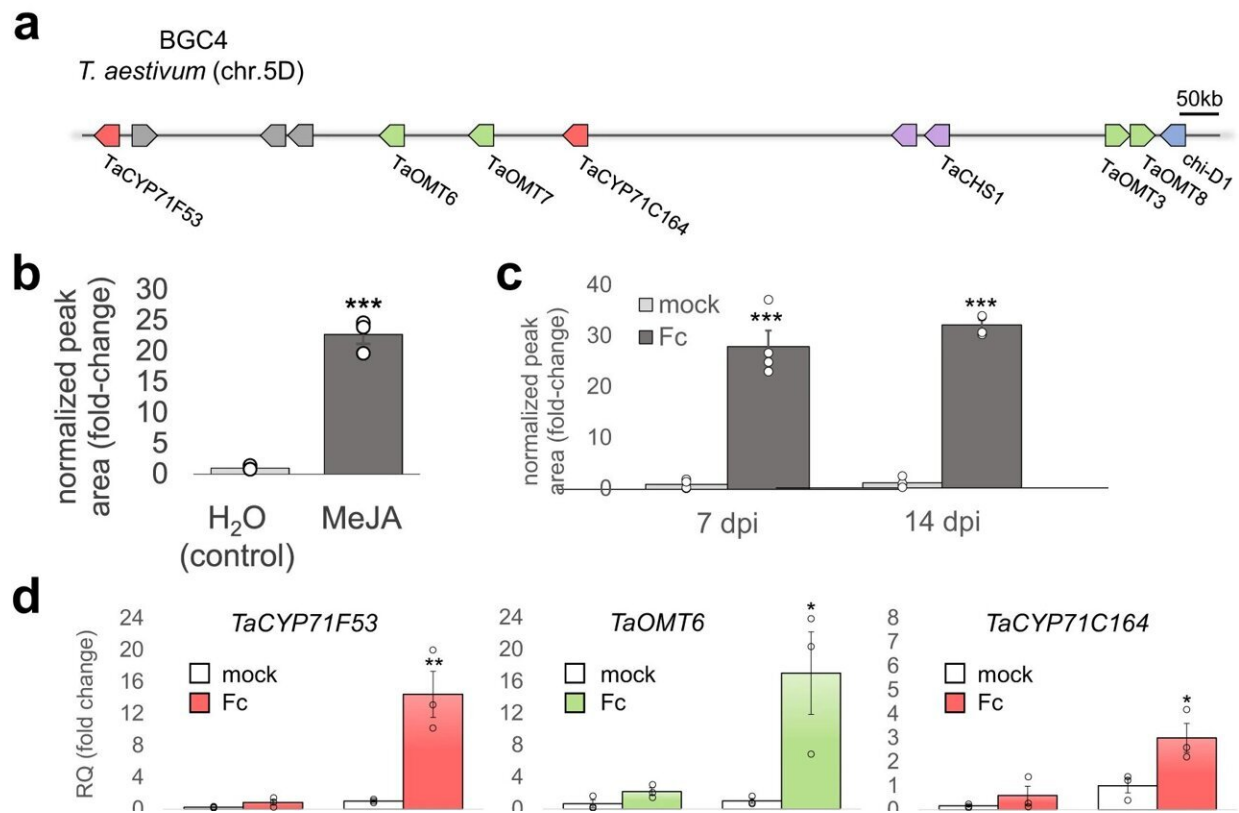


Genetic discovery opens bioengineering opportunities for human and plant health

November 14 2023



BGC4(5D) is induced by methyl jasmonate and by fungal pathogen *Fusarium culmorum*. **a** illustration of the gene cluster on wheat chromosome 5D. Red, cytochrome P450s; green, *O*-methyltransferases; purple, chalcone synthases; blue, chalcone isomerase; gray, other intervening genes. Kb: kilobase. **b** Relative quantification of ($m/z = 329.1012$) ion in extracts from wheat blades treated with methyl jasmonate (MeJA) or water (control). p -val = 1.58×10^{-4} . **c** Relative quantification of ($m/z = 329.1012$) ion in blade extracts from mock- or *F. culmorum*- treated wheat plants, 7- and 14-days post infection. Fc, *Fusarium*

culmorum. p -val = 1.47×10^{-4} (7 dpi), 1.21×10^{-7} (14 dpi). **d** Quantitative real-time PCR of seven genes from cluster BGC4(5D) in blade extracts from mock- or *F. culmorum*- treated wheat plants, 3- and 7-days post infection. Fc, *Fusarium culmorum*. 7 dpi p -val = 0.0099 (*TaCYP71F53*), 0.0365 (*TaOMT6*), 0.0420 (*TaCYP71C164*), 0.0171 (*TaCHS1*), 0.0036 (*TaOMT3*), 0.0221 (*TaOMT8*), 0.7893 (*chi-D1*). For panels **b**, **c**, and **d**, relative quantification (fold-change) values indicate means of three biological replicates \pm SEM. Asterisks denote the statistical significance of a two-tailed t -test. * P

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