



Apr 14th, 2:35 PM - 3:35 PM

## Creation of Stable Porphobilinogen Synthase Knockouts in E. Coli

Steven Cherney, '07  
*Illinois Wesleyan University*

David Bollivar, Faculty Advisor  
*Illinois Wesleyan University*

Follow this and additional works at: <https://digitalcommons.iwu.edu/jwprc>

---

Cherney, '07, Steven and Bollivar, Faculty Advisor, David, "Creation of Stable Porphobilinogen Synthase Knockouts in E. Coli" (2007). *John Wesley Powell Student Research Conference*. 10.

<https://digitalcommons.iwu.edu/jwprc/2007/posters2/10>

This is protected by copyright and/or related rights. It has been brought to you by Digital Commons @ IWU with permission from the rights-holder(s). You are free to use this material in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/ or on the work itself. This material has been accepted for inclusion by faculty at Illinois Wesleyan University. For more information, please contact [digitalcommons@iwu.edu](mailto:digitalcommons@iwu.edu).

©Copyright is owned by the author of this document.

Poster Presentation P20

**CREATION OF STABLE PORPHOBILINOGEN SYNTHASE KNOCKOUTS IN E. COLI**

Steven Cherney and David Bollivar\*  
Biology Department, Illinois Wesleyan University

Porphobilinogen synthase (PBGS) is the enzyme responsible for the first step in the biosynthesis of tetrapyrroles such as chlorophyll and porphyrin. Our goal is to create a stable porphobilinogen synthase (PBGS) knockout in *Escherichia coli*. *Escherichia coli* does not have a natural system to import heme, the end product of the biochemical pathway in this organism. Consequently we also must also have a stable heme uptake system. Using a strain we obtained from another laboratory that has a heme uptake protein from another bacterium *S. marcescens*, we used PCR products to knockout the PBGS gene, and isolate organisms that must uptake heme from their environment. The PBGS knockout strain is being created so that the genes for PBGS from other organisms can be introduced and studied in an in vivo system.