**Summary**

Fusion protein vectors developed for high-throughput protein expression as part of the Protein Structure Initiative have been investigated for use in the expression and stabilization of human cyt b5, a monotopic membrane protein that must be attached to the cellular membrane for function. Expression as a fusion to His8-maltose binding protein allowed expression of the full-length cyt b5 (fl-cytb5) as a fully soluble entity. Maintenance of the solubility in *E. coli* during the time course of expression was associated with high-level incorporation of protoporphyrin IX into the heme domain of the fusion protein. The fl-cytb5 could be liberated from the fusion by site-specific proteolysis, which permitted spontaneous incorporation into membrane vesicles. This work provides a convenient method for the production and high-yield in situ delivery of monotopic membrane proteins to lipid environments.

Publication:


**Acquiring the Technology**

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