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Challenges for Today. Solutions for Tomorrow.

A Novel Biocatalyst: *Lactobacillus buchneri*

What is this technology?

Gram-positive bacteria for biomass to biofuel

What is this research project?

Lactobacillus buchneri strain NRRL B-30929 can ferment concentrated xylose and glucose sugars and survive in high ethanol concentrations. Generation of the genome sequence will foster engineering of carbohydrate metabolism to increase carbon flow to ethanol and other bioproducts.

What problem does it address?

Conventional *Saccharomyces* strains for starch to ethanol fermentation are no longer applicable for lignocellulose-based ethanol production since a mixture of sugars is present in biomass hydrolysates.

How is the project different from or how does it enhance other projects?

This project explores new microbes, traits, and genes as robust biocatalysts for conversion of biomass to biofuels and bioproducts.

Who are the potential customers?

Scientific community and researchers. The genome sequence will enable an array of "omics" strategies to inform improvements in production of biofuel and other value-added products.

Stage of Development

Genome sequencing of *L. buchneri* was funded by US Department of Energy and project is ongoing at DOE Joint Genome Institute.

Moving Forward

New ethanol stress/tolerance related proteins/genes will be identified and used by researchers to develop ethanol tolerant biocatalysts for biomass to biofuels.

Contact Information

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