



Enhancing the Production of Foreign Proteins in Yeast by Overexpressing Endogenous Genes

[View U.S. Patent No. 8,034,607 in PDF format.](#)

WARF: P07168US

Inventors: Eric Shusta, Alane Wentz

The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a method of increasing the expression of foreign proteins in yeast.

Overview

Although the yeast *Saccharomyces cerevisiae* is often used to express foreign proteins for industrial or therapeutic uses, production of these heterologous proteins is far from optimal. Current methods of increasing protein expression in yeast have met with limited success.

The Invention

UW-Madison researchers have developed a method of enhancing the expression of foreign proteins in yeast. They identified five yeast genes that increase protein secretion. To improve the production of heterologous proteins, a yeast cell can be engineered to overexpress one or more of these genes. The genes work best to enhance the expression of proteins expressed at low levels due to low stability or folding efficiency.

Applications

- Expressing proteins for industrial or therapeutic uses

Key Benefits

- Increases production of heterologous proteins by *S. cerevisiae*
- Applicable to other yeast species
- Successfully used to enhance the expression of green fluorescent protein (GFP) and brain-derived neurotrophic factor (BDNF) and to increase the production of several single-chain variable fragment (scFv) antibodies in *S. cerevisiae*

Additional Information

For More Information About the Inventors

- [Eric Shusta](#)

Publications

- Wentz A.E. and Shusta E.V. 2007. A Novel High Throughput Screen Reveals Yeast Genes That Increase Secretion of Heterologous

We use cookies on this site to enhance your experience and improve our marketing efforts. By continuing to browse without changing your browser settings to block or delete cookies, you agree to the storing of cookies and related technologies on your device. [See our privacy policy.](#)

Tech Fields

- [Research Tools : Synthesis & purification](#)

OK



For current licensing status, please contact Jennifer Gottwald at jennifer@warf.org or 608-960-9854

We use cookies on this site to enhance your experience and improve our marketing efforts. By continuing to browse without changing your browser settings to block or delete cookies, you agree to the storing of cookies and related technologies on your device. [See our privacy policy.](#)

OK



WARF
Wisconsin Alumni Research Foundation

| info@warf.org | 608.960.9850