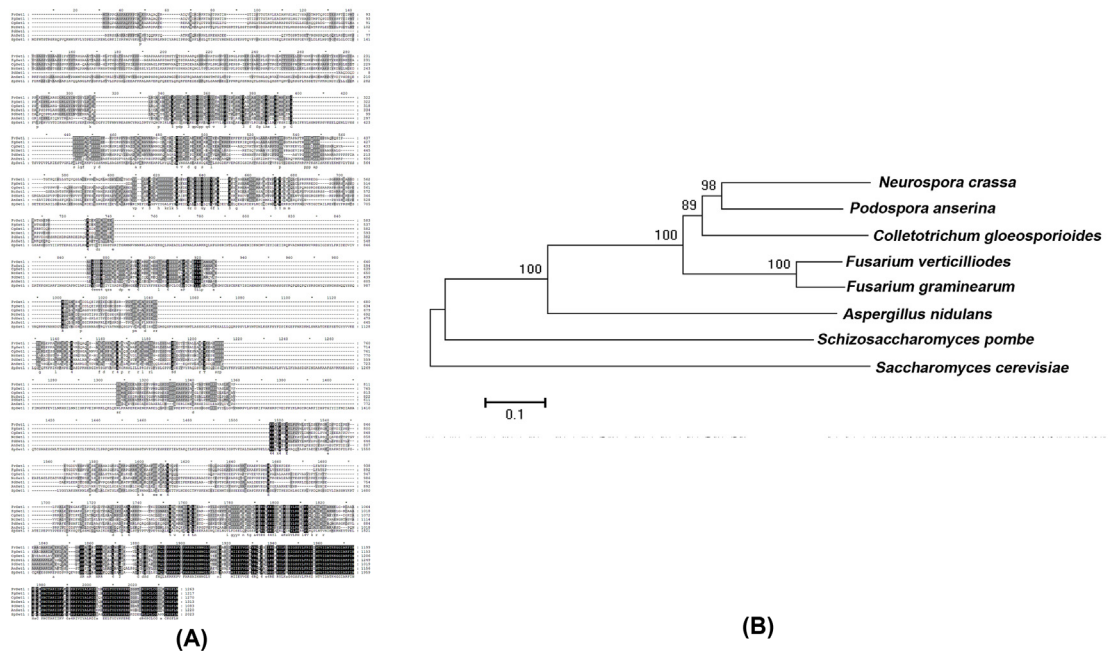


# Supplementary Materials: Involvement of FvSet1 in Fumonisin B1 Biosynthesis, Vegetative Growth, Fungal Virulence, and Environmental Stress Responses in *Fusarium verticillioides*

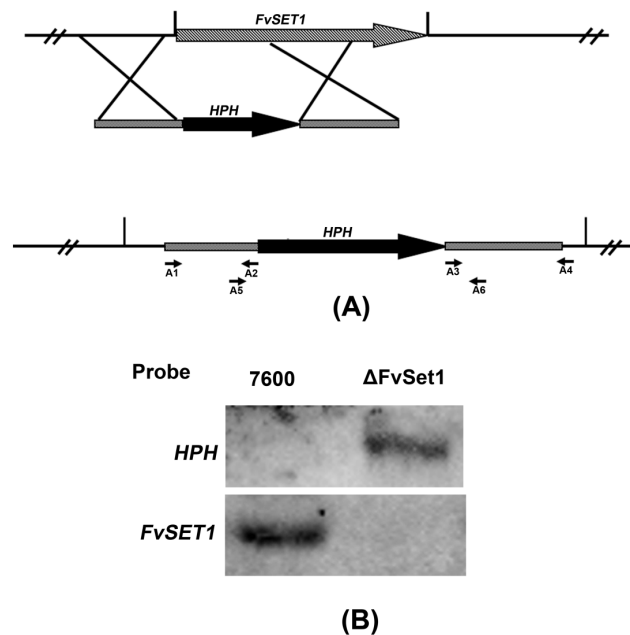
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Table S1. Primers used in this study.

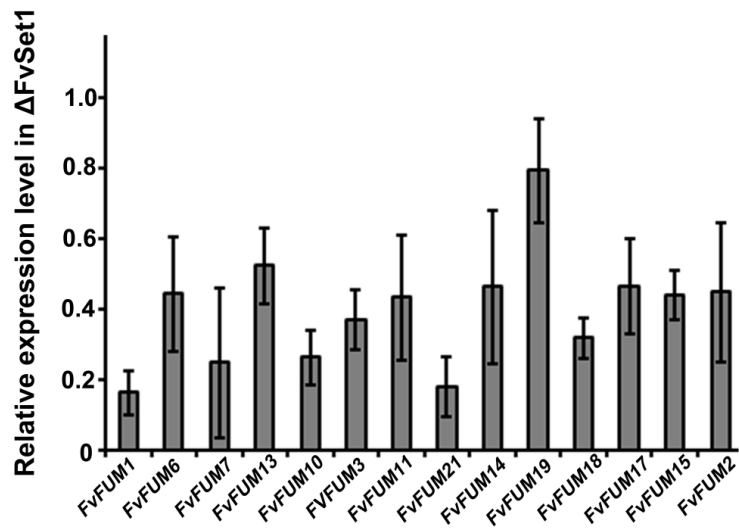
Primer	Sequence (5'-3')	Application
A1	CGATGAAGAGGAGGAGTTTGA	A pair of PCR primers for amplification of the upstream sequence of the <i>FgSET1</i> gene for construction of the gene deletion vector
A2	CAAAATAGGCATTGATGTGTTGACCTCCG GAAATTGGTGGGAGAATGA	
A3	CTCGTCCGAGGGCAAAGGAATAGAGTAG AATGATTAGGACGATGACGCC	A pair of PCR primers for amplification of the downstream sequence of the <i>FgSET1</i> gene for construction of the gene deletion vector
A4	ATATCGGGGCTCGGGATT	
A5	AAGCGAGCGTCAACTTCCTTG	A pair of PCR primers for identification of <i>FgSET1</i> deletion mutants
A6	ATTGATATAACCGAGGCGACC	
FvSet1-C-F	CAGATCTTGGCTTTCGTAGGAACCCAATC TTCAATGACTCGCCCGCCA	A pair of PCR primers to amplify <i>FgSET1</i> fragment used for construction of the FgSet1-C vector
FvSet1-C-R	CACCACCCCGGTGAACAGTCTCTCGCCCT TGCTCAC GTTGAGGAAGCCCTGCAGTT	
HPH-F	GGAGGTCAACACATCAATGCCTATT	Amplify <i>HPH</i> sequence
HPH-R	CTACTCTATTCTTTGCCCT	
FvActin-F	TGCTCCTGAGGCTCTCTTCCA	Quantitative real-time PCR primers for analysis of the reference gene actin expression level
FvActin-R	AAGCAAGAATAGAACCACCGA	
FUM1-F	TGCTGCCCTGTATCACAACCA	Quantitative real-time PCR primers for analysis of <i>FUM1</i> gene expression level
FUM1-R	AATGTGCGCTTGATCCAGTT	
FUM6-F	TCTCTTGTCTTTGGCTGTCCG	Quantitative real-time PCR primers for analysis of <i>FUM6</i> expression level
FUM6-R	TCAATTTCTAGCAGCATCGG	
FUM7-F	GCATGGAGAGACAAGTTGCA	Quantitative real-time PCR primers for analysis of <i>FUM7</i> expression level
FUM7-R	TCTGATGAAACTGGGCTTCGT	
FUM21-F	AGCTTGTCAACCCAGCAGATA	Quantitative real-time PCR primers for analysis of <i>FUM21</i> expression level
FUM21-R	TCAACTATAGTCCCAGCATCA	
FUM10-F	TTTGGAAACCAATGGCGAT	Quantitative real-time PCR primers for analysis of <i>FUM10</i> expression level
FUM10-R	TTTCGGCAGGGCTGATTTTT	
FUM11-F	AAGGGGGGAAGATAGGCACT	Quantitative real-time PCR primers for analysis of <i>FUM11</i> expression level
FUM11-R	ATTACGAGTCTTAGCGAGCGA	
FUM13-F	AAACCATGGGATGGTATCAGG	Quantitative real-time PCR primers for analysis of <i>FUM13</i> expression level
FUM13-R	TTTCTGCTGAGCCGACATCAT	
FUM14-F	AAGAGGTGCTAAAGACAGCCA	Quantitative real-time PCR primers for analysis of <i>FUM14</i> expression level
FUM14-R	ACTCAGGAGCTGCCACTGATA	
FUM15-F	TATCGCCCTGGAAAAGCTTG	Quantitative real-time PCR primers for analysis of <i>FUM15</i> expression level
FUM15-R	TCTGTGGGGTCCATTCAATA	
FUM17-F	CTCACGATATCAGTGACCTTT	Quantitative real-time PCR primers for analysis of <i>FUM17</i> expression level
FUM17-R	AGCCATATGATGTTGAGGGT	
FUM18-F	TCCTCTCCTGTTCTGACGA	Quantitative real-time PCR primers for analysis of <i>FUM18</i> expression level
FUM18-R	TTGTAGTTGAGATTGCTGCCA	
FUM2-F	AAGTGCTCGGGGAGCGGGTT	Quantitative real-time PCR primers for analysis of <i>FUM2</i> expression level
FUM2-R	TCGGGCATAACTCTATATCG	
FUM3-F	ACTGATTTACCGAGGCCAA	Quantitative real-time PCR primers for analysis of <i>FUM3</i> expression level
FUM3-R	AGCGGACCGGAAGCTTCT	



**Figure S1.** FvSet1 is homologous to those counterparts from yeasts and other filamentous fungi. **(A)** alignments of amino acid sequences of Set1 orthologs from *Fusarium verticillioides* (FvSet1), *Saccharomyces cerevisiae* (ScSet1), *Schizosaccharomyces pombe* (SpSet1), *Neurospora crassa* (NcSet1), *Podospira anserina* (PaSet1), *Colletotrichum gloeosporioides* (CgSet1), *Aspergillus nidulans* (AnSet1), and *Fusarium graminearum* (FgSet1). Boxshade program was used to highlight identical (black shading) or similar (grey shading) amino acids; **(B)** phylogenetic tree generated using the neighbour-joining method with Mega 4.1 software (<http://www.megasoftware.net/>) on the basis of the deduced amino acid sequences of FvSet1 from *F. verticillioides* strain 7600 and those from *S. cerevisiae*, *S. pombe*, *N. crassa*, *C. gloeosporioides*, *P. anserina*, *A. nidulans*, and *F. graminearum*. The bootstrap values are indicated on the phylogenetic tree.



**Figure S2.** Schematic representation of the *FvSET1* disruption strategy and Southern blotting analyses of the deletion mutants. **(A)** Schematic diagram of the *FvSET1* gene, and gene replacement construct; **(B)** Southern blot analysis of *Dra* I-digested genomic DNA of the wild type 7600 and ΔFvSet1 mutant hybridized with the *FvSET1* gene and *HPH* probes, respectively.



**Figure S3.** Relative expression of *FUM* genes in the  $\Delta FvSet1$ . The relative expression levels of *FUM* genes in  $\Delta FvSet1$  are the relative amounts of mRNA of the gene in the wild-type progenitor. The expression level of the actin gene was used as an internal reference for each sample. Line bars in each column denote standard errors of three repeated experiments.