

1 **Genomic Analysis Reveals Potential Mechanisms Underlying Promotion of Tomato Plant**

2 **Growth and Antagonism of Soil-borne Pathogens by *Bacillus amyloliquefaciens* Ba13**

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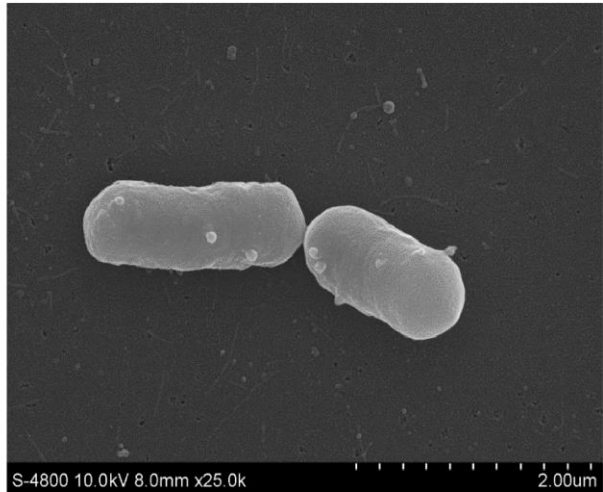
10 **SUPPLEMENTAL MATERIAL**

11 **Genome extraction, sequencing, assembly and annotation.** Total bacterial DNA was extracted from  
12 *B. amyloliquefaciens* Ba13 culture using a bacterial genomic DNA extraction kit (BioTeke Corp., Wuxi,  
13 China). The DNA concentration, purity, and integrity were evaluated using the Nanodrop One  
14 spectrophotometer (Nanodrop Technologies, Wilmington DE, USA), Qubit 3.0 Fluorometer (Life  
15 Technologies, Carlsbad, CA, USA), and 0.35% agarose gel electrophoresis. Whole-genome sequencing was  
16 performed using PromethION (Oxford Nanopore Technologies, Oxford, UK) and NovaSeq 6000 (Illumina,  
17 San Diego, CA, USA) sequencers. After filtering low-quality and excessively short reads, genome data were  
18 assembled using Unicycler v0.4.8 (1). The assembled whole-genome sequence was analyzed using Prokka  
19 v1.1.2 (2) and the genes predicted. Subsequently, the predicted gene sequences were compared against the  
20 COG, KEGG, Uniprot, and other databases, to obtain the annotation results. The complete genome sequence  
21 of *B. amyloliquefaciens* Ba13 was deposited in the NCBI database (<https://www.ncbi.nlm.nih.gov/>)  
22 (Accession number: CP073635).

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(a)

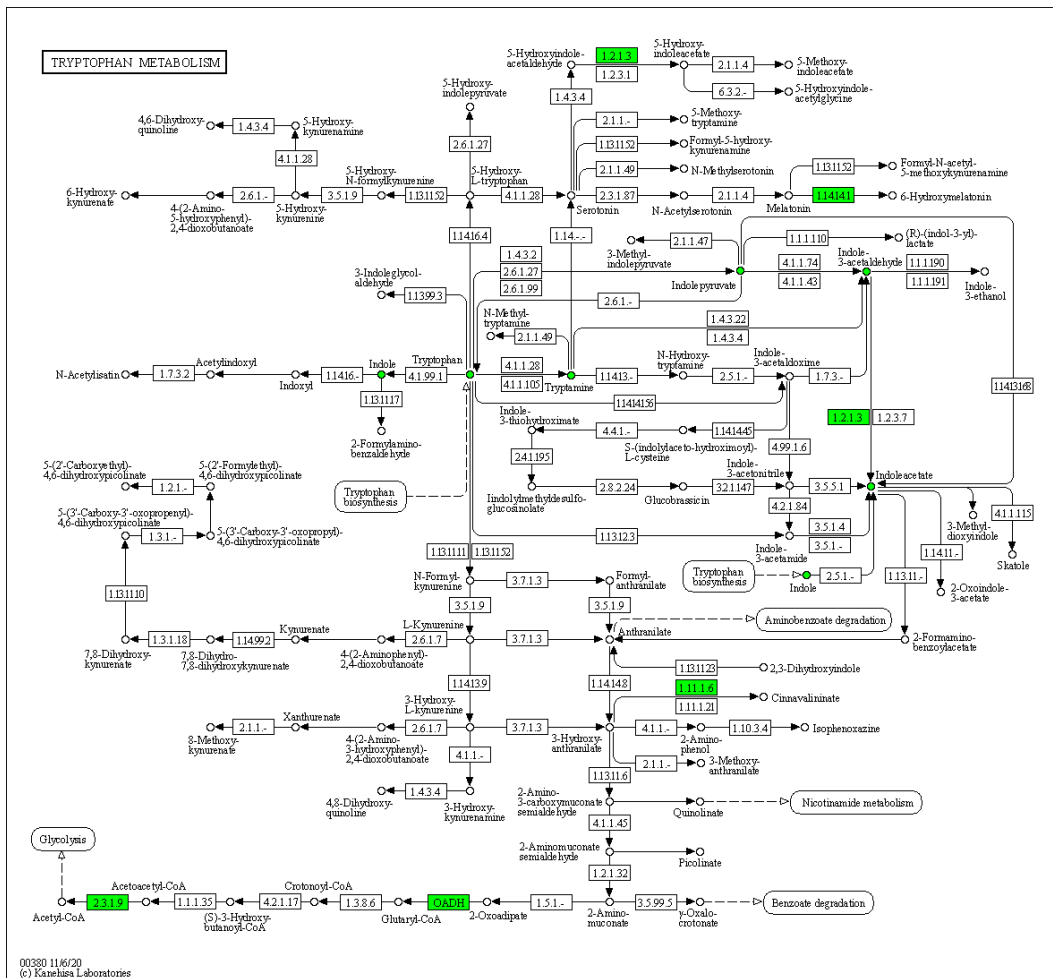


(b)

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**Fig S1** Morphological characteristics of *B. amyloliquefaciens* Ba13. a) A colony formed on beef extract peptone agar plate. b) Cell morphology under scanning electron microscope.



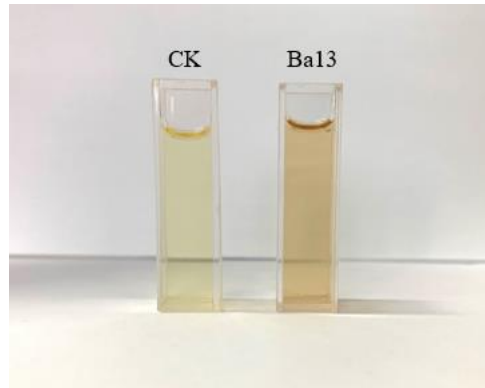


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34 **Fig S3** Genes of *B. amyloliquefaciens* Ba13 enriched in the tryptophan metabolic pathway (KO00380). A

35 complete IAA biosynthetic pathway is lacking.

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38 **Fig S4** Detection of indole-3-acetic acid produced by *B. amyloliquefaciens* Ba13. The culture supernatant of  
39 strain Ba13 was mixed with reagent PC for color reaction. CK is the control (culture medium without  
40 bacterial inoculation), and Ba13 is the bacterial treatment (48-h-old culture supernatant of strain Ba13).

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43 **Fig S5** A photograph showing the growth of tomato plants grown on loessial soil treated with strain Ba13

44 (Ba13) and without strain Ba13 (CK) on day 21.

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46 **REFERENCES**

- 47 1. Wick RR, Judd LM, Gorrie CL, Holt KE. 2017. Unicycler: Resolving bacterial genome assemblies from  
48 short and long sequencing reads. *PLoS Comput Biol* 13:e1005595.
- 49 2. Seemann T. 2014. Prokka: rapid prokaryotic genome annotation. *Bioinformatics* 30:2068-9.

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