



BIOLOGIC EXPRESSION AND DELIVERY SYSTEMS AND METHODS OF USING SAME

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The Invention

UW-Madison researchers have discovered a regulatory system that controls the activation of certain prophages in the genome of *Lactobacillus reuteri*, which result in the bursting of the *L. reuteri* cells and the release of the cell contents. When the cell contains a therapeutic payload, this mechanism results in release of the payload to the environment. Specifically, inducing the expression of a single gene, antirepressor, derepresses and thereby activates the lytic pathway in the prophage that leads to excision and replication of the virus inside the bacterial cell, which ultimately leads to bacterial cell lysis.

Key Benefits

- Oral delivery platform
- Able to engineer delivery of diverse payloads of interest
- Control of payload delivery through a variety of stimuli (deliberate priming or environmental triggers)
- Also has topical application potential
- Tunability can also be used to modulate and provide desired biocontainment properties

Additional Information

For More Information About the Inventors

- [Jan Peter Van Pijkeren](#)

Tech Fields

- [Drug Delivery : Other drug delivery technologies](#)

For current licensing status, please contact Rafael Diaz at rdiaz@warf.org or 608-960-9847