

EMILY CHAPMAN

LABORATORY TECHNICIAN | RESEARCH

Focus: Cancer Cells, Immunology, Genetics, Stem Cell Research
Hospital or Pharmaceutical Research Settings

“Emily has several strengths that would make her an asset and put her employers in an advantageous position. Her main strengths lie in her ability to work under pressure or multitask; as she steadily completes one task, she is simultaneously able to think several steps ahead to ensure she is as prepared as possible” —Feedback Extract, Research Assistant.



AWARDS

Runner up to the Best Student Poster for the Nerve Impulses Practical, 2010
University of Chicago, USA

2007 Chemistry Analytical Instrumentation Workshop
University of Western Ontario, Canada



THESIS / PUBLICATION

Honors thesis—**“The effects of equine lactoferrin and its derivatives on human stomach cancer cells *in vitro*”**—is poised for publication in the LANCELLE International journal.

Technical: Aseptic cell culture, MTS assay, ELISA, agarose gel electrophoresis, FPLC, HPLC and simulated gastrointestinal digestion



EDUCATION

Bachelor of Science (Biotechnology) 2014, University of Chicago
Bachelor of Science Specialization (Biotechnology) 2013, University of Chicago



AREAS OF EXPERTISE

Research Methodologies



Results Interpretation



Statistical and Data Analysis



Report Writing



Data Collection



CONTACT DETAILS



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VALUE PROPOSITION

- Academic research experience specializing in cancer cells
- Physical Containment Level 2 (PC2) Laboratory Trained
- Devise, Construct and Design Experimental Work

“I am considered the go-to person for cell culture techniques, but I’m also sought out as a problem solver, a good listener and a professional who can produce reputable research”



TECHNICAL EXPERTISE

- ELISA
- SDS PAGE Gel
- Western Blot
- Agarose Gel Electrophoresis
- RT-PCR
- HPLC
- FPLC
- Aseptic Cell and Tissue Culture Techniques
- Proliferation and Cytotoxicity Assays
- Immunohistochemistry Techniques
- Agarose Gel Electrophoresis



BIOTECHNOLOGY: HONORS THESIS

“The effect of equine lactoferrin and its derivatives on human stomach cancer cells in vitro”.

Conducted independent research, while assisting an honors student in cell culture, and providing help with cell lines throughout the student’s research. In tandem, demonstrated cell-culture techniques to a PhD student and prepared cancer cells for third-year, final-project students.

Conducted all research, designed a timeline and delivered two weeks ahead of schedule.

Results: HI (Honors First Class). Speech/Presentation: HD 85%.

- **Mission:** Produced a risk assessment, research methodology, and project outline and timeframe that met budget constraints. Composed a literature review, a project proposal and thesis, and delivered findings to University supervisors, lecturers, research staff, a PhD and honor student peers. During this time, maintained/cleaned lab and equipment, managed research records, ordered and monitored stock, reviewed literature, and recorded supervisors’ meeting minutes every two weeks.
- **Outline:** Researched the effects of a milk protein lactoferrin and its derivatives on human stomach cancer cells in vitro, and grew and maintained the three cell lines. Assessed the colony formation using a clonogenic assay and proliferation of cells via MTS assay; performed a simulated gastrointestinal digestion of the protein, and analyzed digested and undigested protein using HPLC and FLPC. Assessed if apoptosis was induced in the cells incubated with the protein by using ELISA and agarose gel electrophoresis and later, analyzing the genomic DNA.
- **Challenges and Actions:** Initial research focused on cell-line maintenance, MTS assay, ELISA and a soft agar forming assay—yet issues with the agar assay prompted a personal decision to adapt methods. Used clonogenic assay to assess colony formation and cut incubation time by half—a method that yielded a highly satisfying outcome.
 - With the ELISA kit outdated and budget constraints preventing a new purchase, opted to perform an agarose gel electrophoresis to improve results.
 - Responded to the need to answer questions raised in research by adding simulated gastrointestinal digestion, HPLC and FLPC. The decision to add simulated digestion to the research prompted supervisors to recommend findings to be published and be credited as the primary researcher on the paper.
- **Risk assessment** remains in use by the lecturer, and is provided to PhD students as an example of the standards expected.

ANATOMY AND PHYSIOLOGY

Award Recipient, “Best Student Poster for Nerve Impulses Practical”.

Personally selected color scheme based on a neuron image and co-designed the poster. Researched the curare drug, prepared/composed information to appear on the poster, and presented drug information to the class.

Result: Report: 39/40 HD

- Examined different ways a neural impulse could be initiated or inhibited, and how myelination and nerve size could affect the speed of conduction. Using PhysioEX8.0 Laboratory Simulations for Physiology, assessed electrical, mechanical, thermal and chemical stimulation, measured nerve conduction velocity, and studied the effects of curare, ether and lidocaine. At the conclusion of the analysis, produced a written report, poster and presented findings to the class.

COMPARATIVE IMMUNOBIOLOGY

Result: 19/20. (95%) HD. Highest mark for the subject in the class 86% (HD)

Mission: Team of two, missioned to diagnose which patients had pernicious anaemia, by performing ELISA, SDS PAGE gel, Western blot, immunohistochemistry and immunoprecipitation techniques on blind samples of patient sera containing antibodies to the gastric proton pump. Personally conducted all research and produced the written report.

Challenges and Actions: Centrifuged tubes when sufficient cellular extract was unavailable.

DISCUSSION

Emily is a bubbly young woman who is heading to become one of our future leading lights in science. Never one to accept the status quo, Emily questions established methodologies and protocols to see if she can find a better way. Already, her intuition has paid off as her Honors Thesis is about to be published in a distinguished science publication.

Emily knows that science “gets a bad rap”—considered boring and dull, and she finds it the complete opposite. As a person who swims against the tide, Emily wanted her résumé to represent her bold personality and not look like anything any other graduate was doing.

The result is a two-page document—bold in its use of black and turquoise. The headings represent a stylized test tube with their round endings. My aim however was to treat this as a one page résumé with a micro-case study addendum. Consequently everything that is important about Emily has been listed on page one. Please note that Emily had devoted her life to the academic environment, so no part-time or full-time roles were available for listing in an Employment History heading.

Awards and her pending publication are given prominence at the top of the page, while her technical skills and more general areas of expertise are presented in a graph-like display.

As you can probably imagine, this was not an easy résumé to write. The sheer number of pages that Emily presented was mind-numbing and interpreting and trying to bring a degree of branding and CAR (Challenge, Action, Result) to the outcome was almost like fighting a battle. Regardless, the résumé succeeded in demonstrating high-level scientific concepts to serious readers, while at the same time, giving Emily the type of branding and ‘humanity’ that she was keen to portray.

Please note... if you have a scientific background, you may find some inaccuracies in this award-submission version of the résumé. The reason for this is as the client is about to be published, it would not be right to provide academically identifiable information publicly. Consequently details have been changed to preserve the client’s academic intellectual property.