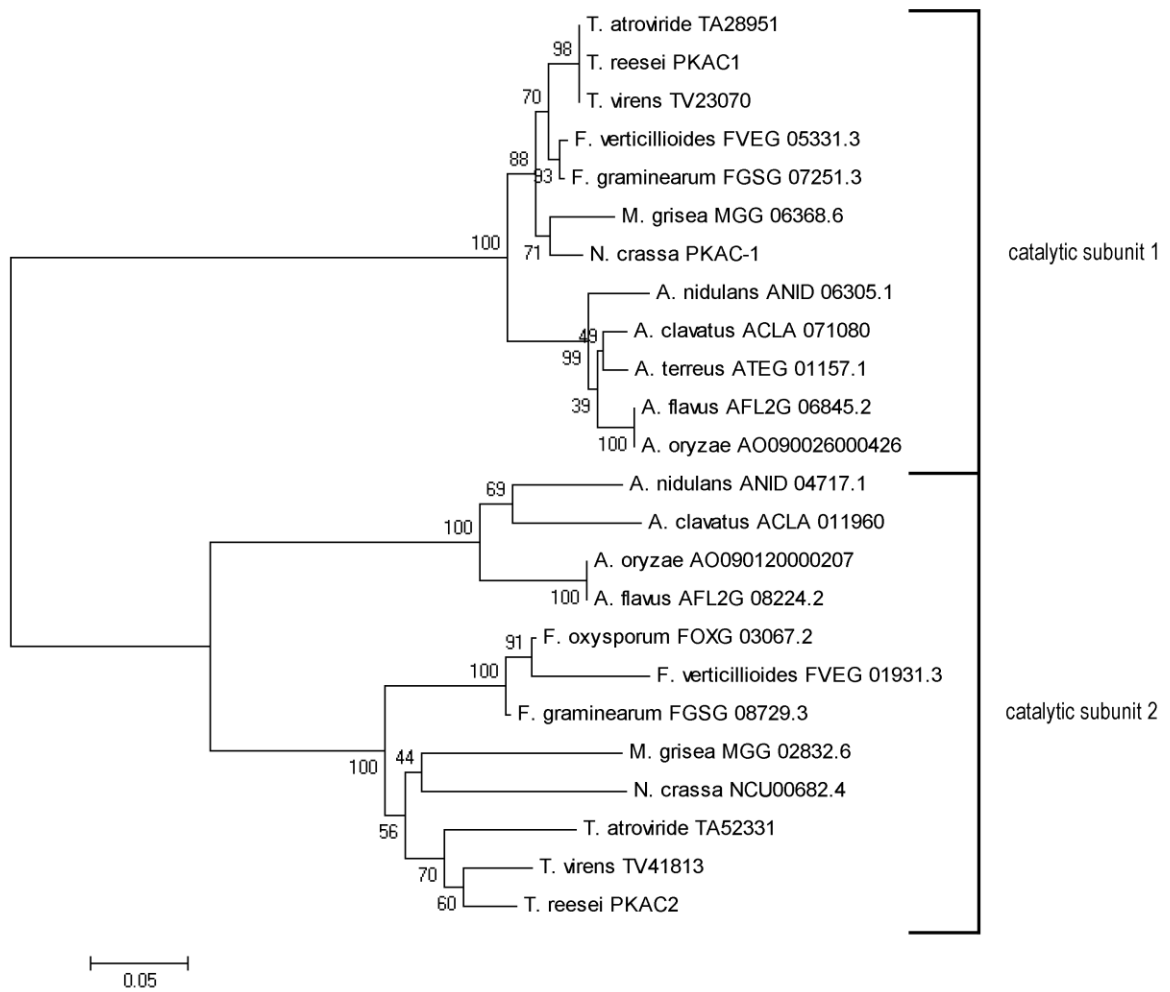


Supplementary Figure S1

Determination of copy numbers of deletion cassettes in deletion mutants.

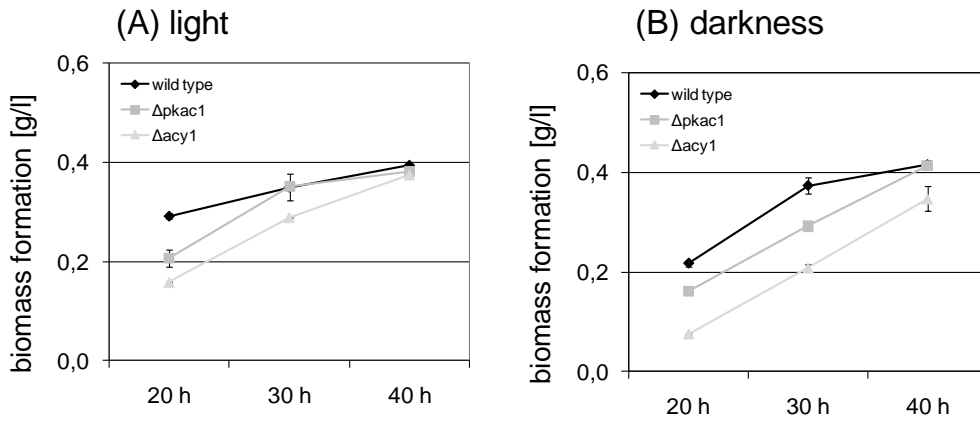
Copy number was determined by quantitative PCR. *L6e* was taken as reference gene and the amount of integrated *hph* is relative to GNA3QLE (positive control, one deletion cassette integrated). The amount of integrated *cbh2* terminator is given relative to the parental strain QM9414.

One copy of the *hph* gene reflects the presence of only one deletion cassette within the genome. The two copies of the *cbh2* terminator confirm that a single integration has occurred and that the original *cbh2* terminator is intact.



Supplementary figure S2

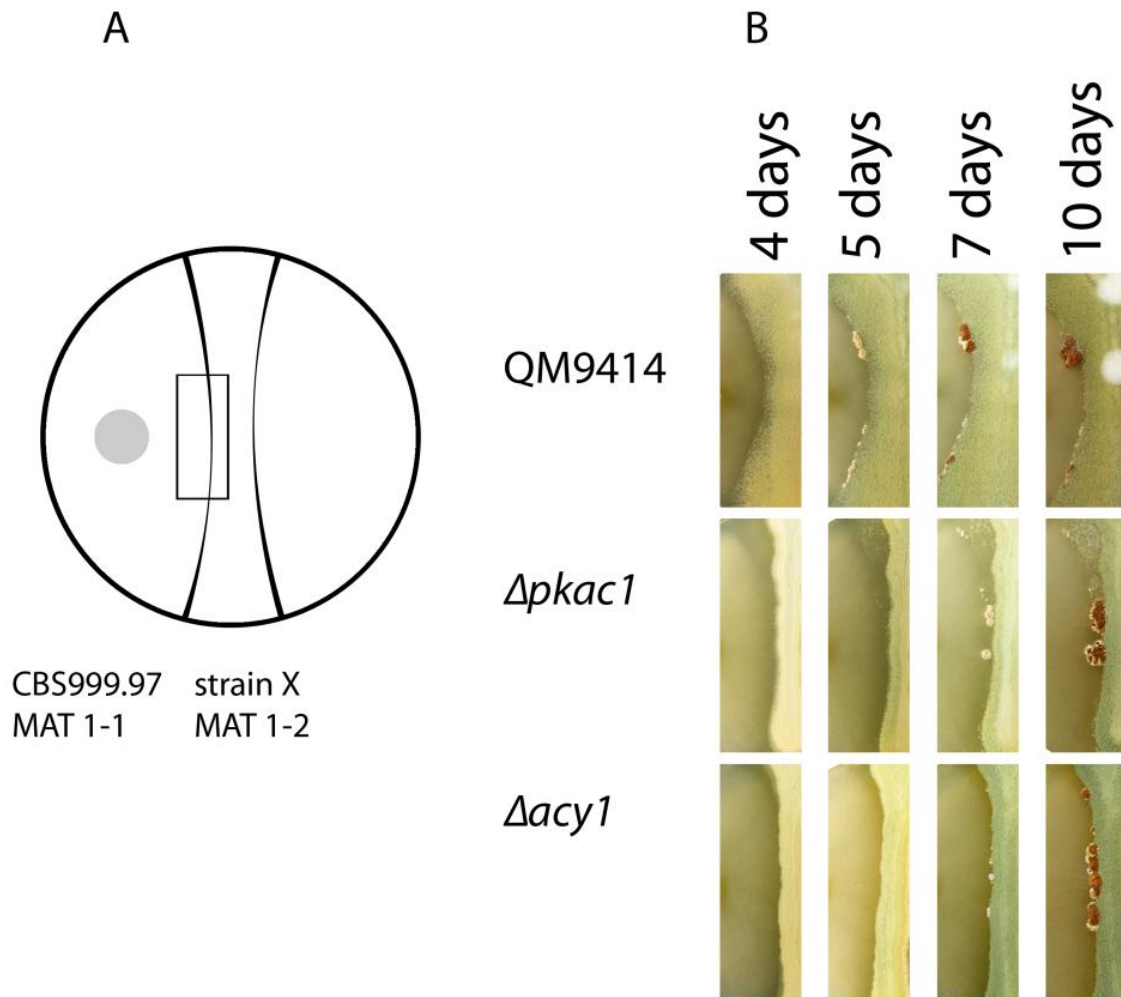
Phylogenetic analysis of homologues of the protein kinase A catalytic subunit 1 and protein kinase A catalytic subunit 2 using the minimum evolution method and 500 Bootstrap replications as test of phylogeny. Locus IDs of the respective proteins within the respective genome data base are given along with the name of the organism.



Supplementary figure S3

Biomass formation during growth on lactose.

Strains were grown in liquid culture on Mandels Andreotti medium with 1 % (w/v) lactose as carbon source in constant light (A) or constant darkness (B). Biomass formation is shown for wild-type QM9414 (diamonds), $\Delta pkac1$ (square) and $\Delta acy1$ (triangle). Results are shown as means from two independent experiments with two biological replicates each and standard deviation.



Supplementary figure S4

Effect of *pkac1* and *acy1* in *T. reesei* on fruiting body formation with *H. jecorina* CBS999.97. (A) Schematic representation of the experimental setup for induction of sexual development between CBS999.97 (MAT1-1) and MAT1-2 strains. (B) Fruiting body formation on the border of *H. jecorina* CBS999.97 (MAT1-1) and wild-type QM9414 (MAT1-2), $\Delta pkac1$ (MAT1-2) and $\Delta acy1$ (MAT1-2). Plates were inoculated with a streak of spore solution to prevent interference of different growth rates between wild-type and mutants. Strains were grown on malt extract agar plates at 25 °C in daylight. Pictures were taken after 4, 5, 7 and 10 days. On the left side *H. jecorina* CBS999.97 was placed as mating partner for wild-type QM9414, $\Delta acy1$ or $\Delta pkac1$.