**Supplementary figures legends**

**Figure S1.** qRT-PCR validation of differentially-expressed *N. crassa* genes. Bars represent the expression levels (log2foldchange) of selected *N. crassa* genes obtained from qRT-PCR (dark grey) and Illumina RNA-seq data (light grey) analyses. Genes were used for validation of up-regulated genes were NCU02363, NCU05018, NCU05134 whereas NCU06123, NCU05764, NCU05767, NCU07610, NCU01382, NCU03494 (PIN-C) and NCU05712 were selected for down-regulated gene validation.

**Figure S2.** Pie chart of up-regulated functions ofGene Ontology (GO) annotation of*N. crassa* genes differentially expressed in response to chitosan.

**Figure S3.** Pie chart of down-regulated functions ofGene Ontology (GO) annotation of*N. crassa* genes differentially expressed in response to chitosan.

**Figure S4.** Time-series analysis of genes associated with the response of *N. crassa* to chitosan by ASCA-genes submodel b+ab. **(A)** Loading of the first PC represents 52.38% of the variability. No interaction between treatment and time is observed. **(B)** Loading of the second PC represents 40.62% of the variability which represents an interaction between chitosan treatment and control through time. **(C)** Computed scores of all the genes in the analysis for the two principal component (PC) Red dots represented the genes which overlap with the fold-change analysis. Blue triangles represent the selection included in Table 1.

**Figure S5.** Leverage and SPE values obtained from the ASCA model (b+ab). Red lines represent the cut-off values computed with the gamma method and genes in red are those selected with fold-change criteria.

**Figure S6.** Time-series analysis of genes associated with the response of *N. crassa* to chitosan by ASCA-genes. Graphs represent gene expression average trend of six clusters of genes that do not follow the discovered general patterns of the ASCA model.

**Figure S7.** Effect of chitosan on growth kinetics of *N. crassa* whole deletion strains tested (n=4; mean ± SE).

**Figure S8.** Ca2+ reduces mortality of *N. crassa* conidia in presence of chitosan. Conidia exposed to chitosan and calcium shown increasing survival after 30 min of exposure. The marks of IP fluorescence significantly increase in absence to calcium. Asterisks remark significantly differences of conidia treated with Ca2+ and chitosan respect that with no Ca2+ (*p*-value < 0.05).