

Krist N. Hausken

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SUMMARY OF SKILLS

- Proficient in techniques of molecular biology, endocrinology, biochemistry
- Quickly learn and adapt to new lab environments and independently, autonomously complete tasks
- Effectively communicate scientific thoughts, hypotheses, methods, and results, either written or oral

EDUCATION

University of New Hampshire - Durham, NH

Doctor of Philosophy, Biochemistry

Expected: Fall 2017

GPA: 3.5

Keene State College – Keene, NH

Bachelors of Science, Biology, Chemistry minor

August 2008 – May 2012

GPA: 3.0

TECHNICAL TRAINING (4-7 years experience)

Molecular Biology

- DNA/RNA extraction
- cDNA synthesis
- Molecular cloning
- Polymerase chain reaction (PCR)
- In vitro transcription, probe synthesis & labeling (DNA/RNA)

Recombinant Protein Expression

- Design and development of constructs for expression of heterologous proteins
- Expression of recombinant proteins in yeast (*Pichia pastoris*), mammalian (COS7), and prokaryotic (*E. coli*) host systems

Protein Purification

- Metal Affinity Chromatography (Ni-NTA matrix)
- Size exclusion Chromatography
- Ion Exchange chromatography
- High Performance Liquid Chromatography (HPLC)
- Buffer Exchange (Precipitation, dialysis, ultrafiltration)
- Immunoprecipitation

Protein Detection

- SDS-PAGE, native PAGE
- Western blot
- Post-PAGE staining (silver, Coomassie)
- Enzymatic deglycosylation

Biochemical Endocrinology

- HPLC
- Radioimmunoassay
- Immunohistochemistry
- *In situ* hybridization
- Real time PCR
- *In vivo/in vitro* experimental design

Cell Culture

- General maintenance
- COS7 cells
- Transfection and expression
- cAMP reporter assays

Chemistry

- Stoichiometry
- Acid/base equilibrium
- Calibration methods
- Electrochemistry
- Spectroscopy

RELATED EXPERIENCE

University of New Hampshire – Durham, NH

Graduate Research Assistant, Prof. Stacia Sower

January 2013 - Current

- Performed quantitative real-time PCR, PCR, molecular cloning, immunohistochemistry, *in situ* hybridization, radioimmunoassay, protein purification, microscopy, animal handling (per IACUC), RNA extraction, bacterial and yeast transformation, restriction digest, plasmid construct preparation, experimental design, SDS-PAGE, Western blot, protein purification, recombinant protein production, COS7 mammalian cell culture
- Lead students in experimental design and execution
- Presented data at local, regional, and international conferences

Hebrew University of Jerusalem Faculty of Agriculture - Rehovot, Israel

Recombinant protein production in Pichia pastoris

October 2015 – December 2015

- Worked under Prof. Berta Levavi-Sivan
- Successfully cloned, produced, purified, and verified recombinant lamprey thyrostimulin

- Learned recombinant protein strategies using a model yeast system
- UNH publication about research trip: <http://colsa.unh.edu/nhaes/article/2016/02/krist>

University of New Hampshire – Durham, NH

August 2012 – December 2014

Graduate Teaching Assistant – Introduction to Biology Lab

- Instructed and guided independent research projects to undergraduates
- Inquiry-based learning approach, encouraged independent thought and learning
- Graded homework assignments and formal lab reports; heavy focus on writing and oral communication

Keene State College – Keene, NH

August 2010 – June 2012

INBRE Student Researcher, Prof. Susan Whittemore

- Worked on developing *Xenopus laevis* studying the effects of environmental endocrine disruptors on cardiac function
- Developed methods to calculate heart rate, inter-beat variability, and experimental designs
- Trained other students in fundamental concepts and experiment-related training

PUBLICATIONS

Sower, S.A., W.A. Decatur, **K. N. Hausken**, T.J. Marquis, S.L. Barton, J. Gargan, M. Freamat, M. Wilmot, L. Hollander, J.A. Hall, M. Nozaki, M. Shpilman, and B. Levavi-Sivan. 2015 Emergence of an ancestral glycoprotein hormone in the pituitary of the sea lamprey, a basal vertebrate. *Endocrinology*, 156:3026-3037

PRESENTATIONS

Maine INBRE Invited Speaker – Farmington, ME

February 6th, 2016

Oral presentation- Krist N. Hausken

Evolution of pituitary glycoprotein hormone family expression & signaling

Levavi-Sivan Laboratory – Rehovot, Israel

December 2nd, 2015

Oral presentation- Krist N. Hausken

Importance of recombinant lamprey thyrostimulin to study evolution of glycoprotein hormones

North American Society for Comparative Endocrinology Meeting – Ottawa, Canada

June 21st – 26th 2015

Oral presentation- Krist N. Hausken, Rebecca L. Scialabba, Stacia A. Sower

Expression and localization of two glycoprotein hormone receptors in the ovary and thyroid implies that hypothalamic-pituitary-ovary & -thyroid axes overlap in the sea lamprey, *Petromyzon marinus*

Univ. NH Graduate Research Conference – Durham, NH

April 11th, 2015

Poster presentation- Krist N. Hausken, Karen L. Carleton, Rebecca L. Scialabba, Stacia A. Sower

Glycoprotein hormone receptor expression changes with IGnRH injection

Keene State College Biology Dept. Invited Speaker – Keene, NH

February 10th, 2014

Oral presentation- Krist N. Hausken

A molecular and physiological perspective of reproduction in a basal vertebrate, the sea lamprey

Experimental Biology Meeting – San Diego, CA

April 21st – 25th, 2012

Poster presentation - Krist N. Hausken, Kimberly Layman, Susan Whittemore

Phenanthrene affects cardiovascular function in the developing African clawed frog (*Xenopus laevis*)

MEDIA

“Doctoral Student’s Study Abroad Leads to Research, Career Breakthroughs”

February 24th, 2016

UNH interview- Lori Wright <http://colsa.unh.edu/nhaes/article/2016/02/krist>

Description of work conducted in Israel to produce recombinant lamprey glycoprotein hormones in yeast