R K S L V N Q - F M E G E E G L L L K L D L F L T N L E K K L E D W E S Y G E
P.brasilie 1 : M P C T --- G P S V T L E S Y A D S K Q S S N A S G L - A V P D E R A - N L L R N T R R R H S F H T S R R L S C - D Y --- D A D A I F L R V E L F L T E M E R R L Q W L E E Y R Q
A.capsulata 1 : M A C T --- A P S V T L E S Y A Y L D P A S N A S G L - A T P D E R S - G F I R N R R R H S F H T N R R L S C - D H --- D A D A I F L R V E L F L T E M E R R L Q W L E E Y R Q
S.c.IZH3 1 : M M D S S S K S L T Q --- Y I P --- S P M G S L S R - L K Q K G V D N F Q K V K K S G K S - I Y N Y N S K F V P H P F S T I D E S V K H S E S G R Y D D L E I I R P T K E K E V T S ---
A.nidulans 1 : M A C S --- T G S V T I E S Y L D T A V S S --- A T P S E E T - A L L R D R K R R H S F H T A R K L S C - D Y --- D A D A I F L R V E L F L A E I E R R L H W I E Q Y R K

S.schencki 92 : --- V S I D S S I A R A Y A T L Q V V R T R C S Q A S E E V I C A G R R R L Q I M V E T L E T R Y Q E A I V A A B S I N E K A R V S I E L L D D M I S D F E N H A H K F R E R S I S H A T D ---
M.oryzae 96 : --- I S L D A S I A R A Y N T L Q A V R T G C S H V S E E V I C A G R R R V H I M V E T L E A R Y Q D A I A A A D S I H E K A C V G I D L L D T M I S D F E D H A S K F R E R S L A N A A D ---
T.reesei 88 : --- L S K D S S I S R A F S T L Q A V R T R C S Q A S E E V I C A G R R R L H I M V E T L E T R Y Q E T L E A T E T I H D K A V L G I E L L E G M I S E F E S R A Y K L R E Q G F A N A A T ---
F.oxysporu 86 : --- L S K D S S I S R T F S T L Q A V R S R C S H A S E E V L C A G R R R L H I M V D T L E A R Y K E T L E A A E S I N E K A H V G V D L L E N M I S D F E T R A Y K L R E Q G F A N A A N ---
G.zeae 86 : --- L S K D S S I S R T F S T L Q A V R S R C S H A S E E V L C A G R R R L H I M V D T L E T R Y K E T L E A A E S I N E K A H M G V D L L E T M I S D F E T R A Y K L R E Q G F A N A A N ---
N.crassa 82 : --- L T L D S S I E V A L S T L Q A V R T R C S H V S E E V M G A G R R R L H V L V E T L E T S Y H E A M A A A G S I N E K A K V G I D L L D G L I E D L E T Q A A K L R E K G L A N A A E ---
C.globosum 86 : --- L S L D S N I S A A E L T L Q A V R T R C S Q A S E E V M G A G R R R L H V M V E T L E S Y H E A L S A A S S I N E K A K V G I E L L D E M I Q E M E Q V A K F R E K G L A N A A E ---
P.anserina 88 : --- L S L D S G I S A A Y S T L Q A V Q E R C S Q V S E E M M G A G R R K L H V M V E T L E S G Y Q D A M A A A B S I N E K A K I G I E V L D D L I E D M E N Q A A K F R E R G L A N A A E ---
P.brasilie 83 : S H M T H I D A R L K R G Y A A L S V R D S C S H A S G E L M C S G K R R A K I L V E T L E D R Y N E V I A T K E T L E Q A Q A S M R L M E N F L G E L E L A A Q S V R D R G L Y S T L D D G W --
A.capsulata 83 : S H M T H I D S R L R R G Y A A L V S V R D S C S H A S G E L M C G K R R A K I L V E T L E B E R Y K E V L A T K E T L E Q A Q A S M R L M E N F L G E L E A G A Q A V R D R G L Y G T L D D G W --
S.c.IZH3 86 : --- S V Y K R N S G --- K S L N T E S Q F S I G D S D A A T L V N S V A T F K L N N A S T S T S I V S S S T V C S Q A K S S I R S P T S R L N D T K I K E E N N Y I S S V K D Y
A.nidulans 78 : S H M V Q I D T S I R R A Y A T L E A V R D S C S H A S G E L M C S G K K R A K I L V E T L E S R Y N D A I A T K E T L E Q A Q A G V R L M E S F L T E L E S R A D A V R D R G V Y G A L D D G W --

S.schencki 184 : -- A A G L F M G E S R R V M D E G I G R A R E V V D E S F E R A K K A A E T L E B E H I Q R A I A N S R K N G L I S Y E E L P V P W R I N P H I I R G Y R F S E T K A A C F R S - M E R L --- S N E L
M.oryzae 188 : -- A A G A F M G E G R R V V D E G I G R A R E V V D E G F A A A K W A A E S L E D H I Q R A V A R A G K H G L I R Y E D L P M P W R I N P H I L K G Y R F S E T K L A C I K S G M F G I --- S N E L
T.reesei 180 : -- A A E A F M D E G R R V A N E S I E R A K S V V D E G I E R A V R A A L S L E B E H I Q Q A V L L A R D R G L L Y D E L P T P W R M N P H I L K G Y R F R E T K I E C I T S - V F N M --- S N E F
F.oxysporu 178 : -- A A E A F M D E G R R V A N E G I E R A --- I Q A A L S L E B E H I Q Q A I V L A K E G R L I S Y D D L P S P W R M N P H I H K G Y R F T E S K L E C V R S - A F N L --- S N E L
G.zeae 178 : -- A A E A F M D E G R R V A N E G I E R A --- I Q A A Y S L E B E H I Q Q A I V L A K E G R L I S Y D D L P S P W R M N P H I H K G Y R F T E S K L E C I R S - V F T P --- S N E L
N.crassa 174 : -- S --- L M G E G K R V M E E G I E R A M R --- A A E N L E D H I Q R A I N Q A R E K G L I S Y E E L P I P W R I N P H I Q K G Y R F S E N K L A C I R S - A F T F --- S N E L
C.globosum 178 : -- S --- L M D E A H R V D G G I E R A I R --- A A E T L E D H V Q R A I A R A R E H G L I R Y E D L P M P W R I N P H I T K G Y R F S E T K L A C V R S - A F S F --- S N E L
P.anserina 180 : -- V --- L M D E A H R V D G G I E R A M R --- A A E S L E D H V Q R A I A R A R E H G L I H Y D D L P V P W R I N P H I K K G Y R F S E T K L A C V R S - A F G F --- S N E L
P.brasilie 181 : -- R A V E P S L T H A R E V M D E S I A H A R E V M D E S I E H A R --- E A L O K R I E R A I Q L A K E Q R L I H Y S D L P H P W R V N P H I L Q G Y R F T T S K I E C V T S - V F T F --- S N E L
A.capsulata 181 : -- R A V E P G L T H --- A R E V M D E S V E R A R --- E A L O K S I E R A I Q L A N E K R L I Q Y S D L P H P W R V N P H I L Q G Y R F T T S K I E C V T S - V F T F --- S N E L
S.c.IZH3 171 : C G P M R K S M V K T E I I E E P I N P --- T T D I K S F I N S Y N H G K A Y S L G E T O H L H Y Y Q L P P W R E N R Y I I H G Y R F Y N T H S K S L L S - I F N W Y G W H N E T
A.nidulans 176 : -- K A V D S T I V Q --- A R E V M D E G I E R A R O V K D A I R E N I D H A I M L A K E K R L I S Y S D L P A P W R I N P H I L S G Y R F H S S K V E C L T S - V F T F --- S N E L

S.schencki 278 : VNIWSHGLGIVVVLSTALYFYP TSVNFHLSIKTDV--FIAAVFFFAACQCLVCS T I WHTMNSIADADLISS IACVDYTGISLLVAA SIMTTEYTA FYCEP
M.oryzae 283 : VNIWSHALGLIVLVLAVAFYFYP TSPNFSLSIKTDV--FIAAVFFFAACQCLVCS T I WHTMNSIADAHLISS IACVDYTGISMLIAA SIMTTEYTA FYCDP
T.reesei 274 : INIWSHALGLIIVLAVAFYFYPSSANFYLSIKTDV--VVAALFFEMMACLTLVCS T I WHTMNAVADANAVSMFACVDYTGISLLIAA SIITTEYTA FYCDP
F.oxysporu 261 : VNIWSHALGLIIVLALALYFYPNTANFTLSIKSDV--FVAGVFFVMACTLTVCS T I WHTMNAVADVDAISIFACVDYTGISLLIAA SIMTTEYTA FYCDP
G.zeae 261 : FNIWSHALGLIVLALALYFYPNTVNF T LSSKSDV--FVAGVFFVMACTLTVCS T I WHTMNAVADVDAISIFACVDYTGISLLIAA SIMTTEYTA FYCDP
N.crassa 254 : INIWSHALGLIIVLAVAFYFYP T SINFSQST TTDI--VIAALFFFAACQCLACS V I WHTMNSVADVNLISMFACVDYTGISLLIAA SIITTEYTA FYCEP
C.globosum 258 : VNIWSHTIGLIVLVLAVAFYFYP T STNFSQSSKADI--FIAAVFFFAACQCLICSV I WHTMSSVADVGLISMFACVDYTGISLLIAA SIMTTEYTA FYCEP
P.anserina 260 : VNIWSHALGLIVLVLAVAFYFYP T STNFSLSKADI--FVAAVFFFAACQCLVCS T I WHTMNSVADVDLISMFACVDYTGISLLIAA SIMTTEYTA FYCDP
P.brasilie 273 : FNIWSHF IGLIIVLALAFYFYP SNPNFSASITTDV--ATAGIFFLAACKCLVCS T I WHTMNGIASOPLMERFACVDYTGISLLVAA SIVTTEYTA FYCEP
A.capsulat 262 : FNIWSHL IGLIIVLAVAFYFYP SNPNFSLSIKTDI--ATAALFFIAACKCLVCS T I WHTMNSIASOPLMERFACVDYTGISLLVAA SIVTTEYTA FYCEP
S.c.IZH3 259 : SNIWSHL IGLIIVLALYDFPQSEVWRNSQVPPQARWIVFMFLAAALKM LSSVFWHTFN GTSFLKLRSKACVDYSGITLITAS ILLTTEFVTMYSCY
A.nidulans 260 : VNIWSHL IGLIIVLSLAFYFYP LNPNEHLSINSDT--LVAAVFFFAACKCLVCS T I WHTMNSIADQPLMERFACVDYTGISLLVAA SIVTTEYTA FYCEP

S.schencki 376 : FSRWVYIISMTAVLIGIGV VMLPWH PFFNRADMAWARVAFYVGLAMTGFVPMVQIMTTRGMSFVWF EYLPIT-KSLLVYLTGAMVYASKVPERWRPG-----
M.oryzae 381 : VSRWYIYMSLTAILGIGGV ILPWH PFRNGADMWARVAFYVSLGATGFLPILQLSLTRGADYVYEFYTP IA-BSIAVYVFGAL IYASKIPERWYPG-----
T.reesei 372 : ISRWYIMCLTAMLGIGGV ILPWH PFRNGADMWARVGFVGLALTGFP ILOLYFSHGPEFVYNEFYSPI S-KSLLVYLSGAI VYASKVPERWEPG-----
F.oxysporu 359 : VSRVYIMGLTAF LIGIGV ILPWH PFRNGADMWARVAFVGLALTGFP MVLQGWTHGLDFVYNEFYSPI S-KSMLVYFTGAVVYASKIPERWEPG-----
G.zeae 359 : VSRVYIMGLTAF LIGIGV ILPWH PFRNGADMWARVAFVGLALTGFP MVLQGWTHGLDFVYDEYSP I S-KSMLVYLSGAFVYASKIPERWYPG-----
N.crassa 352 : VSRWVYMIATAFLG VGV ILPWH PFRNGQDMWARVAFYI GLSASGFLP IFOIWLTRGMSVWEHYSP I L-ESL FVYFLGALVYASKVPERWC PG-----
C.globosum 356 : VSRWVYMTTALIGIGGV VLPWH PFRNGADMWARVAFYVALAATGFLP I VOLSARSPEAVFEFYTP I G-KSLFVYLLGALVYASKVPERWRPG-----
P.anserina 358 : VSRVAYMITTALIG VGV ILPWH PFRNGADMWARVAFYCGL I GATGFLP ILOISL TRSFASAMEFYGP I G-KSIGVYLLGAI VYASKVPERWC PG-----
P.brasilie 371 : VSRWYIIVTITSLG IAGV ILPWH PTFNRSDMAWARVAFYVTLAATGFAP IAOLSLTRSLGWSLYFYAPLL-KSLGVYLLGALVYASQ IPERWHPG-----
A.capsulat 360 : TSRWYIITITSLG IAGV ILPWH PTFNRSDMAWARVAFYVTLAATGFAP IAOLSLTRSLGWSLYFYAPLL-KSLGVYLLGAMIYAMQ IPERWLPG-----
S.c.IZH3 359 : WAMYTYMSISLALGV FGVFMNWS PFRDRPEARPLRIRFF ILLATM CVLSFLHLIFLTDLHYAATLESPV TYKSVVWYLVGVV FYGSFI PERFRSDVQV DK
A.nidulans 358 : TSRWVYILLTMSLIGGV ILPWH PTFNRADWAWRVAFYVTLAL TGFAPIAOLTYARGFSWCLYFYAPVM-KSILVYFVGACVYASQ IPERWKPG-----

S.schencki 470 : -----MFDYIGGSHNLWHLAVLGG ILFHY SAMOEFFSNAFRQAEDGCPA--Y
M.oryzae 475 : -----CFDYFGGSHNLWHLAVLGG I V FHYI AMOEFFSTAFKHA EAGCGA--Y
T.reesei 466 : -----CFDYIGGSHNLWHA AVLGG I L FHYT AMOEFFANAFSRAEGGCPA--Y
F.oxysporu 453 : -----CFDYVGGSHNLWHA AVLGG I L FHY SAMOTFFANAFHRAEAGCPS--Y
G.zeae 453 : -----CFDYIGGSHNLWHA AVLGG I L FHY SAMOAFANAFHRAEAGCPS--Y
N.crassa 446 : -----MFDYVGGSHNLWHM AVLGG I L FHY NAMOEFFSNAFRRAQDACPM--Y
C.globosum 450 : -----MFDYVGGSHNLWHI AVLGG I L FHYT AMOELFAHAFKLARDGCTA--Y
P.anserina 452 : -----MFDYCGGSHNLWHI AVLGG I L FHYKAMCAFFSHAFALADGCAV--Y
P.brasilie 465 : -----FEDYIGGSHNIWHV AVLGG I L FHYGAMODLFTGAFVRAEGECPTLVV
A.capsulat 454 : -----FEDYIGGSHNIWHV AVLGG I L FHYGAMODLFTGAFVRAEGECPSLTM
S.c.IZH3 459 : TIPTNYELSTDLEIITKQREIHFREVPTAHSKCSSCP SHAKSFKSLWV DYECCSHTFWHFFVVLGV IGHYRAILLDMFAKRWILS-----
A.nidulans 452 : -----LFDYIGGSHNIWHL AVLGG I L FHYLAMODL FANAFQRAKGECPNLTS