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The bchC Gene in Bacteriochlorophyll Biosynthesis in Rhodobacter Capsulatus

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Poster Presentation P4

**THE *bchC* GENE IN BACTERIOCHLOROPHYLL
BIOSYNTHESIS IN RHODOBACTER CAPSULATUS**

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This project was designed to test the hypothesis that the *bchC* gene of *R. capsulatus* contributes to bacteriochlorophyll biosynthesis and encodes the 2-hydroxyethyl bacteriochlorophyllide dehydrogenase. The gene was cloned and inserted into *E. coli*, and overexpression of the BchC protein was induced. A mutant strain that accumulates 2-hydroxyethyl bacteriochlorophyllide *a*, an intermediate in bacteriochlorophyll synthesis, provided a substrate for BchC assays. Activity of the BchC protein was indicated by presence of bacteriochlorophyllide *a*, as detected by fluorescence analysis. It was demonstrated that the BchC enzyme requires NADPH to perform its catalytic role.