Poster Presentation P50

BCHP AND ITS ROLE IN BACTERIOCHLOROPHYLL SYNTHESIS IN *RHODOBACTER CAPSULATUS*

Brian R. Wasik and David W. Bollivar*
Department of Biology,Illinois Wesleyan University

Rhodobacter capsulatus is a photosynthetic bacterium. Like most photosynthetic organisms, it can harvest light energy from the sun and convert into chemical energy. This bacterium utilizes bacteriochlorophyll in order to harness the light energy from its environment.

Bacteriochlorophyll biosynthesis involves a complicated series of biochemical reaction that include formation of a tetrapyrrole (a ring structure), the incorporation of a magnesium ion and modifications of the ring.

The goal of the experiments described in this poster is to identify the mechanism of an enzyme involved in making bactreriochlorophyll. This can be accomplished by generating an expression clone of the gene in *E. coli* cells using recombinant DNA methods. The expression clone can be used to make large amounts of the protein encoded by the gene for use in further experiments.

The work presented in this poster reflects the progress to date. The *BchP* gene has been isolated and amplified by Polymerase Chain Reaction. Successful amplification of *BchP* was accomplished and confirmed by agarose gel electrophoresis. The PCR product was isolated and purified.

The PCR product was ligated into a PCR-Script Amp cloning plasmid and was transformed into a competent strain of *E. coli*. The *E. coli* strain was grown and identifiable colonies with insert were isolated and cultured for growth. To date, attempts to identify correct insert of PCR product by agarose gel elctrophoresis have produced no conclusive results. Immediate future experiments will focus on accomplishing this task.