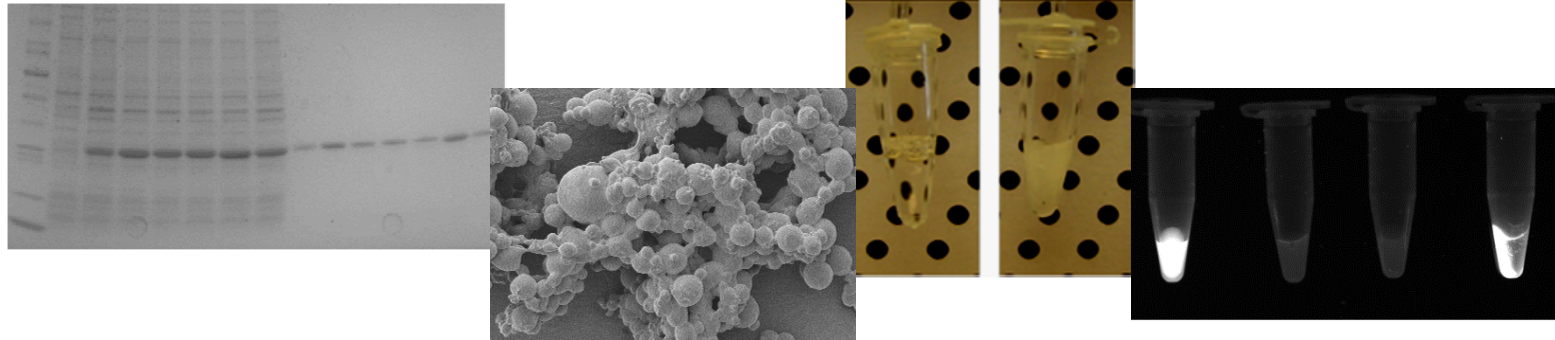


Diploma work project/Project course project

Engineered proteins for biomedical, biomaterial and biotechnological applications



The research is focused on a human enamel matrix protein (EMP). The protein has been found to have some regenerative properties on different tissues, and is used in commercial products for wound healing and for treating periodontal defects. The protein also have some other interesting properties, and can for instance self assemble into nanosized particles, called nanospheres. We have developed a method for recombinant production of EMP, and engineer the protein in different ways to improve its properties and make it is suitable different practical applications. Focus is on biomedical applications, biomaterials, and biotechnological applications. As a student you would work with a project directly related to this research.

A project typically includes:

- Design and construction of synthetic genes for expressing engineered EMPs, using conventional molecular biology methods.
- Expressing the recombinant protein(s) in microorganisms.
- Purification of the recombinant protein.
- Characterization of the recombinant protein(s) and assessing its suitability for biomedical, biomaterial or biotechnological applications.

Expected background.

The candidate should preferably be at a bachelor level, with a background in biotechnology/biochemistry. The candidate is expected to have finished courses in biochemistry, gene technology, protein engineering, or other equivalent courses.

For more information, please contact Johan Bonde (johan.bonde@tbiokem.lth.se)