

A brasiliensis	1	MPPKKTSTTG--TTKKS--GSSHASYRDMIKDAILNLKERNGSSRQSICKYVQANNKIASASTNAFDSQFNKAIAKGVEK
A niger	1	MPPKKTSTTG--TTKKS--GSSHASYRDMIKDAILNLKERNGSSRQSICKYVQANNKIASASTNAFDSQFNKAIAKGVEK
A acidus	1	MPPKKTSTTGTTTAKPAEK--GSSHASYRDMIKDAILNLKERNGSSRQSICKYVQANNKIASASTNAFDSQFNKAIAKGVEK
A kawachii	1	MPPKKTSTTGTTTAKPAEK--GSSHASYRDMIKDAILNLKERNGSSRQSICKYVQANNKIASASTNAFDSQFNKAIAKGVEK
A tubingensis	1	MPPKKTSTT--STKKV--GSSHASYRDMIKDAILNLKERNGSSRQSICKYVQANNKIASASTNAFDSQFNKAIAKGVEK
A carbonarius	1	MPPKKTSTT--STKKV--GSSHASYRDMIKDAILNLKERNGSSRQSICKYVQANNKIASASTNAFDSQFNKAIAKGVEK
A flavus	1	MPPKKASTG--AAKKT--ASTHASYRDMIKDAILNLKERNGSSRQSICKYVLANNKIAASTNAFDSQFNKAIAKGVEK
A oryzae	1	MPPKKASTG--AAKKT--ASTHASYRDMIKDAILNLKERNGSSRQSICKYVLANNKIAASTNAFDSQFNKAIAKGVEK
A terreus	1	MPPKKASTA--ASKKT--TSGHASYRDMIKDAILNLKERNGSSRQSICKYVQANNKIAASTSNADFQFNKAIAKGVEK
A clavatus	1	MPPKKASTAG--ATKKT--ASGHASYRDMIKDAILNLKERNGSSRQSICKYVLANNKIAAVTOAAFDQFNKAIAKGVEK
A fumigatus	1	MPPKKASTG--ATKKA--TSSHASYRDMIKDAILNLKERNGSSRQSICKYVLANNKIAFASQAAFDQFNKAIAKGVEK
N. fischeri	1	MPPKKASTG--ATKKA--ASSHASYRDMIKDAILNLKERNGSSRQSICKYVLANNKIAFASQAAFDQFNKAIAKGVEK
A aculeatus	1	MPPKKATSTG--ATKKS--GSSHASYRDMIKDAILNLKERNGSSRQSICKYVLANNKIAFASQAAFDQFNKAIAKGVEK
A nidulans	1	MPPKKAPTT--AKKAAS-GPTHTSYRDMIKDAILNLKERNGSSRQSICKYVLANNKIAFASQAAFDQFNKAIAKGVEK
A sydowii	1	MPPKKATST--AAKKSSAGPTHASYRDMIKDAILNLKERNGSSRQSICKYVQANNKIAFASQAAFDQFNKAIAKGVEK
A versicolor	1	MPPKKATST--AAKKSSAGPTHASYRDMIKDAILNLKERNGSSRQSICKYVQANNKIAFASQAAFDQFNKAIAKGVEK
A wentii	1	MPPKKATAA--ATKKAG-TAAHASYRDMIKDAIVNLKERNGSSRQSICKYVRANNNTTVTSQAAFDQFNKAIAKGVDK
A glaucus	1	MPPKKRAAAAS--ATKKA--AAGHASYRDMIKDAIVNLKERNGSSRQSICKYVONNNNDLNNASPAVFDNQFNKAIAKGVEK
A rubrum	1	MPPKKRAAATP--ATKKA--AAGHASYRDMIKDAIVNLKERNGSSRQSICKYVONNNDLNNASPAVFDNQFNKAIAKGVEK
A zonatus	1	MPPKKATTs--ASKKA--APAHASYRDMIKDAILNLKERNGSSRQSICKYVEANNKIAITSKAAFDQFNKAIAKGVEK

A brasiliensis	77	GEFLQPKGPGSPVKLAKKEAAPKPAAKK-----TAT-----KAAAATKKTAA-
A niger	77	GEFLQPKGPGSPVKLAKKEAAPKPAAKK-----TAT-----KAAATAKKPAA-
A acidus	79	GEFLQPKGPGSPVKLAKKEAAPKPAAKK-----TAT-----KAAATAKKPAA-
A kawachii	79	GEFLQPKGPGSPVKLAKKEAAPKPAAKK-----TAT-----KAAATAKKPAA-
A tubingensis	79	GEFLQPKGPGSPVKLAKKEAAPKPAAKK-----TAT-----KAAATAKKPAA-
A carbonarius	76	GEFVQPKGPGSPVKLAKKEAAPKPAAKK-----SAT-----KAAAPKKTAT-
A flavus	76	GEFTQPKGPGSPVKLAKKEAAPKPAAKK-----SAT-----TAAPKPKKATA-
A oryzae	76	GEFTQPKGPGSPVKLAKKEAAPKPAAKK-----SAT-----TAAPKPKKATA-
A terreus	76	GEFTQPKGPGSPVKLAKKEAAPKPAAKK-----TA-----K-AAPKKTAA-
A clavatus	77	GEFTQPKGPGSPVKLAKKEAAPKPAAKK-----TA-----TAT-----AAAAPKKAAA-
A fumigatus	76	GEFTQPKGPGSPVKLAKKEAAPKPAAKK-----TAT-----KAAAPKKAAA-
N. fischeri	76	GEFTQPKGPGSPVKLAKKEAAPKPAAKK-----TAT-----KAAAPKKAAA-
A aculeatus	77	GEFTQPKGPGSPVKLAKKEAAPKPAAKK-----TAT-----KTTTAKKSEKA
A nidulans	77	GDFIOPKGPGSPVKLAKKEAAPKPAAKK-----TAT-----KTAAPKKTAT-
A sydowii	78	GDFLQPKGPGSPVKLAKKEAAPKPAAKK-----K-----KPTAT-----KAAATKKTAT-
A versicolor	78	GDFLQPKGPGSPVKLAKKEAAPKPAAKK-----K-----KPTAT-----KAAATKKTAT-
A wentii	77	EEFTQPKGPGSPVKLAKKEAAPKPAAKK-----K-----KPTAT-----KAAAPKKAAA-
A glaucus	77	GDFTQPKGPGSPVKLAKKDAAEKPKAAPKA-----APA-----KAAAPKKAAP-
A rubrum	77	GDFTQPKGPGSPVKLAKKDAAEKPKAAPKA-----APA-----KAAATKKAAP-
A zonatus	76	GEFTQPKGPGSPVKLAKKEAAPKPAAKK-----SAT-----KAAATPKASTT-

A brasiliensis	118	KKTEKT-----EKTEKADKP-----K-TTKKAAATTAKKPVGPKANTAKPRKASTTAPAVVVDKPKVLKTTK
A niger	118	KKTEKT-----EKAEEAKEP-----K-TTKK-----ATTAKKPVGPKANTAKPRKASTTAPAVVVDKPKVLKTTK
A acidus	120	K---KT-----EKTEKAEP-----K-TTKK-----ATTAKKPVGPKANTAKPRKASTTAPAVVVDKPKVLKTTK
A kawachii	120	K---KT-----EKTEKAEP-----K-TTKK-----ATTAKKPVGPKANTAKPRKASTTAPAVVVDKPKVLKTTK
A tubingensis	120	K---KT-----EKTEKAEP-----K-TTKK-----ATTAKKPVGPKANTAKPRKASTTAPAVVVDKPKVLKTTK
A carbonarius	119	KKAEEAKA-----EKTEKAEPKA-----K-KATTAVKGTTTAKPVGPKANTAKPRKASTTAPAVVVDKPKVLGTTK
A flavus	116	TTTKKA-----EKAEEAKEP-----KTTTAKPVGPKANTAKPRKASTTAPAVVVDQPKVILGTTK
A oryzae	116	TTTKKA-----EKAEEAKEP-----KTTTAKPVGPKANTAKPRKASTTAPAVVVDQPKVIGTK
A terreus	118	-----AA-----KKTEKTPEK-----KAAAKK-----ATTKKAAAGRPKANTAKPRKASTTAPAVVVDKPKVISTTK
A clavatus	124	KKTEKT-----EKAEEAKPAA-----KATTKK-----AAATTKKAPGKPKANTAKPRKASTTAPAVVVDQPKVISTTK
A fumigatus	119	-----KKTEKAEPKA-----KATTKK-----AGTTTAKKAAGRPKANTAKPRKASTTAPAVVVDQPKVISTTK
N. fischeri	119	-----KKTEKAEPKA-----KATTKK-----AGTTTAKKAAGRPKANTAKPRKASTTAPAVVVDQPKVISTTK
A aculeatus	122	EKSEKT-----EKTEKAEP-----KSTAKKATGTTTAKPVGPKANTAKPRKASTTAPAVVVDQPKVISTTK
A nidulans	120	-----KKA-----DKAEEAKEP-----KTKK-----TNAGVKKPAGRPKANTAKPRKASTTAPAVVVDKPKVSV-TK
A sydowii	124	-----KKTEKAEPKA-----KPKAKK-----STAVGKKSTAKPKANTAKPRKATTSAAPAVVVDKPKVNVTK
A versicolor	128	-----KTDKAEPKA-----KPKAKK-----STAVGKKSTAKPKANTAKPRKATTSAAPAVVVDKPKVSV-TK
A wentii	156	KKTEKT-----EKTEKAEPKA-----KAAVKK-----STTAKKAAGRPKANTAKPRKASSAAPAVVVDQPKVISTTK
A glaucus	124	KKTEKAEEKA-----EKAEEAKET-----KSTAKK-----ATATKKKTAAPKANTAKPRKTPVAAPAIIEKPKIIISTTK
A rubrum	124	KKTEKA-----EKAEEAKET-----KSTAKK-----ATATKKKTAAPKANTAKPRKTPVAAPAIIEKPKIIISTTK
A zonatus	124	-KASAT-----KKS-----TEKSAA-----KPSAKKASATATTKSAAKPKANTAKPRKASGLAPAIIVEKEKVERTTK

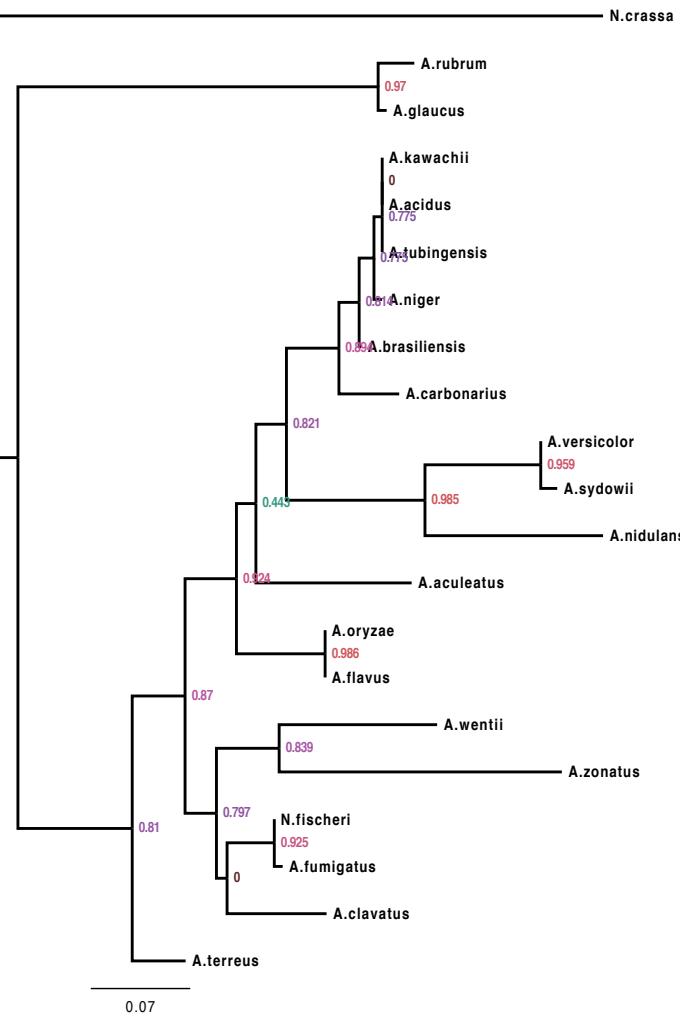
A brasiliensis	180	SGRVTKTTAKPAEK-----ATKKT-----KKAAT-----AKETAA
A niger	178	SGRVTKTTAKPAEK-----ATKKT-----KKA-----AKETAA
A acidus	178	SGRVTKTTAKPAEK-----ATKKT-----KKA-----AKETAA
A kawachii	178	SGRVTKTTAKPAEK-----ATKKT-----KKA-----AKETAA
A tubingensis	178	SGRVTKTTAKPAEK-----ATKKT-----KKA-----AKETAA
A carbonarius	188	SGRVTKTTAKPAEK-----ATKKTA-----KK-----A
A flavus	179	SGRVTKTTAKPAEK-----ATKKST-----KK-----A
A oryzae	179	SGRVTKTTAKPAEK-----ATKKST-----KK-----A
A terreus	174	SGRVTKTTAKPAEK-----ATKRAA-----KK-----A
A clavatus	187	SGRVTKTTAKPAEK-----ATKKRA-----TATAAKKAEEKAEE
A fumigatus	176	SGRVTKTTAKPAEK-----ATKKKATTTKK-----AEKSEA
N. fischeri	176	SGRVTKTTAKPAEK-----ATKRKAATTKK-----AEKSEA
A aculeatus	185	SGRVTKTTAKPAEK-----SKSST-----AKKEKAAPA-AAAAS
A nidulans	175	SGRKTTTAKPAEK-----ATKTTAK-----NKK-----A
A sydowii	179	SGRKTTTAKPAEK-----ATKRTS-----KK-----A
A versicolor	183	SGRKTTTAKPAEK-----ATKRTS-----KK-----A
A wentii	217	SGRVTKTTAAPAEK-----KKPAA-----KK-----A
A glaucus	202	SGRVTKTTAQPESA-----PKRAAP-----KK-----A
A rubrum	194	SGRVTKTTAQPESA-----PKRAAP-----KK-----A
A zonatus	186	SGRVTKTT-KPVFKTPSVKKKTS-----VKK-----K

A.brasiliensis	1	MPPKTG--GRGRKSIVAA-PROSTAGDRAAASSSKA-----AATTSPAAKKV-RK--STGPARGGKRP
A.niger	1	MPPKTG--GRGRKSIVAA-PROSTAGDRAAASSSKA-----AATTSPAAKKV-RK--STGPARGGKRP
A.acidus	1	MPPKTGGGRGRGRKSVTAA-PROSTAGDRAAASSSTA-----ATTASPAAKKV-RK--STGATRGGKRP
A.tubingensis	1	MPPKTGGGRGRGRKSVTAA-PROSTAGDRAAASSSTA-----ATTASPAAKKV-RK--STGATRGGKRP
A.kawachii	1	MPPKTGGGRGRGRKSVTAA-PROSTAGDRAAASSSTA-----AITASPAAKKV-RK--STGATRGGKRP
A.carbonarius	1	MPPKT---GRGRKIA-AST-PRKSTTGDRRAASASKA-----AATTSPSASKV-HK--TAGSSRGGKRP
A.terreus	1	MPPKT---GRGEKI-TAA-PRTEASSSSRTTAAAA-G-----PSTASPAHRS-RK--STGPSTRGGKRP
A.clavatus	1	MPPKT---GRGRKIA-VSA-GRPRKD---ESGPSSDA-----PATASPESTRGQ-RK--SSGATRGGKRP
A.flavus	1	MPPKT---GGGRKV-IAA-SRAKAD---GAGKESA-----AAKGSPSTRG-RK--SAGGARAGKRP
AORYZAE	1	MPPKT---GGGRKV-IAA-SRAKAD---GAGKESA-----AAKGSPSTRG-RK--SAGGARAGKRP
A.fumigatus	1	MPPKT---GRGRKIA-IGA-PRTOPR-DDGGAGPSNA-----AATASPESTRGQP-PK--FRGGTRGGKRP
N.fischeri	1	MPPKT---GRGRKIA-IGA-PRTOPR-DDGGAGPSNA-----AATASPESTRGRPK--SRGGTRGA-KRP
A.wentii	1	MPPKT---GRGNKI-IAA-PRAKAKEEEAEAGPSRA-----SPATASPATRGR-RK--SAGASRGGKRP
A.aculeatus	1	MPPKT---GRGRKS-IAG-PRKSTAAAAAAAATTAAATTDDGAAAAGPSTAPATTTTPEAARG--RK--PAGVTR-GKRP
A.zonatus	1	MPPKT---GRGRKM-LAAQARPRPATGD-GGADGDG-----AAAAGPS-SRNDGATKPG-RG--GR-KSGGTRGGKRP
A.glaucus	1	MPPKT---GKGRKV-VSE-PRSRPSTGDGEAGPSSK-----POOTASPEANKRK-PKASTSGEARE-DKRP
A.rubrum	1	MPPKT---GKGRKV-VSE-PRSRPASASDGEAGLSSD-----LOQTvspANKNN-PKASTSGEAREGKRP
A.nidulans	1	MPPK---GRKP-SSA-ATAGTGSSKATSAKTST-----TTSGASP--KVTKSSRTLGSKALASA--SVSKSKGSKRP
A.sydowii	1	MPPK---GRKP-ASA-----TAGPSTTT-----TTTGAGP-----AKSAGVKKG-AK--GVQGTTGGKRP
A.versicolor	1	MPPK---GRKP-ASA-----TAGPS-----KTPAAGP-----SKSAGVKKG-PK-----GGKRP
A.nidulans_H3	1	MARTK---QTARKS-----TGGKAP
A.brasiliensis	58	AG-----KAPROSDVQ---PGDPTPQG--RVRRYKPGTVALKEIRKYQRSYDLLIQLPFARLVREVALDLLPSEVG
A.niger	58	AG-----KAPRESDVQILAAAGDPTPQG--RVRRYKPGTVALKEIRKYQRSYDLLIQLPFARLVREVALDLLPSEVG
A.acidus	60	AG-----KAPRESDVQ---PGDPTPQG--RVRRYKPGTVALKEIRKYQRSYDLLIQLPFARLVREVALDLLPSEVG
A.tubingensis	60	AG-----KAPRESDVQ---PGDPTPQG--RVRRYKPGTVALKEIRKYQRSYDLLIQLPFARLVREVALDLLPSEVG
A.kawachii	60	AG-----KAPRESDVQ---PGDPTPQG--RVRRYKPGTVALKEIRKYQRSYDLLIQLPFARLVREVALDLLPSEVG
A.carbonarius	56	AG-----KKPRVSDVQ---PGDPTPQG--RSRRYKPGTVALKEIRKYQRSYDLLISKLPFARLVREVALDLLPSDVG
A.terreus	55	AG-----APRDSDVQ---PGDPTPQG--RRRRYRPGTVALKEIRKYQRSYDLLIQLPFARLVREVALDLPAERG
A.clavatus	52	AG-----APRKSDVQ---PGDPTPQG--RPRRYRPGTVALKEIRKYQRSYDLLIQLPFARLVREVALDLLPTEVG
A.flavus	51	AG-----ASRKSDVQ---PGDPTPQG--RHRRYRPGTVALKEIRKYQRSYDLLIKLPFARLVREVALDLLPADVG
AORYZAE	51	AG-----ASRKSDVQ---PGDPTPQG--RHRRYRPGTVALKEIRKYQRSYDLLIKLPFARLVREVALDLLPADVG
A.fumigatus	56	AH-----APRPSDVQ---PGDPTPQG--RRHRYKPGTVALKEIRRYSYDLLIQLPFARLVREVALDLPAEVG
N.fischeri	56	AR-----PGDPTSDVQ---PGDPTPQG--RRHRYKPGTVALKEIRKYQRSYDLLIQLPFARLVREVALDLPAEVG
A.wentii	57	AGVSK-PK-AKPSKQTDVQ---PGDPTPQG--RRHRYKPGTVALKEIRKYQRSYDLLIQLPFARLVREVALDLPAEVG
A.aculeatus	71	AK-----APRTSNVE---PGDPTPQG--RRRRYKPGTVALKEIRHYQRSFDLLIKLPFARLVREVALDLLPAEVG
A.zonatus	64	FG-----TSGQSNIQ---PGDPTPKG--RRHRYKPGTVALKEIRKYQRSYDLLURKLPFARLVREVALDLPAEVG
A.glaucus	58	SGVTKTPKAAKTAITSDVQ---PGDPTPQG--RSRRYKPGTVALKEIRKYQRSFDLLIQLPFARLVREVALDLPAEVG
A.rubrum	59	SGVTKPPK---TAKTLDIQ---PGDPTPQG--RPRRYKPGTVALKEIRKYQRSFDLLIQLPFARLVREVALDLPAEVG
A.nidulans	65	PT-----APSDDOSSIQ---PGDPTPKG--RRHRYKPGTVALKEIRKYQRSYDLLURKLPFARLVREVALDLPAEVG
A.sydowii	50	PR-----TSDAQSDVQ---PGDPTPKG--RRHRYKPGTVALKEIRKYQRSYDLLURKLPFARLVREVALDLPAEVG
A.versicolor	40	RT-----SDVQPDVQ---PGDPTPKG--RRHRYKPGTVALKEIRKYQRSYDLLURKLPFARLVREVALDLPAEVG
A.nidulans_H3	18	RK-----QASKAAR---KAASTGTVKPHRYKPGTVALREIRRYQKSTELLIRKLPOFLVRETA----QDFK
A.brasiliensis	125	AELRWOSHAIQALOEAAAEEAFLVHLFEDTNLCIAIHAKRVTIMQDKIQLARRIRGVWGGLG
A.niger	128	AELRWOSHAIQALQEAAAEEAFLVHLFEDTNLCIAIHAKRVTIMQDKIQLARRIRGVWGGLG
A.acidus	127	AELRWOSHAIQALOEAAAEEAFLVHLFEDTNLCIAIHAKRVTIMQDKIQLARRIRGVWGGLG
A.tubingensis	127	AELRWQSHAIQALQEAAAEEAFLVHLFEDTNLCIAIHAKRVTIMQDKIQLARRIRGVWGGLG
A.kawachii	127	AELRWQSHAIQALQEAAAEEAFLVHLFEDTNLCIAIHAKRVTIMQDKIQLARRIRGVWGGLG
A.carbonarius	123	SELRWQSHAIQALQEAAAEEAFLVHLFEDTNLCIAIHAKRVTIMQDKIQLARRIRGVWGGLG
A.terreus	121	AELRWQSHAIQALQEAAAEEAFLVHLFEDTNLCIAIHAKRVTIMQDKIQLARRIRGVWGGLG
A.clavatus	118	AOLRWQSHAIQALQEAAAEEAFLVHLFEDTNLCIAIHAKRVTIMQDKIQLARRIRGAWGGLG
A.flavus	117	SELRWQSOAIMALQEAAAEEAFLVHLFEDTNLCIAIHAKRVTIMQDKIQLARRIRGAWGGLG
AORYZAE	117	SELRWQSOAIMALQEAAAEEAFLVHLFEDTNLCIAIHAKRVTIMQDKIQLARRIRGAWGGLG
A.fumigatus	122	AELRWQSHAIQALQEAAAEEAFLVHLFEDTNLCIAIHAKRVTIMQDKIQLARRIRGVWGGLG
N.fischeri	122	AELRWQSHAIQALQEAAAEEAFLVHLFEDTNLCIAIHAKRVTIMQDKIQLARRIRGVWGGLG
A.wentii	130	AELRWQSHAIQALQEAAAEEAFLVHLFEDTNLCIAIHAKRVTIMQDKIQLARRIRGAWGGLG
A.aculeatus	137	SELRWQSHAIQALQEAAAEEAFLVHLFEDTNLCIAIHAKRVTIMQDKIQLARRIRGVWGGLG
A.zonatus	130	AELRWQSHAIQALQEAAAEEAFLVHLFEDTNLCIAIHAKRVTIMQDKIQLARRIRGVWGGLG
A.glaucus	133	EOLRWQSHAIQALQEAAAEEAFLVHLFEDTNLCIAIHAKRVTIMQDKIQLARRIRGAWGGLG
A.rubrum	131	EOLRWQSHAIQALQEAAAEEAFLVHLFEDTNLCIAIHAKRVTIMQDKIQLARRIRGAWGGLG
A.nidulans	133	SELRWQSHAIQALQEAAAEEAFLVHLFEDTNLCIAIHAKRVTIMQDKIQLARRIRGAWGGLG
A.sydowii	117	AELRWQSHAIQALQEAAAEEAFLVHLFEDTNLCIAIHAKRVTIMQDKIQLARRIRGAWGGLG
A.versicolor	106	AELRWQSHAIQALQEAAAEEAFLVHLFEDTNLCIAIHAKRVTIMQDKIQLARRIRGAWGGLG
A.nidulans_H3	81	SDLRFQSSAIGALQESEAVLVSIFEDTNLCIAIHAKRVTIOSKDIQLARRIRGE---RS

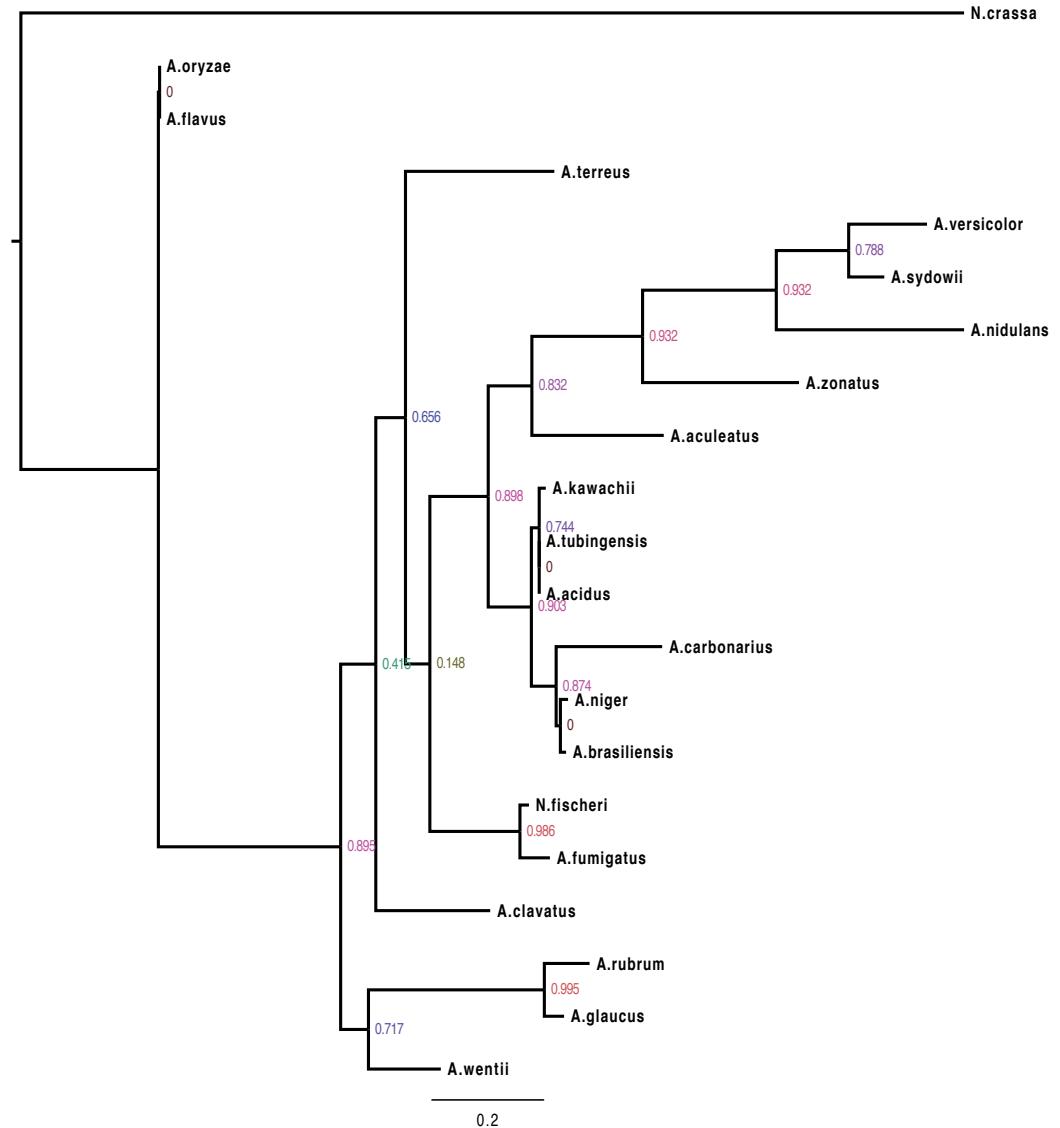
Centromeric Histone H3
Alignment

A.acidus	1	MD--PRLVTDRSKRF-LPKKR-FRKILRNNIDGITRPSIRRLARRGGVIRISADVYPEV
A.kawachii	1	MD--PRLVTDRSKRF-LPKKR-FRKILRNNIDGITRPSIRRLARRGGVIRISADVYPEV
A.tubingensis	1	MD--PRLVTDRSKRF-LPKKR-FRKILRNNIDGITRPSIRRLARRGGVIRISADVYPEV
A.niger	1	MD--PRLVTDRRSKRF-LPKKR-LRKILRNNIDGITRPSIRRLARRGGVIRISADVYPEV
A.niger	1	MD--PRLVTDRRSKRF-LPKKR-LRKILRNNIDGITRPSIRRLARRGGVIRISADVYPEV
A.carbonarius	1	MD--PKLVTDKRSRRF-LPKKR-YRKVLRNNIDGITRPTIRRLARRGGVIRISAGIYAEV
A.aculeatus	1	MD--LNLLKESGKHRAFMPRRR-FRKLARDNIOGVTRPAIRLARRGGVYRIGNEIYEEA
A.nidulans	1	MPSLISVPQSTGLHGLATLQR-EKKLRESIRGVTRPAIRLARRGGVYRIKNEIYDEI
A.wentii	1	MA----PRLO----NIFPK-RHRKLRDNIAGITRPAIRLARRGGVMRIKEIYDEI
A.versicolor	1	MAR-----VAHVILPLAGYR-RHKVLRDNILGVTRPAIRLARRGGVYRIKEIYDEI
A.sydowii	1	MAR-----VATCVLPMMSRYK-RHRILRDNILGITRPAIRLARRGGVYRIKEIYEEI
A.fumigatus_A11	1	MDV-AHLAANPNTQGL-LLKGHRRLRDNVNGITKPAIRRLARRGGVVRMKTDIYAQI
A.fumigatus_Af2	1	MDV-AHLAANPNTQGL-LLKGHRRLRDNVNGITKPAIRRLARRGGVVRMKTDIYAQI
N.fischeri	1	MDV-THLAANPNTRGL-LLKGH-RRFRLRDNIMGITKPAIRRLARRAGVVRIKTDIYAEI
A.clavatus	1	MD--PNSPQNRSRSTRGL-LLKSH-RRRHLDNLLGIGITRPAIRLARRGGVMRIKSDIYNEA
A.flavus	1	MDT-ANLPRN-----LIIGOSR-RRKKIIRDNIMGITRPAIRKLARRGGIIRIKNDIYDEA
AORYzae	1	MDT-ANLPRN-----LIIGOSR-RRKKIIRDIMGITRPAIRKLARRGGIIRIKSDIYDEA
A.terreus	1	MDP-TLPRTW-----RPKAK-RHKKLRDNLMGITRPAIRLARRGGVIRIKADIYDEI
A.zonatus	1	MIT-PPPTGNPLTGFFPALPAA-GRKPIRDNILGVSVROSIRRLARRGGIARINIDIYQGV
A.nidulans_H4	1	MS----GRGKGGKGLGKGGAKRHKILRDNIQGITKPAIRLARRGGVKRISAMIYEET
A.acidus	57	RKTVKNRLTEIIRQILLVMESSTPGHERKVVRTEDVVFALNRMGHTLYGFG-----
A.kawachii	57	RKTVKNRLTEIIRQILLVMESSTPGHERKVVRTEDVVFALNRMGHTLYGFG-----
A.tubingensis	57	RKTVKNRLTEIIRQILLVMESSTPGHERKVVRTEDVVFALNRMGHTLYGFG-----
A.niger	57	RKTVKNRLTEIIRQILLVMESSTPGHERKLVVRTODVVVFALNRMGHTLYGFG-----
A.niger	57	RKTVKNRLTEIIRQILLVMESSTPGHERKLVVRTODVVVFALNRMGHTLYGFG-----
A.carbonarius	57	RVALKDRLEILRQVVHIMDSSTTPRERKVVTTRDVVVFALNRMGHTLYGFT-----T
A.aculeatus	58	RRALKNRLTEIIRRIVHMDSCTTPGHERKVVTTRDVTFVLNQMGNPITYGFO-----
A.nidulans	60	RIVLKERLAETLKQVCLVMESSGTIPSSERKLVTTTRDVVYALKRMGQTIFYGFDRVSSERRI
A.wentii	49	RGVLKDRLREILRHVVYILESARTPSHERKVVTTRDVVYALQKIGHTVYGF-----I
A.versicolor	53	RLALRDRRLSEILRHIMLILESSTVSPSHORKLVTTTRDVVYALSRMGHTLYGFD-----
A.sydowii	53	RIVLKERLSDIIRNIVLLESSTVSPSHORKLVTTTRDVVYALSRMGHTLYGFO-----
A.fumigatus_A11	59	RSVIRGRLREILFOVVQVLESSKTHRHDRKVVTTRDVVYALORMGQTMYGF-----
A.fumigatus_Af2	59	RSVIRGRLREILFOVVQVLESSKTHRHDRKVVTTRDVVYALORMGQTMYGF-----
N.fischeri	58	RSVIRGRLREILFOVVQVLESSKTHRHDRKVVTTRDVVYALORMGQTMYGF-----
A.clavatus	57	RVAIRQLRREVLFQVVQVLDASASTHRHQKVVTTRDVVYALORIGQTLYGF-----
A.flavus	54	RRAIRDRLTEILRQLALILESSDIHSRQORKVVTTRDVIYALNRLGNTLYGF-----
AORYzae	54	RRAIRDRLTEILRQVALILESSNVHSRQORKVVTTRDVIYALNRLGNTLYGF-----
A.terreus	53	RRVVVKNRIEDVLRQVVDIMDSASTNRDTRKVVTTRDIVYALNRMGNLYGFD-----
A.zonatus	59	RQVIKDRLELLISOLVELLESGNTPDHERTIVDSRDVVYVLSRLGTPMYGF-----
A.nidulans_H4	56	RGVLKTFLEGVIRDAVTYTEHA-----KRKTVTSLDVVYALKROGRFTLYGFG-----

Putative H4 Homologue
Alignment



H1



CenH3

Maximum likelihood phylogenetic trees

Additional File 34.**Histones of the Aspergilli**

This file shows alignments of the histone H1, the centromeric histone H3 and the putative histone showing similarity with histone H4 for different species of *Aspergillus*. Alignments carried out with MAFFT (G-ins-i) (<http://mafft.cbrc.jp/alignment/server/>) and visualised with BoxShade . (http://www.ch.embnet.org/software/BOX_form.html). The last page of this file compares the phylogenetic trees of the two most variables histones, H1 and CenH3. Trees are maximum likelihood trees derived from a MAFFT (G-ins-i) alignment curated with BMGE (<http://mobyle.pasteur.fr/cgi-bin/portal.py#forms::BMGE>) with default settings. Maximum likelihood trees with PhyML (http://phylogeny.lirmm.fr/phylo_cgi/alacarte.cgi). Digits at the nodes are aLTRs (approximate likelihood ratio test values).