

Genome Sequence of *Pantoea agglomerans* Strain IG1

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***Pantoea agglomerans* is a Gram-negative bacterium that grows symbiotically with various plants. Here we report the 4.8-Mb genome sequence of *P. agglomerans* strain IG1. The lipopolysaccharides derived from *P. agglomerans* IG1 have been shown to be effective in the prevention of various diseases, such as bacterial or viral infection, lifestyle-related diseases. This genome sequence represents a substantial step toward the elucidation of pathways for production of lipopolysaccharides.**

Pantoea agglomerans has been focused upon as a useful Gram-negative bacterium of edible plant origin. *P. agglomerans*, which can fix nitrogen and solubilize inorganic phosphorus, has been isolated as a symbiotic bacterium not only from wheat (13) but also from rice (2) and sweet potato (1) and has been investigated for its growth-promoting activity in these plants (1, 2). It has been reported that the production of a widely eaten rye bread that undergoes fermentation with lactic acid bacteria contains a step in which *P. agglomerans* is grown prior to the growth of lactobacilli because this provides folic acid, an essential vitamin for growth of the lactobacilli (10). Moreover, in Europe, various *P. agglomerans* strains have been developed as biological control agents for postharvest diseases of pome fruits (15). This information demonstrates that *P. agglomerans* has a long history of being consumed in foods with apparent safety.

The lipopolysaccharides (LPS) derived from *P. agglomerans* IG1 (IP-PA1) have shown moderate macrophage activation (6, 14) and multiple useful effects, such as protection against gastric ulcers, analgesic effects, antidiabetes, phylactic, and antihyperlipidemia effects, upregulation of bone turnover, promotion of egg-laying, and antiallergic and antitumor effects when administered transdermally or orally (3–8, 11, 14, 16–20). In addition, it has been reported that the effects of IP-PA1 were derived from the induction of the activated macrophage network system (12). The safety of fermented flour extracts (in which the major component was IP-PA1) by oral and transdermal administration was confirmed (21). Studies have indicated that flour extracts fermented with *P. agglomerans* IG1 have applications in health food, cosmetics, animal feeds, fishery feeds, and drug industries (9, 12).

Here, we present the genome sequence of *P. agglomerans* IG1. The genomic DNA of strain IG1 was sequenced to 76-fold coverage by a whole-genome shotgun strategy. One shotgun and 0.5 paired-end reads were performed using a Roche 454 GS (FLX titanium) pyrosequencer. All of the reads were assembled using Newbler Assembler 2.5 (454 Life Science), which generated 18 large contigs (>500 bp).

Nucleotide sequence accession numbers. The nucleotide sequence of the *P. agglomerans* IG1 genome has been deposited in DDBJ/EMBL/GenBank under the accession numbers [BAEF01000001](https://www.ncbi.nlm.nih.gov/nuccore/BAEF01000001) to [BAEF01000018](https://www.ncbi.nlm.nih.gov/nuccore/BAEF01000018).

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