

## **Expression of *Pantoea agglomerans* phytase from a strong constitutive promoter in *Arabidopsis thaliana* plants**

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### **Abstract**

In this study we report construction of an efficient gene expression system in plants and subsequent characterization of transgenic *Arabidopsis thaliana* expressing a bacterial paPhyC phytase gene from *Pantoea* sp. Phytase gene expression is controlled by a strong 35S constitutive promoter from cauliflower mosaic virus. All identified transgenic plants had multiple T-DNA insertions in the genome. Expression of paPhyC phytase mRNA in plant tissue was confirmed by RT-PCR in the second generation of transgenic plants, and phytase protein expression was confirmed by Western blotting. Our data indicate that bacterial phytase expression in plants can be an efficient way to potentially increase crop performance in conditions of inorganic phosphorus deficiency in the soil.

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### **Keywords**

*Arabidopsis thaliana*, CaMV35S promoter, Phosphorus deficiency, Phytase *pantoea* sp., Recombinant protein expression in plants, Transgenic plants