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Agrobacterium-mediated Genetic Transformation of *Phragmites communis*

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Objectives

P. communis is an perennial plant which grows generally sand soil and wetland. This is well known for accumulate some trace metals. However this metal tolerant mechanism has not been clarified. We are going to make a gene transgenic plant for phytoremediation by *p. communis*

Materials and Methods

1. Plant and sterilization

Phragmites communis seeds were surface sterilized in 10% sodium hypochlorite solution for 10 min. And then the seeds were dipped in 70% EtoH for 30 sec and rinsed 3 times with sterile distilled water.

2. Binary vector and Agrobacterium

The binary vector GV3101 was constructed as follow(Figure 1). GV3101 was transferred into *Agrobacterium tumefaciens* GV3101 by the direct transformation method

Abstract

We studied development of heavy metal tolerant plant with *Phragmites communis* for Phytoremediation and completed to regeneration system. *P. communis* is a genus of tall perennial grasses widely distributed in the temperate and tropical regions. The research described in this was initiated to establish an *Agrobacterium*-mediated transformation system in the *P. communis*. Describes media for regenerating *p. communis* plants from seeds and protocols for obtaining transgenic reed plants using the binary vector in GV3101. We expect to use for transformant of *P. communis* to remove pollutant soil and water.