

## A Simplified and Optimized Method for Cell-free Transcription and Translation

*Escherichia coli*-based cell extract has long been the workhorse behind cell-free protein synthesis (CFPS). However, the traditional methods of preparing the cell extract curtail widespread use of this potent technology due to the cost of the capital equipment required. Here we report the viability of *E. coli* cell extract prepared using equipment that is both common to biotechnology labs and able to process small volume samples, with the goal of making the cell extract a widely available resource at all levels of research. Using streamlined alternative preparation techniques we successfully created a cell extract capable of high yield protein production while keeping capital and time costs low.