Efficient production of mussel adhesive proteins using *e. coli* and crescentic *catalbacter*

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**Abstract**
Our research group is interested in engineering *e. coli* and catalbacter to express recombinant proteins. By 2070 and others in the synthetic biology field are making progress towards achieving these goals.

**Introduction to synthetic biology**
Synthetic biology is a fast emerging interdisciplinary field that combines principles from computer science, chemistry, and biology to design and build novel biological systems that perform specific functions.

**Regulatory standard biological parts**
Regulatory standard biological parts are small, well-characterized modules of biological function that can be easily integrated into novel biological systems.

**Creating a block**

**Adhesive bacteria**

**DOPA**

**Tyrosinase**

**Future directions**

**Methods**

**Modification**
Modification of galactose operon. To modulate expression, plasmid carrying the galactose operon (pBAD) is used. The expression of the galactose operon is regulated by the presence of galactose in the medium. When galactose is present, the operon is expressed, leading to the production of the desired protein.

**Characterization of MAPs**
- **Bacterial growth** and Western blot analysis. The presence of recombinant proteins is confirmed by measuring the growth of bacteria in the presence of the protein of interest.
- **Immunoblotting** using specific antibodies raised against the recombinant protein.

**References**

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