Colby Song

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Objective Research Technologist for STEMCELL Technologies R&D Division

Education
2010-present University of British Columbia, Vancouver, BC
B.Sc in Biochemistry, expected graduation in May 2015

Employment

Jan-May 2014 UBC Department of Ophthalmology and Visual Sciences Moritz Lab
Co-op Student/Research Assistant

- Investigated mechanisms underlying photoreceptor cell death in Retinitis Pigmentosa
- Projects include monitoring endoplasmic reticulum stress caused by bP23H mutation in a transgenic *X.Laevis* model, and characterizing mutations
- Performed literature searches and carried out experiments using molecular biology techniques
- Interpreted and presented confocal microscopy data at regular lab meetings

May-Dec 2013 UBC Department of Chemical & Biological Engineering Research Group
Co-op Student/Research Assistant

- Investigated potential strategies directed towards purifying α-cellulose from bamboo
- Projects include developing kinetic model of hemicellulose degradation in bamboo, biomass sugar analysis and cellulase/xylanase treatments
- Conducted literature searches and designed experiments involving FTIR and enzymatic assays
- Interpreted and presented HPLC and FTIR data at lab meetings including a final report
- Assisted with the setup, maintenance and trouble shooting of HPLC
- Co-author in poster to be presented at Paptac Biorefinery Summit

Projects

2013 Cloning and Insertion of E.coli LacZ Gene into pET plasmids

- Prepared PCR master mix and proper negative and positive control samples for PCR reaction
- Checked the success of PCRs using agarose gel electrophoresis

- Generated chemically competent DHα *E.coli* cells with $CaCl_2$ and performed transformation of these cell with newly generated plasmids on prepared LB-AMP plates

2013 HIS-Tagged Recombinant LacZ Protein Expression and Purification

- Induced expression of recombinant β-galactosidase in BL21 *E.coli* using IPTG as inducer
- Purified recombinant protein using metal chelate affinity chromatography with Ni-NTA
- Confirmed the success of recombinant protein isolation using SDS-PAGE and Dot Blot
- Quantified amount of protein isolated using ONPG and Bradford Assay and protein spectroscopy

Volunteer

2012-2013 Impact BC Basics for Health

Family Worker

- Demonstrated strong communication and interpersonal skills in assisting individuals and families with problems such as financial security, education and social supports
- Effectively organized client data base using MS Outlook and updated client profiles using objective style writing

Skills

Biochemistry techniques: Agarose Gel Electrophoresis, Column Chromatography, PCR, Plasmid Preparations, SDS-Page, DNA Spectrophotometry, Bradford Protein Assay, Restriction Enzyme Digests, Recombinant Protein expression and Purification, ONPG Assay, Protein Spectroscopy, Dot Blot

Chemistry techniques*:* reflux, extractions, purifications, multi-step organic synthesis, fractional distillation, recrystallization, titrations, gravimetric analysis
Characterization by IR, NMR, MS and GC

References Available Upon Request