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The Over-Expression of bchC and bchF Genes in Rhodobacter Capsulatus

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Poster Presentation 3

**THE OVER-EXPRESSION OF *bchC* AND *bchF* GENES
IN *RHODOBACTER CAPSULATUS***

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Rhodobacter capsulatus is a purple non-sulfur bacteria. The goal of this project was to create strains of R. capsulatus that over-express the protein products of two of its genes, *bchC* and *bchF*. These genes are thought to encode proteins that are involved in the production of bacteriochlorophyll a. The over-expression will allow for the isolation and characterization of the protein products. The project began by isolating genomic DNA from R. capsulatus strain SB1003 and amplifying the *bchC* and *bchF* genes by polymerase chain reaction. The PCR fragments were cloned and sequenced to confirm the identity of the fragment. They were ultimately placed in the vector pYCSFX. When mobilized into R. capsulatus, the plasmids that were created drove the expression of the BchC and BchF polypeptides under inducing conditions. The expression of the protein was confirmed by western blot analysis using an epitope tag created during plasmid construction.