


KIM STEVE GERLACH BERGKVIST

CONTACT

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EDUCATION

2010 – 2014 DOCTORAL DEGREE

Thesis title: Gene expression profiling of normal B-Cell subsets -
Technical procedures and performance

Supervised by: Prof. Hans Erik Johnsen, (Aalborg University) and PhD.
Mette Nyegaard (Aarhus University)

Synopsis: Biological classification of B-cell derived cancers may be refined by a direct and systematic strategy where identification and characterization of normal B-cell differentiation subsets are used to define the cancer cell of origin. This report describes the current models of the normal B-cell subset differentiation in multiple tissues and the pathogenesis of malignancies originating from the normal germinal B-cell hierarchy.

2000 – 2005 MASTER OF SCIENCE IN BIOTECHNOLOGY, AALBROG UNIVERSITY

Dissertation title: Separation and characterisation of antimicrobial peptides from conjunctiva cells in the eye

1996 – 1999 HIGHER TECHNICAL EXAMINATION (HTX), AALBORG

RESEARCH INTERESTS

The welfare of fish in aquaculture is of interest from ethical considerations as well as improving quality of fish production. Understanding the welfare-relevant biology is of my interest and identifying stress related molecular markers on the DNA, RNA and protein level.

RESEARCH EXPERIENCE

2019-2020 Improving drinking water quality in small water supplies in the Nordic countries

The project will give guidelines and recommendation on how to secure safe water in the small water supplies in the Nordic countries with risk-based approach and how the region can collaborate on this task.

2018-2020

**OCCURRENCE OF THE PARASITES
CRYPTOSPORIDIUM AND GIARDIA IN SHEEP AND
CATTLE**

The main objective of the project is to study the occurrence of these pathogenic parasites in faeces from cattle and sheep in the Faroe Islands. In addition, the impact of these parasites in the drinking water reservoirs is investigated.

2010-2014

PHD PROJECT – AALBORG UNIVERSITY HOSPITAL

The concept behind this project was that biological classification of B-cell derived cancers may be refined by a more direct and systematic strategy, where identification of normal B-cell subsets at different differentiation steps and in different tissues can be used to classify the cancer cell of origin. A reliable protocol was established and gene expression profiles were generated and validated in different B-cell subsets in blood, tonsils, bone marrow and thymus. Next, the gene expression profiles from the normal B-cell subsets was used to improve the classification system in different malignancies. This may be considered as one small step towards personalized cancer treatment.

2008-2010

**BIO-ENGINEER AT AALBORG UNIVERSITY HOSPITAL,
DEPARTMENT OF HAEMATOLOGY**

The work involved quality control manager for the DNA microarray platform from Affymetrix. This included validating "big data" from high dimensional gene expression data from different human tissues for further scientific research.

2006-2007

**RESEARCH ASSISTANT AT AALBORG UNIVERSITY
HOSPITAL**

The work addressed separation and characterisation of antimicrobial peptides from the conjunctiva cells in the eye. These peptides play a key role in the Innate Immune system together with the physical barriers of the skin and mucosa. The project represents an attempt to examine different methods for extraction of defensins from conjunctiva tissue in humans, including MALDI-TOF MS, SDS-PAGE, RP-HPLC and western blotting. The project was a collaboration between the Protein Chemistry group, Section for Biotechnology, Department of Life Science, Aalborg University and Aalborg University Hospital.

GRANTS

FUNDING AWARDED:

2009	Health Research Fund of Central Denmark Region Grant (DKK 80,000.00)
2018	Faroese Research Council Research Grant (DKK 505,777.00)

PUBLICATIONS

Jørgensen M, Bergkvist KS, Welinder KG (2006)

Quantification of defensins by matrix-assisted laser desorption/ionization time-of-flight mass spectrometry. 15;358(2):295-7.

Kloster MB, Bilgrau AE, Rodrigo-Domingo M, Bergkvist KS, Schmitz A, Sønderkær M, Bødker JS, Falgreen S, Nyegaard M, Johnsen HE, Nielsen KL, Dybkaer K, Bøgsted M. (2012)

A model system for assessing and comparing the ability of exon microarray and tag sequencing to detect genes specific for malignant B-cells. 13:596. doi: 10.1186/1471-2164-13-596

Bergkvist KS, Nyegaard M, Bøgsted M, Schmitz A, Bødker JS, Rasmussen SM, Perez-Andres M, Falgreen S, Bilgrau AE, Kjeldsen MK, Gaihede M, Nørgaard MA, Bæch J, Grønholdt ML, Jensen FS, Johansen P, Dybkær K, Johnsen HE (2014)

Validation and implementation of a method for microarray gene expression profiling of minor B-cell subpopulations in man. 31;15:3. doi: 10.1186/1471-2172-15-3

Johnsen HE, Bergkvist KS, Schmitz A, Kjeldsen MK, Hansen SM, Gaihede M, Nørgaard MA, Bæch J, Grønholdt ML, Jensen FS, Johansen P, Bødker JS, Bøgsted M, Dybkær K (2014)

Cell of origin associated classification of B-cell malignancies by gene signatures of the normal B-cell hierarchy. 55(6):1251-60. doi: 10.3109/10428194.2013.839785

Rasmussen SM, Bilgrau AE, Schmitz A, Falgreen S, Bergkvist KS, Tramm AM, Bæch J, Jacobsen CL, Gaihede M, Kjeldsen MK, Bødker JS, Dybkaer K, Bøgsted M, Johnsen HE (2015)

Stable phenotype of B-cell subsets following cryopreservation and thawing of normal human lymphocytes stored in a tissue biobank. 88(1):40-9. doi: 10.1002/cyto.b.21192

Dybkaer K, Bøgsted M, Falgreen S, Bødker JS, Kjeldsen MK, Schmitz A, Bilgrau AE, Xu-Monette ZY, Li L, Bergkvist KS, Laursen MB, Rodrigo-Domingo M, Marques SC, Rasmussen SB, Nyegaard M, Gaihede M, Møller MB, Samworth RJ, Shah RD, Johansen P, El-Galaly TC, Young KH, Johnsen HE (2015)

Diffuse large B-cell lymphoma classification system that associates normal B-cell subset phenotypes with prognosis. 33(12):1379-88. doi: 10.1200/JCO.2014.57.7080

Nielsen KR, Steffensen R, Bendtsen MD, Rodrigo-Domingo M, Baech J, Haunstrup TM, Bergkvist KS, Schmitz A, Boedker JS, Johansen P, Dybkaeær K, Boeøgsted M, Johnsen HE (2015)

Inherited Inflammatory Response Genes Are Associated with B-Cell Non-Hodgkin's Lymphoma Risk and Survival. doi: 10.1371 PMID: 26448050

Bergkvist KS, Nørgaard MA, Bøgsted M, Schmitz A, Nyegaard M, Gaihede M, Bæch J, Grønholdt ML, Jensen FS, Johansen P, Urup T, El-Galaly TC, Madsen J, Bødker JS, Dybkær K, Johnsen HE (2016)

Characterization of memory B cells from thymus and its impact for DLBCL classification. doi: 10.1016 PMID: 27297329.

Nielsen KR, Rodrigo-Domingo M, Steffensen R, Baech J, Bergkvist KS, Oosterhof L, Schmitz A, Bødker JS, Johansen P, Vogel U, Vangsted A, Dybkær K, Bøgsted M, Johnsen HE (2017)

Interactions between SNPs affecting inflammatory response genes are associated with multiple myeloma disease risk and survival. doi: 10.1080 PMID: 28393658

PRESENTATIONS

PhD. COUSE, DAFKO

Oral presentation of hypothesis and results obtained for the project

PhD. COUSE AT BRIC, COPENHAGEN BIOCENTRE

Oral presentation of the concept and results obtained for the project. Oral presentation of a scientific article

FORSKNINGENS DAG AT AALBORG UNIVERSITY HOSPITAL 2010

Oral poster presentation

FORSKNINGENS DAG AT AALBORG UNIVERSITY HOSPITAL 2011

Oral poster presentation

PhD DAY 2011 AT AARHUS UNIVERSITY

Research poster presentation

PhD DAY 2012 AT AARHUS UNIVERSITY

Research poster presentation - Awarded best poster presentation at PhD day

DANISH MYELOMA STUDY GROUP MEETING AT AALBORG UNIVERSITY HOSPITAL

Oral presentation of the strategy and work conducted at the department

INTERNATIONAL SCIENCE SUMMER CAMP AT FORSKNINGESHUS

Oral presentation of micro array gene expression analysis basics

DAHFO PhD. COURSE AT HINSGAVL SLOT

State of the art - pathogenesis