

Fig. S1. Expression stability and ranking of candidate reference genes based on geNorm calculations.

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Genetics of germination-arrest factor (GAF) production by *Pseudomonas fluorescens* WH6: identification of a gene cluster essential for GAF biosynthesis

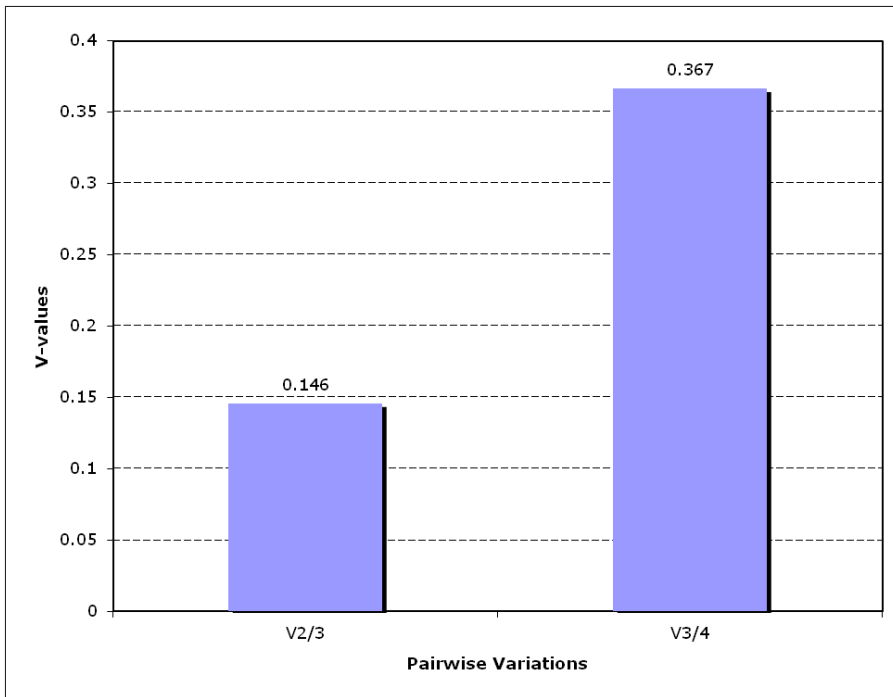
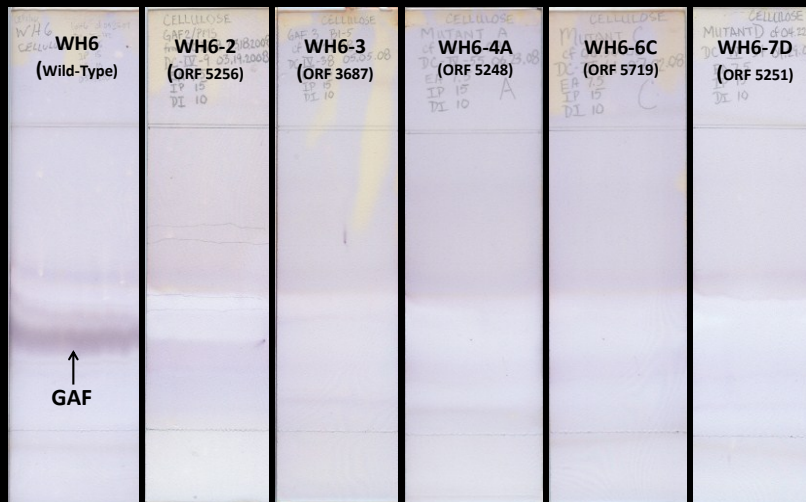


Fig. S2. Pairwise variation analysis to determine the optimal number of reference genes needed for accurate normalization. V-values less than 0.15 indicate that no further genes are needed for calculation of a reliable normalization factor.

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3A. Cellulose TLC Analyses. (Ethyl Acetate:Isopropanol:Water, 7.5:15:10)



3B. Cellulose TLC Analyses. (Ethyl Acetate:Isopropanol:Water, 7.5:15:10)

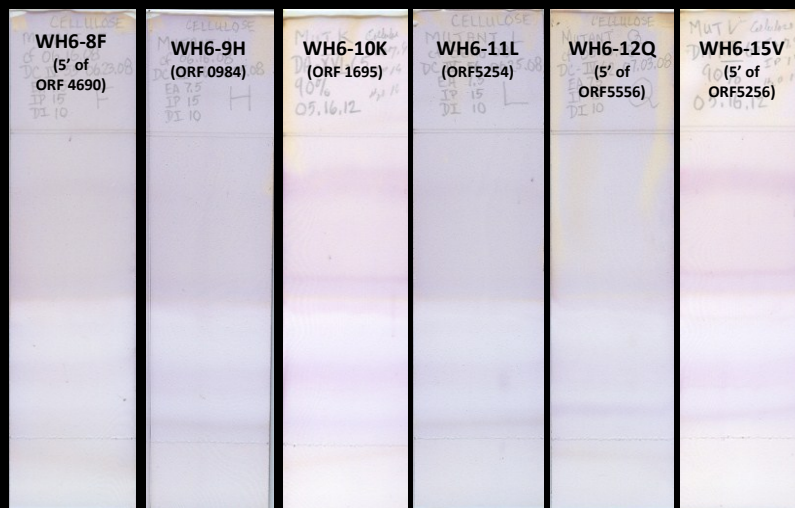


Fig. S3. Cellulose TLC analyses of culture filtrates from mutant strains of *P. fluorescens* WH6. Solids from dried culture filtrates were extracted with 90% ethanol, and the extracts were fractionated on cellulose TLC plates as described by Armstrong *et al.* (2009). Images shown are of ninhydrin-stained plates following chromatography in the indicated solvent systems. ORF sites of Tn5 insertions are indicated. See Table 1 of the manuscript for the corresponding putative gene assignments.

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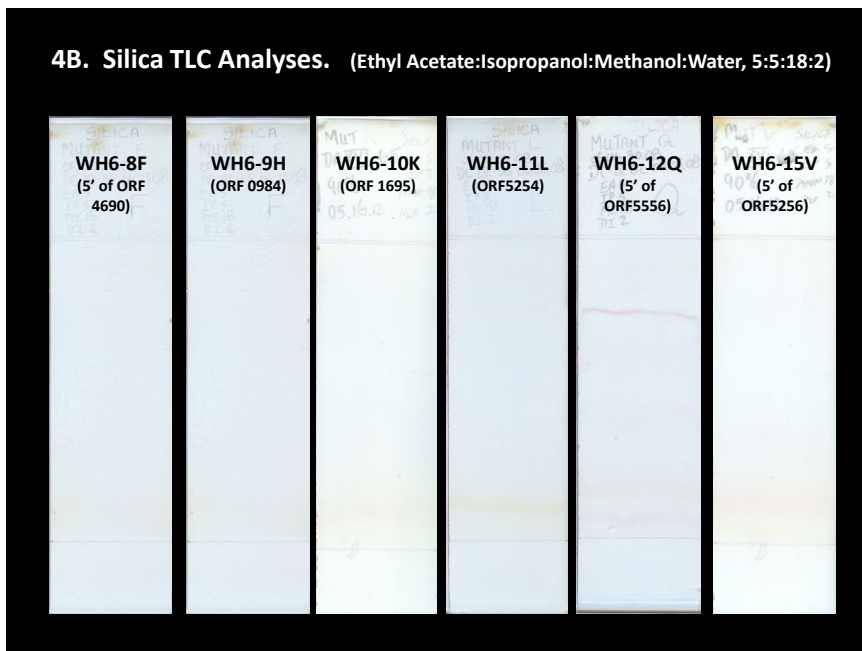
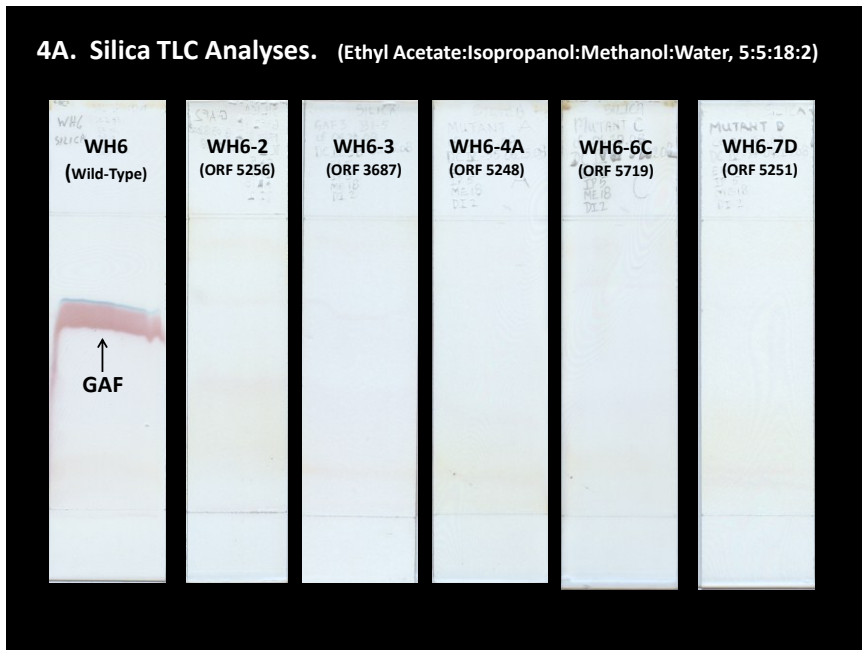


Fig. S4. Silica TLC analyses of culture filtrates from mutant strains of *P. fluorescens* WH6. Solids from dried culture filtrates were extracted with 90% ethanol, and the extracts were fractionated on GHL-Silica TLC plates as described by Armstrong *et al.* (2009). Images shown are of ninhydrin-stained plates following chromatography in the indicated solvent systems. ORF sites of Tn5 insertions are indicated. See Table 1 of the manuscript for the corresponding putative gene assignments.

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Table S1. Primer sequences and amplicon sizes

Primer	Primer sequence (5'–3')	Product size (bp)
<i>bseSI</i> -F*	ACTTGTGTATAAGAGTCAG	NA
<i>bseSI</i> -R*	ACCCGGGGATCCTCTAGATT	NA
<i>bseSI</i> -sequencing*	TGGAGTTGTCCCAATTCTTG	NA
<i>proC</i> -F†	AACAGGAGCAGCAACTGGAC	125
<i>proC</i> -R†	CTCAGCCACTTCCTTGGAGA	
<i>rpoD</i> -F†	CCGATCAAATGGAAATCACC	106
<i>rpoD</i> -R†	TTGATTGGCATGAACAGCTC	
<i>rpsL</i> -F†	TCGGCACTGCGTAAAGTATG	103
<i>rpsL</i> -R†	GTACCACGCTGTGTTCTTGC	
<i>tufB</i> -F†	GGTATCACCATCAACACTGC	191
<i>tufB</i> -R†	GACAGCAGGATGTGCTCACG	
PFWH6_5256-F†	CACTGTTGATCAGCGACCAG	130
PFWH6_5256-R†	TCCTCGATGACTTGTTGCAC	
PFWH6_5257-F†	AGTTCATCCACCTGCTCACC	102
PFWH6_5257-R†	GCTTGAGTTCCGATTGCTTG	

*Inverse PCR primer.

†RT-qPCR primer.

Supplementary reference

Armstrong, D., Azevedo, M., Mills, D., Bailey, B., Russell, B., Groenig, A., Halgren, A., Banowetz, G. & McPhail, K. (2009). Germination-Arrest Factor (GAF): 3. Determination that the herbicidal activity of GAF is associated with a ninhydrin-reactive compound and counteracted by selected amino acids. *Biol Control* **51**, 181–190. [doi:10.1016/j.biocontrol.2009.06.004](https://doi.org/10.1016/j.biocontrol.2009.06.004)

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