

**Project: Cloning, expression, purification and evaluation of therapeutically relevant proteins involved in the modulation of immune and inflammatory responses.**

**Description: This project aims at the production of recombinant proteins used as either targets or inhibitors in functional studies centered around the therapeutic modulation of the human complement system (e.g., targeting collectins or ficolins). For this purpose, the student will learn and actively use important molecular biology techniques, including:**

- Gene cloning: PCR, DNA electrophoresis, DNA restriction and ligation techniques
- Transformation/transfection of bacterial (*E. coli*) and/or mammalian cells
- Protein expression in bacterial and/or mammalian cells (involving optimization cycles)
- Protein purification: Fast Protein Liquid Chromatography (FPLC), protein electrophoresis, dialysis, etc.
- Protein characterization: setup of analytical methods to confirm protein functionality, development of binding assays for the evaluation of antagonists/inhibitors.