



Method of Expanding a Host Range of a Bacterial Plasmid

WARF: P04144US

Inventors: Marcin Filutowicz, Jadwiga Wild

The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing mutations that allow the popular cloning vector R6K to expand its bacterial host range.

Overview

Plasmid R6K is an antibiotic resistance plasmid of *E. coli* and a popular cloning vector. The R6K protein pi, which is encoded by the *pir* gene, plays a key role in R6K replication.

The Invention

UW-Madison researchers have identified mutations in the *pir* gene that allow R6K to expand its bacterial host range. A single amino acid change in the *pir* gene allows the establishment of the R6L plasmid in phylogenetically distinct bacterial species, and also substantially increases the copy numbers.

Applications

- Gene cloning and expression studies

Key Benefits

- Modified plasmid has broader host range than its wild-type counterpart
- Allows R6K plasmid to be established in *Pseudomonas*, *Zooglea*, *Agrobacterium*, *Acinetobacter* and *Rhodobacter*
- Replicates with much higher copy number in *Vibrionaceae*, *Plesiomonas*, *Vibrio* and *Chromobacterium*

Additional Information

For More Information About the Inventors

- [Marcin Filutowicz](#)

Tech Fields

- [Research Tools : Other research tools](#)

For current licensing status, please contact Andy DeTienne at adetienne@warf.org or 608-960-9857