BD Biosciences
2017
Summer Intern Program

- **A world leader bringing flow cytometry to research and clinical laboratories**

- **Enabling detailed analyses of single cells**

- **Advancing discoveries in:**

  - **Basic research**

  - **Drug discovery and development**

  - **Biopharmaceutical production**

  - **Detection and management of human diseases**

Process & Product Development and QC

Antibody Process & Product Development and QC

- The successful candidate will work cross-functionally in the development and evaluation of new Ab reagents, optimize reaction processes, and helping do quality control to existing reagents.

- **Project:** The proposed project will involve plan, design and perform reagent development activities. Work focus includes areas of Immunology, Cell Biology and Stem Cells using techniques such as multi-parameter flow cytometry, cell stimulation and cell culture assays. One of the main focuses will be reducing the overall formulation/reaction time of antibody and dye components. The candidate will executes experiments independently and evaluates and discusses data. Presents and explains material of simple to moderate complexity and prepares protocols and other documents.

- **Skills Learned:** Multi-parameter flow cytometry; Cell Culture; data analysis; Teamwork

Sirigen QC

Sirigen QC

- Sirigen QC department supports both the development of early stage research and current product lines. The successful candidate will join the QC team at Sirigen, focusing on optical analysis of semi-finished intermediates and new compounds/products in early and mid-stages of design and development.

- **Project:** The proposed project would focus on optical characterization of exploratory polymer dyes by absorption and fluorescence emission spectra. The candidate may contribute directly towards a Measurement System Analysis project as well as learn other optical characterization techniques, such as quantum yield analysis. The intern will be expected to provide timely and high-quality data reports that document test results as well as populate data and results in specified database(s). At the conclusion of the internship they will summarize their results to the wider R&D team in a written and oral presentation.

- **Skills Learned:** Optical characterization of polymers; Method development; Measurement System Analysis, Data organization and analysis; Teamwork

Ab-Seq product feasibility and optimization

Technology Development

- The successful candidate will join the tech dev team in the development and evaluation of Antibody-oligo process.

- **Project:** Cross-site collaborative project to optimize antibody-oligo conjugate products for simultaneous protein and RNA detection. Optimization would include validation of semi-quantitative protein expression levels against Flow Cytometry as the gold standard.

- **Skills Learned:** Flow cytometry assay design, data analysis, and presentation. Novel conjugation chemistry, technology development, and statistical correlation analysis.

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De Novo Antibody Development

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Antibody Discovery

- Hybridoma technology is a method for producing large numbers of monoclonal antibodies . Upon development the antibodies are scaled up for purification and further down stream product development and quality control to ensure our customers have the best antibodies for their research.

- **Project:** Work with cross-functional teams towards independently contributing to the research and development of monoclonal antibodies in our Antibody Discovery team. This will include experimental techniques such as Western Blot, ELISA, molecular biology, and protein purification.

- **Skills Learned:** Experimental design. Teamwork, ELISA, Western blotting, protein purification, molecular biology, data analysis and presentation.