

Aspergillus nidulans:

**AN1046**

MVAAFIEWILFLAAFVYCLIKVYQKADHWSIRALAVMMIILFSALRSVFAAFPPAMVSFLQWFAFWAFAGLLTVPWL  
FCVYRIVTNSIGKTRRIQKVLDAKTAPKVVIIIMPVYKEEPETLIKAVDSVVDSDYPGCCIHVFLSYDGLIDEPYLRVINH  
LGIPISLRSYPQSIDVYKGARITVSRFRHGGKRHCQKQTFRLIDKVYADYLKEHDDLFLFIDSDCMLDRLCLQNFMY  
DMELKPGSKRNMMLAMAGIITSTTEKNLITVLQDMEYIHGQLFERSVESGCGAVTCLPGALTILRFSAFRKMAYYFA  
DKAEQCEDLFDYGKCYLGEDRWLTHLFMIGARKRYQIQMCTTAFCKTEAVQTFNSLLKQRRRWFLGYITNEVCMLT  
DVRLWRRYPLLCVRLQNTIRTTALLFFILLISIMTTSSRVDDLPGFVVISLALNYTLMFYFGLKLRKRYKAWLYPMMFI  
LNPFNWLYMVYGIFTAGHRTWGGPRTDAARADEFTTPEQAVRQAEAQGDELNVEVETFRSAVEGKGVVPHPWK  
KVTGRFSNGDLMPIKGGMVNDTEAGLTKFLSPLPEIPQIGLHPPWSTESVLSVESIEMPHNVEESLMNDEKYLSRK  
AQETSTPRRSVESFHDSQNTNDPRLPIPSGDGNRAIENRLASPAPSLDSTTTATEATKSVETPEDCQTGSSCPPNESS  
NRLTMARCVSNTEVSQTQRLSKTPSPAKSRKRGTVA

**AN1555**

MSLPQRPGKTSPPREETSAREPSRRRRRESDSLNNPTSPRHRRHHRSHSSRHQHDIDEERAEEGGIRRKRSLVK  
PERGRMDPSHPNYLRQKTQNMPTYNPMGTGNEPLIHEEGEAETNSTPSMDSKRKDALYGAHGNVKNPMERVPT  
HRSKKRKGRKISKREAAAEKRRRKAMEQVRPPSLWTTYCSVITFWAPDFVLKCFGMPQKAQRSARWREKIGLISIL  
MIAAFVGFLEFGTATVCGTPTRLKINEIGSGYMIFHGQAYDLTKSTHPAAAGIPDMTNVLYDLPHKYGGQDGSFFF  
QEVNGACKGLITRTENDIPTNSNGDLAWYFPCAFNQDGSSEPNTTVSYNGWACHTSGSARKSFYSLKNSGDVY  
FTWEDTKNTRSRLAVYSGNVLDLNLNWFDDTQVNYPTKFKDLRDNDIRGVDLTYFQGTGEDKQIGKLSQIIKVG  
SIDTDTVGCASQVVLVSLIFILSIVVKFAFALLFQWFLAPRFAAQKTSMGAVDSKARNQQIEDWSNDIYRPGPRLA  
DPVPGDRMSKRASFLPTTSRFSSPYTVSNGGKQKPQWVTMASQNSTTRLVPPASGTTPSIYRQSHNGLGNVSDN  
SRLNPSASRTSLVQDSRYSTVIPDSEIGSAGYVHELVPQPPDWQPYGFPLAHAMCLVTCYSEEGEIRTTLDIAL  
TDYPNSHKSIVVICDGIKKGEEFSTPDIVLRMMRDPIIPPEEVEAFSYVAVATGSKRHNMAKVYAGFYDYGEHSIIPV  
EKQQRVPMIIVKCGTPAEATAAKPGNRGRKDSQIILMSFLQKVMFDERMTELEYEMFNGLLHVTGIPPDFYEVVL  
MVDADTKVFPDSLTHMISAMVKDPEVMGLCGETKIANKTDSWVTMIQVFEYFVSHHQKAFESVFGGVTCLPGCF  
SMYRIKAPKGGQNYWVPILANPDIVEHYSENVVDTLHKKNLLLGEDRYLSTLMLRTPFKRQIFVPQAVCKTVVPD  
KFMVLLSQQRRRWINSTVHNLMLVLRDLCGTFCFSMQFVIFVELVGTVVLPAAISFTIYVVSSIIKQPQVIPLVLLALI  
LGLPGVLVVTAHRLVYVWMLVYLISLPIWNVFLPTYAYWKFDDFSWGDTRKTAGEKDKGHEDGEFESSKITMK  
RWRDFEKDRRLRMQAGWQLPVGGHPPMPYEPYPEY

**AN2523**

MAYHGSGPQSPGEHTYDDGHQLRDLSHSNTSYEEEEASHGLLSSQQSPFAGPFDDPHQQRGLTASPVQRPTSGYSLT  
ESYAPDAAYHDPYSANQSVYSGHSENPAAAFGVPRVASPYARSETSSTEAWRQRQAGAAGGGNGLRRYATRKYKL  
VQGSVLSVDYVPVPSAIQNAIQAKYRNDLEGGSEEFTHMRYTAATCDPNEFTLHNGYNLRPAMYNRHTELLIAITYYN  
EDKTLTARTLHGVMQNIRDIVNLKSEFWNKGGPAWQKIVVCLVFDGIDPCDKDTLDVATVGIYQDGMKRDVD  
GKETVAHIFEYTTQLSVTPNQQLIRPTDDGPSTLPPVQMMFCLKQKNSKKINSHRWLFNAFGRILNPEVCILLDAGTK  
PGPKSLLYLWEAFYNDKDLGGACGEIHAMLGKGWKKLLNPLVAAQNFEYKISNILDKPLESSFGYVSVLPGAFSAYRF  
RAIMGRPLEQYFHGDHTLSKQLGKKGIEGMNIFKKNMFLAEDRILCFELVAKAGSKWHLSYVKASKGETDVPEGAPE  
FISQRRRWLNGSFAAGIYSLMHFGRMYKSGHNIVRMFFLHLQMLYNWFSTFLTWFSLASYWLTTSVIMDLVGTSS  
SNGYTAFFPGKTATPIINTLVKYIYLAFLLLQFILALGNRPKGSKLSYLASFVAFGIIQYVVVDALYLVVRAFTGGAPMDF  
NTDDGIGAFLLSSFFGSSGAGIIIIAATFGLYFVASFMYLDPWHMFTSFPAYMAVQSSYINILNVYAFSNWHDVSWG  
TKGSDKADALPSAKTTGGKGEAEVIEEIDKPQADIDSQFEATVKRALTPYVPEEKEEESLDDSYKSFRTLVTLWLFNS  
GLLAVCITSEGLDKFGFTNTSTERTSRFFQALLWSNAVVALIRFIGATWFLGKTGLLCCFARR

**AN4367**

MDRSRTWYEEEFPLHSEPLDTEDRVPSQRDPLFHSSDEPVCYSPRPLSPLPASAPGPDSDVLATSFTPPGHRLSHSH  
THSRAQSQRQLFPGMSYPNPNSEAGSGGGSITSWQKRQAGGLRRWPTRRVDLIKGRVLSVDYVPVPSAILNSVEPQY  
RDSASSSEEFTHLRYAATCDPDDFTLRNGYNLRASMYNRYTELLIAITYYNEDKVLARTLHGVMQNIRDIVNLKKTQ  
FWNKGGPAWQKIVVCLVFDGISPCDKETLDVATVGIYQDGMKHDIDGKETTAHIFEYTTQLSITPSLQLVLRPQRDD

PTNLPPVQMIFCLKQKNSKINSHRWLFNAFGRILNPEVCVLIDAGTKPGHKSLLALWEAFYNNKNLGGACGEIHAL  
LGPRWEKLANPLVAAQNFYKISNILDKPLESMFGYVSVLPGAFSAYRYRAIMGRPLEQYFHGDHTLSKRLGKKGIEG  
MNIFKKNMFLAEDRILCFELVAKAGQKWTLVYKASKGETDVPEAPPEFLSQRRLWLNLSFAASLYSVMHFARIYKS  
GHNMVRLFFLHVQLLYNVCQLIMTWFSLASYLWLTSSVIMDIVGTPSATNKYKGWPFNGEVSPFINNVVKVLYLVFL  
MHQFFLALGNRPKGSQFAYILSFLYFSLVQIYILISFLVLAQAFSGGNIDLDFDHGVGGGFFASFFTSTTGLVLVALASTYG  
TYFIGSILYCDPWHLITSSWAYFIGMPSTINILNVYAFCNWHDVSWGKGSNDNAAASLPSAQTKKAPGGGDGDAKG  
TFVEELDQPQADIDTEFEFTVRRALAEYKEPEPKTVSLDDSYKTFRTNLVLTWALSNSLLALLINNAGVSTLCLTTTSTV  
RTAWYFKLLWATSGLSIFRFAGALYFLAKTGVLCFFVRR

**AN4566**

MSYNRLGDPYGDDRDARSPIMNPSSLSNRSPSPGRPLDGYQLSDAPYGHHHHIEMPSSDRLAEQPTYSVERIPQSY  
GHNEAYEAHQHYPGYEYSVDPEAHHDAYTQPYQPTVTPGHDDYDLGQYPGHQHSYQDDEPIQPDPFQAQ  
PYSDDYQEDMTIAPTPSPAPLRRWKTVEVQLFQGNLVLDCPIAPKLLNQIPHAENGQRDEFTHMRYSAATCDPKD  
FFEERFTLRQKLFAPRHTELFIVVTMYNEDDFLARTMVGVFKNIEHMCSTRSKTWGKDAWKKIVVCGVSDGRAK  
INPRTRAVLAGLGCYQDGIKQVNGKDVTAHIYEYTTQVGMELKGNQVHLKPRSGVPVQMIFCLKEKNQKINSH  
RWFQAFGRVLDPNICVLLDAGTQPGKDSIYRLWKAFDVPEMCGGACGEIKVMLDHGKLFNPLVAGQNFEYKLS  
NILDKPLESAFGFISVLPGAFSAYRYIALQNDKNGQGPLERYFLGKMHGANAGIFTANMYLAEDRILCFEIVTKRNCR  
WLLQYVKSSTGETDVPDQMAEFILQRRRWLNLSFFAAVYAITHFYQLWRSDHSFIRKFMILLIETIYQNTINMLFAWFGI  
GNFFLVFHILTYLGDADLLGTAGKVLGVVFEWYLLATLVTCFVLSLGNRPGGSNKLYMTMVYLVWFIMIYLAFAAV  
TVRSIQEEVKDGSFTFSTLFTNSTFFSIIVSLGSTYVMWFIASIIFMDPWHMFTCFIQYILLTPTYINVLNIYAFCNTHDIT  
WGTGDDKAELPSANLKPGGKVDVNIPQDDGDLNAQYEAELMKFAQKPPKEIKTISEERQADYYKGRSSVVLV  
WVFCNFALGAVVLSAGLDRFSDDAEAAETDRNNRAMIYMAVVLVSVAGLSIFKFLGAMWFLVVRMFRGV

**AN6317**

MSNRFVYSTQSAGLPGGRPSNQLSTTTLLNALHAHYTSGLPYQLDAGTSVVVNNWLTAQAQTGADGHNGGTFDRE  
LAARAWEHARRRAEDGCIVLSSTHQSTPSIFEPFLTLPLSTPSVTFALSALKPFLRAVAFNPSYSLSALSANFTFLK  
GDLVALTLALSTSGNLVQKGLLDIPEPGYRAFDVFYLLTTTSTQAEREFALREPSAYALLNKSGTYDPPSYIPTADDA  
AAAEDFRAALKAIGIKGASLRNLLSVLAGLLKLGNAAGFLVDEEELEQTCEVDGDLGVDPEILLHKCATDERELLITGIY  
EALVDWVISKANEAIAGELEELNANGSGEHWNDDTVSISVVDIPRPAFGKAVALRNVFDDSLGINAEMKEDGIPAP  
PVGQAAILNEMAAVEQFGPDLGISTDPTKEYELDKRQGVLEKVGIDLDADSFLRQILIPVESQGIAGVKKGRFDLASTL  
GSSRVVHHISVHPSDDLPGALNTSAPTAAWTASAVSRQIREWRLVEWANRRLKQDFDTADFDVDEFVNRYSRLGC  
ADGRDGVESWLMERGWTNGDAFVGHQRIWMRENAWWEAETMIDLKADEPPSTHSYFNSMLDPHSGGTPM  
AESASLLGGSQSNNLHRQSAMAPSVMAKSIAPSVPTMNMAGDYGLGSKGDDKKWDNIYYDGAEGGDRKHLEK  
DEITLGRRVWTAFFVWALTFWIPSFVLRVYVGRMKRPDVRIAWREKVVLLVLLILLFNGIVCFYIIAFGDLCPGKDKVWN  
EKEVSWRSTSSNFYVSIHGYYDITKFAKVTHGDTSPPEATPSLMEPLAGKVLDAYFPPPLTRMCGNYVNDLAINLQN  
NDTSATEDQPLAVHKSQPRNRPDTTTTLHNITWYEQDFLPKINEYYKGLVWSKDTVKKQAESSSERKWVIAHNKIY  
DLTDYFYTLDMMNSESSYDWLPSAITDLVKNPQGDVSDKWPLMSSPFREAQSCLDYVFYKGDTRFRDGPRACTVN  
NWILLAFILICAVVLVKFLAALQLGSKRRPAPQDKFVICMVPAYTEGEDSLRKGLDSLALQYDNKRKLIFVICDGMIV  
GGGNDRPTPKIVLDILGVDPKIDPPALPVKSIGQNEQLNYGKVVYGLYEYEGNVVYVVVVVKVKESEQNKSKPGN  
RGKRDSQVLLNFLSRVHHRAPMSPLELEVFHQINNVIGVDPELYEYCLMVDADTSVREDSLRNLVAACANDARIAG  
ICGETSLQNEERSWWTMIQVYEFISHHLAKAFESLFGSVTCLPGCFMYRLRTADRGRPLIISEKLLIEYSDNNVDTL  
HKKNLLALGEDRYLTTLMTKHFPTMSYKFIPIAFASTAAPETWSVLLSQRRLWINSTIHNVLVAALKDLGFCFCFSM  
RFVVMVDLLGTIILPATCVYLYGLIYRVASDTGPFPMISIVMLAGIYGLQAIIFIIKRQWQHIGWMIILCAYPIYSFILPLY  
SFWKQDDFSWGNTRVVEEKSGSKRIVAVEDEQFDPRIPLQRWDDYALANNLPGRRGDYAVGQEKAFYGGRYMD  
DTAMEMDDMHSQYSSVKPASTILTGFPGQGRHSYMPQPSPAPFGGNVPGNRNSHFSTFSRYTDQPLQSNSHLQTR  
HMSMGNLSQLESSGMTNRHSVGMQMSTDNLLRPNRSRPFVGFNSRPASAFDFRAGMNGPDEGAITEAIRSCLAEV  
DLDTVTKKQVRALVEQRLQTTLVGDKRTFLDRQIDNELANM

**AN6318**

MVGTLPAGHTPSHVQSSLPSPALHLSQDTHLTAHLASRFHVGLPTARLSSHALLISLNNYTSSSKGPDGGKEGSAMGET

EDLARRAYTRLGARGENQAIVFLGESGAGKTTLRSHLLSSFLSFSSTPLSSKLSYAAFIFDTLTTTSLTPTASKAGLFLEL  
QYDASSSVNPTLIGGKIIDHRLERSRIASVPTGERSFHVLYLLAGTSAAEKAHLGLDSPIHVTTAGGRLSSADHKRWRY  
LGHTQLKVGINDADGFQHFKTALRKLEFPRSEIAEICQLAAILHIGQLDFGSGQATLTGAEESGGYSHEGGETVTVV  
KNKDVLISIAAFLGLGVGELEASFGYRTKTIHRERVTVMLDPKGARRSADELSRVLYSLLVAVVIENVNQRICAAEDSVA  
NTVSIIDFPGFAQACSTGSTLDQLLNNAACESLYNFCLRSFFDRKADMLEREEVAVPATSDFDNTDAVRGLLKQGNGL  
LSILDDQTRRGRTDAQFVEAVRRRFENKNPAITAGASGSGNGYGMVSNARSSFTVKHFAGEVDYSATGLLEENGE  
VISGDLMNLMKSTRSDFVRELFQGEALQTVAHPKKTAIMQAQVSSKPLRMPSMARRKTPASRLTFDTPAEDPYE  
TESQTGSSAKNSSAKRKSGMLMGGMQCAAGQFLSSLDIVNKCLTSGNLNPFVFLKPNDRRIANQFDSKCVRTQI  
QTLGIAEISQRLRNADFSVFLPFAEFLGLAEVGNVVVGSDEKSEVVLDEKRWPGNEARVGSTGVFLSERCWADLAK  
VGERVIPSFAAEDDGGDALLHPRRTANYADSKVRLNPSDHPGAYIYGDESKQASNTSRDFDGRSDAGYSAFNQSGD  
MFHNLETRREQMLEKNEKQMEEVDEVPVSGSRKRWMAIVWLLTFYIPTAIRYIGRMKRKDIQIAWREKFAINLLI  
WLACAIAVFIIIVGFPSLICPTQHVYSPAELSSHGKDGHSYSYIRGLVLDLGEFMDSHYPGIVPDSALKKYAGVDSTAL  
FPVQVSALCLGKDGNDPKVLLDYKPTNFSGSVTSTSSGDPNSVYHDFRYFRDDYRPDWYAEQMIYLRANYKGI  
GYSSEYLHTLASKSQNVASINGKIYDLTSYIAGGRRIQGREGDDTTGIDTDFMDSLVDLDFQQKAGEDITKYWEDLPLT  
PKLRVDMMDCLNLFIVGHVDTRNSTQCQFARYFILAISVLICSVIVKFFAALQFGKKNVPELNDKFIICQVPAYTEDE  
ESLRRRAIDSMARMQYDDKRKLLVICDGMIIQGQNDRPTPRIVLDILGVPESVDPEPLSFESLGEGMKQHNMKGKVV  
SGLYEVQGHIVPFLVVVKVGPSEVSRPGNRGRKDSQMVLMRFLNRVHYNLPMSPMELEMHHHIRNIIGVNPFTFY  
EFILQVDADTVVAPDAATRMVSSCLNDTRIIGVCGETSLTNAKTSAVTMIQVYEEYISHNLTKAFESLFGSITCLPGCFT  
MYRIRSAESGKPLFVSKEIVEAYSEIRVDTLHMKNLLHLGEDRYLTTLLKHHPKFKTKYNFRAQAYTIAPESWTVFLSQ  
RRRWINSTVHNLVELIPLQQLCGFCCFSMRFVVFIDLISTIIMPVTVAYIVYLIVWLVRDTSTIPWTSFLLAAIYGLQAIIF  
IVRRKWEMIGWMIIYLAIPVYSLALPLYSFWHMDDFSWGNTRIITGEKGRKIVISDEGKFDPASIPKKRWEYQAE  
WEAQTSRDDRSEISGISYGTKYHPATQSEYGFPGSRPMSQLELPRHMSRMSLAPSEMMSRHMMELEDVNLPSD  
DAILSEIRDILTADLMTVTKKNIKQELERRFGVNLDAKRPYINSATEAVLSGNL

**AN7032**

MSQPRLPYGQEEPPAYNYGGYRDSYEDNDLRYAGSTMRLLPASSHVSDSLSTD LGTYRQGD PFGDENQTAESRYP  
ERYSYEYDPEETLSRAAPSMRNAPTIPPPTASGADEMRYTASRPASPARPWSPTRAADWVRPPSAAAASYERADING  
SPRPGTPSSRYGSPRRPLPPAPLFSKPGTTTQDTKIDIGDGEEDPFGGGGRTISSRHGPQGSVQSFTSESTFIADETD  
LEKVDLDEYEEESNETKSMVDPNLHYGPAPEKQSRRGVRNAQMAKKEVQLVNGELILECKIPTILHSFLPRRDDREFT  
HMRYTAVTCDPDDFTQRGYKLRQQIGRTMRETELFCITMYNEDETHFTRTMHGVMQNIHFCSRSKSRTWGKDG  
WKKIVVCIISDGRKKVHPRTLNALAALGVYQEGIAKNVVNQKQVNAHVYETTQVSLDSDLKFKGAEKGIVPCQVIFC  
LKEHNQKKNLSHRWFFNAFGRALQPNICILLDVGTRPEPTALYHLWKAFDQDSNVAGAAGEIKASKGKNMLGLLNP  
LVASQNFYKMSNILDKPLESVFGYITVLPGALSAYRFFALQND AEGNGPLNQYFKGETLHGKDADVFTANMYLAED  
RILCWELVAKREERWVLRVKS AVGETDVPDSIPEFISQRRRWLNGAFFAAVYSIVNVKQLWKT DHSLARKILLQIESV  
YQLLQ LIFTYFGLANFYLAFFFIAGSLTDEKIDPFGHNMGKYIFIVLRYACVLVMCLQFIFSMGNRPQGAKKLYLSSMIV  
YSIVMAYTAFCTLYLIVLELMAKTGHDVPITMSDTL FVNIVV SLLSTVGLYFFTSFMYLDPWHMFTSSAQYFALLPSYIC  
TLQCYAFCNTHDVTWGTDGNTINTDLGTARIINGSIVEVEMPSEQLDIDSGYDAALRNLRDRLEVPDPGVSESQQQ  
EDYYRAVRTYMVSVWVMVANVVLAMAVSEVYGVGSSGTNVYLAIIILWSVAVLAIIRAIGSTAYAVLYLIQKLVGKAKF  
QAGNIASANASAAGSSLGTKSNVSYGSKGLNMTDRINETKWAISRGMQKAMFWKK