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Isolation, Amplification, and Expression of *BCHC*

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Poster Presentation P15

ISOLATION, AMPLIFICATION, AND EXPRESSION OF *BCHC*

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The *bchC* gene of *Chloroflexus aurantiacus* has been identified by the use of computer based sequence homology searches. To test for function of the proposed gene, it was necessary to create a system so that the polypeptide encoded by the gene could be expressed and identified. Oligonucleotide primers were designed to amplify the *bchC* region so that this gene could be cloned. The amplified gene was cloned and sequenced, and ultimately placed in an expression vector that resides in the bacterium *E. coli*. The protein was then expressed using an arabinose induction system. SDS-PAGE and Western analysis have been used to confirm that the polypeptide is expressed properly. Enzymatic assays were then performed to test for function of the *bchC* gene product. The demonstration of the enzyme activity, 2-hydroxyethyl bacteriochlorophyllide oxidase, was successful allowing the designation of this gene as sufficient for the enzymatic activity.