

## **Creating a Cell Free Expression System for the Preparation of Troublesome Proteins**

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### *Poster Presentation Abstract:*

Cell-free expression (CFE) is a method of producing proteins by natural processes but without the use of living organisms. This is a very useful method for producing proteins, particularly membrane or toxic protein, and can provide high yields in a short amount of time compared to traditional systems. Our research focused on creating a homemade cell free system, which included preparing the necessary cell lysate, the DNA that encodes for our desired protein, and energy mixes. Our initial attempts at CFE, analyzed by gel electrophoresis and activity testing, have been unsuccessful. We are currently testing the various components of our system against a commercially available CFE kit to help establish optimal conditions that will result in successful protein synthesis.

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