



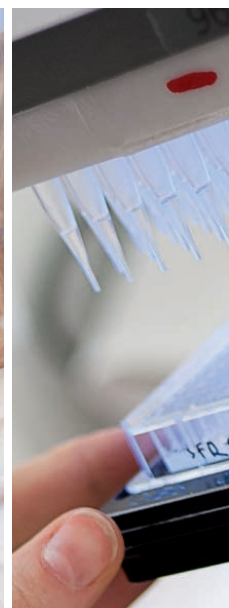
RIIM
ANNUAL REPORT
2013

The Research Institute of Internal Medicine (RIIM)

RIIM

ANNUAL REPORT

2013



Pages

2 Leader's comments

4 History

5 Organization

6 Research groups

16 Publications

30 Doctoral theses

31 Awards

Leader's comments

The Research Institute of Internal Medicine (RIIM) has a proud and long history which is outlined elsewhere in this Annual Report. It started in 1956 as an Institute of Thrombosis Research and several important scientific breakthroughs were achieved during the first years (for example the discovery of coagulation factor V). While research on the complex regulation of thrombus formation is still a main activity at RIIM, the activity has during the last 10–15 years expanded to other and related research areas, i.e., the role of inflammation in cardiovascular and immunodeficiency disorders and molecular and immunologic mechanisms in hepatic disorders.

The changes at the institute have markedly accelerated during the last four years. The fusion process at Oslo University Hospital is often described as troublesome. However, the fusion of RIIM with the Coagulation Laboratory at Ullevål Hospital and with the Primary Sclerosing Cholangitis (PSC) Research Group who had stayed at Institute of Immunology for some years has been a success. There have been some challenges, believe me, but it has most of all resulted in synergy, new collaboration between the research groups and a more inspiring, but also demanding environment.

RIIM ANNUAL REPORT 2013

More information at the web pages:
<http://ous-research.no/riim/>

TEXT: RIIM

PUBLISHER: Oslo University Hospital

FRONTPAGE PHOTO: Øystein H. Hørgmo, UiO

LAYOUT: Tor Halland, TorDesign PRINT: TINT Kommunikasjon AS



PHOTO: Øystein H. Horgmo, University of Oslo

Today the RIIM consists of 8 research groups which is divided into three sections (i) Section of Inflammatory Research, (ii) Section of Molecular hepatology, and (iii) Section of thrombosis, haemostasis and vascular biology.

During the last year the RIIM has had a large discussion on our research strategy that was approved just before Christmas. The main points in this strategy give insight into the “phenotype” of our research.

Our research primarily involves translational research with “one foot in the bed and one in the bench”, i.e., the experimental research profile is «close to bedside. This research incorporates both experimental, basic, clinical and epidemiological components.

This research profile is also based on a close teamwork between skilled basic and clinical researchers and the institute has a close collaboration with several clinical departments such as Department of Transplantation Medicine, Department of Cardiology, Department of Hematology, Department of Cardiothoracic Surgery, Department of Neurology and Department of Dermatology, Rheumatology and

Infectious Diseases. Although several topics are studied, our main thematic research focus is related to inflammation and hemostasis

Our aim is to compete at a high international level within our research fields. To obtain this several points are of importance such as collaborations both nationally and internationally, recruitment and carrier building for young talented researchers.

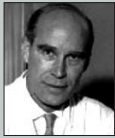
In this regard, we believe that exchange of researchers between foreign research institutions is of major importance. We also believe that more close collaboration between the different research institutes at Oslo University Hospital could strengthen the research at this hospital.

This is the first Annual Report from RIIM in several years. However, we hope to break this “bad tradition” and plan to come back with an updated version next year.

Professor **Pål Aukrust** | *Institute Leader at RIIM*

The history

of the Research Institute of Internal Medicine – a brief review



Paul Arnor
Owren



Nils Olav
Solum



Holm
Holmsen



Helge
Stormorken



Frank
Brosstad



Hans
Prydz



Stig
Frøland



Christian
Hall

AUTHOR: Professor Bente Halvorsen

■ **The history of The Research Institute of Internal Medicine (RIIM) started in 1956.** At that time the institute was named Institute of Thrombosis Research (Institutt for tromboseforskning) and was a university institute at Rikshospitalet, lead by Paul Arnor Owren. Owren's research focus was coagulation system and his discovery of Factor V and its role in coagulation system was a milestone in field of coagulation research. This research was also the basis for new coagulation tests to evaluate the coagulation system in a clinical setting.

In 1962 Nils Olav Solum and Holm Holmsen started at the institute and their work on platelet biology and pathophysiology achieved much attention worldwide. Helge Stormorken started at the institute in 1963 and worked on the complex regulation of the coagulation system, and among others he described patients with a complex thrombogenic diseases which was named "Stormorken Syndrome" and very recently the gene mutation causing this syndrome was discovered.

The Faculty of Medicine decided in 1978 that the institute should be an "arena for Internal Medicine Research" and the institute was then named RIIM "Institutt for indremedisinsk forskning" (IIF). This was the start of a broader research activity at the institute.

Frank Brosstad started his carrier at RIIM in 1981 and all his important research was on thrombosis and the coagulation system in close collaboration with Nils Olav Solum underscoring the close interaction between the coagulation system and platelets in health and disease. At the same period Hans Prydz (1980-1989) also worked at RIIM with tissue factor and coagulation system as his main focus.

In 1996 Stig Frøland started at RIIM with his well rebutted HIV and immunodeficiency research. He was the

"father" of translational research with one foot in the bed and one in the bench which is now an important part of our research strategy. One year later Christian Hall came to the institute with his research on heart failure. Hall research was focused on biomarkers in cardiovascular research and his work on natriuretic peptides achieved much attention, and one of his tests is now in clinical use world wide and is an example of excellent innovative research.

In 2000 Pål Aukrust, which had also been working together with Frøland, Yndestad, Halvorsen and Ueland, started their research on "Cardioimmunology" which included diseases like heart failure, atherosclerosis and related metabolic disorders. This research also included a close collaboration with Frank Brosstad and Nils Olav Solum focusing on the inflammatory role of platelets in various disorders.

Tom Hemming Karlsen and colleagues came to RIIM in 2008 with their research focus on liver immunology and primary sclerosing cholangitis. They strengthened the research profile at the institute by their high standard methodology, international collaborations and their high expertise in molecular genetics. The "Oslo process" lead to the fusion of "Coagulation laoratory" at Ullevål and RIIM, and as a result of this process Per Morten Sandset and colleagues came to the institute in 2011 with their high standard research on thrombosis and haemostasis that also includes large scale clinical studies. This group together with Pål Andre Holme keeps the "thrombosis arm" of the research profile at RIIM in live.

In 2011 RIIM was formally changed from a university institute into a Department at the Division of Cancer Medicine, Surgery and Transplantation at the Oslo University Hospital.

Organization

The Research Institute of Internal Medicine 2013

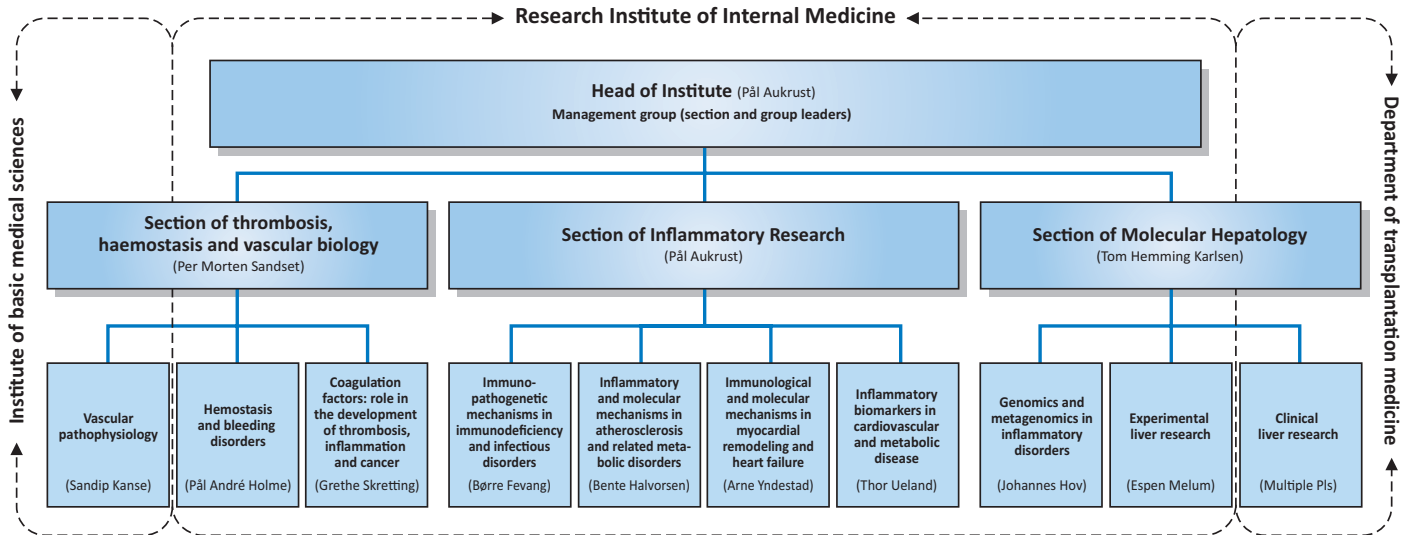


PHOTO: Øystein H. Hørgmo, University of Oslo

Research group

SECTION OF THROMBOSIS, HAEMOSTASIS AND VASCULAR BIOLOGY



Haemostasis and bleeding disorders

GROUP MEMBERS

GROUP LEADER:

Pål André Holme Asc prof., MD, PhD

PHD STUDENTS:

Hoa Thi Tuyet Tran MD

Nina Haagenrud Schultz MD

ENGINEER:

Stine Bjørnsen

STUDY COORDINATOR:

Adelheid Holm

ASSOCIATED:

Geir E. Tjønnfjord Prof., MD, PhD

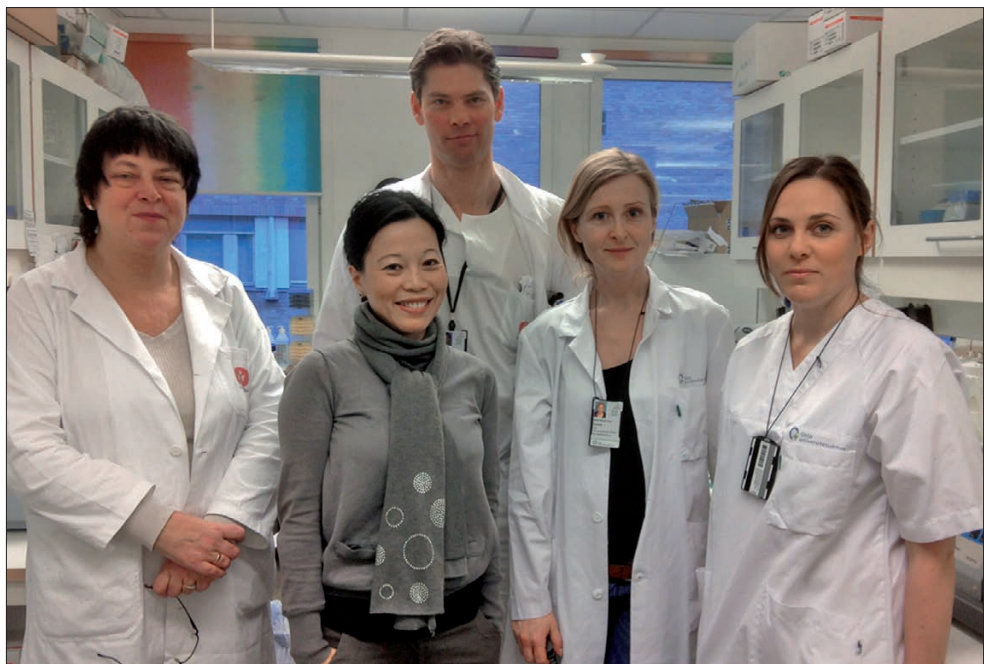
RESEARCH PROFILE

Our scientific interests are focused on clinical and basic aspects of normal and disturbed haemostasis in particular bleeding disorders like hereditary and acquired coagulation disorders.

Oslo University hospital, Rikshospitalet is the only Haemophilia Comprehensive Care Centre in Norway and is one of the biggest haemophilia centres in the Nordic region taking care of more than 1200 persons with bleeding disorders. Several research projects are ongoing besides clinical activity.

During the last years we have studied and published papers on how to optimize and tailor treatment in persons with haemophilia with or without inhibitors to FVIII and in persons with FVII deficiency.

One of main objectives has been tailoring of treatment with bypassing agents (BPA) for haemophilia patients with inhibitors. High titre inhibitors to factor VIII and less often to factor FIX, represent a major challenge in the treatment of haemophilia A and B. The treatment of bleeds in haemo-



philia patients with inhibitors relies on the use of the bypassing agents, factor eight bypassing activity (FEIBA) or recombinant factor VIIa. While both therapies are effective in the majority of bleeding episodes and postoperative prophylaxis, there is a significant amount of inter individual variability when it comes to the response to therapy.

In haemophilia patients without inhibitors, there is a close relationship between the level of FVIII or FIX measured ex vivo and the haemostatic outcome of the patients.

However, in inhibitor patients there is no such relationship using bypassing treatment as there is no established laboratory assay to monitor efficacy and optimal dosing.

We are studying the effect of bypassing agents using thromboelastography (TEG/ROTEM) and thrombin genera-

tion test (TGA) to individualize coagulation factor concentrate usage and dosing in the home treatment program, individualize coagulation factor concentrate usage and dosing prior to and in the postoperative period, address the issue of minimum effective dose during surgery and apply these assays in the evaluation of the critically ill patient with concomitant haemostatic insufficiency.

Recently, we reported our experience and performed a clinical, prospective, randomized, crossover study of concomitant usage of bypassing agents and tranexamic acid (TXA) in haemophilia A patients with inhibitor and in patients with acquired haemophilia with respect to haemostatic efficacy and safety. These studies showed that adjunct use of TXA to BPA significantly increased the clot stability without increasing the thrombin generation and may be superior to standard treatment with BPA alone.



PHOTO: Øystein H. Høegmo, University of Oslo

Rates of hypertension and renal disease, as with other cardiovascular risk factors and comorbidities, are known to rise with age. In haemophilia, it appears from some reports that there is an even stronger association with hematuria and hypertension. Our group is the coordinating centre for an epidemiologic European multicentre study on behalf of the ADVANCE (Age-related-DeVelopments-ANd-Comorbidities-in-hemophilia Working Group).

The group is interested in determining, among consecutively screened people with haemophilia (> 800 pts.), aged ≥ 40 years, whether rates of hypertension and renal disease vary according to a previous history of hematuria and whether rates of hypertension/renal disease/ and other comorbidities vary with specific influencing factors in haemophilia. A cross sectional part is already performed and will be further followed up in a longitudinal prospective study.

Today there are no evaluated effective treatments to reverse the effect of direct oral anticoagulants (DOAC).

Recently, we have initiated a study where the objectives are to detect the most effective haemostatic agent and appropriate dose for reversal of bleeds caused by DOACs extensively used in the clinic for atrial fibrillation and treatment of venous thromboembolism. The effect will be assessed mainly by means of the two global coagulation methods thromboelastography (TEG) and thrombin generation assay (TGA) since conventional coagulation assays such as aPTT and INR are not capable to measure the effect of DOAC accurately.

The group also participates in several other international and Nordic investigator initiated research projects on bleeding disorders.

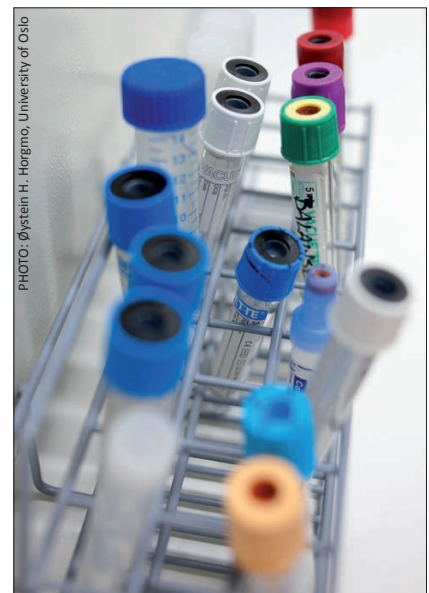


PHOTO: Øystein H. Høegmo, University of Oslo

Research group

SECTION OF THROMBOSIS, HAEMOSTASIS AND VASCULAR BIOLOGY



Coagulation factors: role in the development of thrombosis, inflammation and cancer

GROUP MEMBERS

GROUP LEADER:
Grethe Skretting

POST DOC:
Benedicte Stavik MSc, PhD
Maria Eugenia Chollet MD, PhD
Xueyan Cui MD, PhD

PHD STUDENT:
Huda Omar Ali MSc

SENIOR ENGINEERS:
Marianne S. Andresen MSc, PhD
Christiane Filion Myklebust MSc
Elisabeth Dørum MSc

BIOENGINEER:
Marie-Christine Mowinckel

AREAS OF FOCUS

Our research focuses on the molecular mechanisms underlying the role of coagulation inhibitors in thrombosis, inflammation and in cancer. Of special interest is the coagulation inhibitor tissue factor (TF) pathway inhibitor (TFPI). Our main goal is to establish the link between coagulation, inflammation and cancer.

Coagulation inhibitors, such as TFPI, antithrombin, protein C (PC) and protein S (PS), are important regulators of coagulation activation, and deficiencies of these inhibitors alter the threshold for activation of coagulation and increase the risk of thrombosis. The inhibitors also influence inflammatory pathways, and may thus play an important role in inflammation and the development of atherosclerosis. Finally, considerable evidence now suggests that certain coagulation inhibitors also play a role for cell proliferation and apoptosis and for angiogenesis, which indicates a role in cancer development.

PROJECTS

Our group has lately focused on the molecular mechanisms related to the role of coagulation inhibitors for the development of thrombosis and cancer. In particular we have concentrated on the involvement of TFPI and PC in these processes.

TFPI is the physiological inhibitor of TF induced coagulation. Low levels of TFPI in plasma are associated with increased risk of thrombosis and SNPs in the TFPI genes have been shown to influence the TFPI plasma levels. Significantly increased levels of TFPI have been found in plasma from cancer patients and expression of TFPI in many cancer cells has been demonstrated. The mechanism behind this is as yet unknown. We are also studying the role of TFPI in endothelial cell activation and atherosclerosis.

Estrogens can influence the pathological processes of many hormone-dependent cancers such as breast and

ovarian cancers. Women using oral contraception or postmenopausal hormone therapy are at increased risk of venous thrombosis. These women have decreased plasma TFPI levels indicating a link between estrogens and TFPI, both in cancer and venous thrombosis. At present we are focusing on the effect of estrogens on TFPI and the underlying mechanisms.

Lately, our group has initiated a project to study the molecular mechanisms underlying hypoxia and coagulation in cancer progress and multidrug resistance. Hypoxia is a hallmark of several pathophysiological conditions including cancer, atherosclerosis and ischemic cardiovascular disease, conditions characterized by activation of coagulation and increased risk of thromboembolism.

Hypoxia is defined as an inadequate oxygen supply to the cells and tissues of the body and hypoxia due to low atmospheric pressure triggers activation of coagulation, most probably



Grethe Skretting



Marie-Christine Mowinckel



Benedicte Stavik



Maria Eugenia Chollet



Xueyan Cui



Huda Omar Ali



Marianne S. Andresen



Christiane Filion Myklebust



Elisabeth Dørum



PHOTO: Øystein H. Høegmo, University of Oslo

due to tissue factor (TF) production by intravascular cells. Another phenomenon related to hypoxia is multidrug resistance (MDR), an acquired phenotype of certain cancers that results in inadequate response to chemotherapy (chemoresistance) and reduced survival. To date, the relationship between hypoxia, coagulation and metastasis, particularly chemoresistance, has remained largely unexplored. To develop new targeted therapies towards avoiding thrombotic complications in cancer and to increase the rate of successful treatment of cancer by reducing the rate of MDR, basic knowledge into the underlying mechanisms is essential.

A large number of human diseases are caused by defects in protein folding as a result of genetic mutations or adverse physiological conditions. The maintenance of the protein homeostasis in blood requires regulation of coagulation and fibrinolysis and protein deficiencies in these processes lead to hemorrhagic or thrombotic tendency. Many of the coagulation factor defi-

ciencies are caused by reduced circulating protein levels resulting from a broad spectrum of gene mutations. This can cause impaired secretion due to increased intracellular degradation or accumulation of misfolded proteins, processes that have been reported for some factor VII (FVII) and factor VIII (FVIII) deficiencies, and also in deficiencies of protein C and plasmin inhibitor. For a number of cases of diseases caused by protein misfolding, drugs acting directly on the affected protein have been found to prevent misfolding and restore biosynthesis and function.

A project in our group aims to investigate the intracellular fate of a group of FVII mutations previously reported in both Norwegian patients and also in patients from elsewhere, in order to elucidate the cellular mechanisms implicated in these mutations and thus, to envisage possible therapeutic approaches. In addition, we are extending a previous study from our group on a protein C mutation, now from a therapeutic point of view.



Research group

SECTION OF INFLAMMATORY RESEARCH



Inflammatory and molecular mechanisms in atherosclerosis and related metabolic disorders

GROUP MEMBERS

GROUP LEADER:

Bente Halvorsen Professor, Dr. philos

OVER ENGINEERS:

Ellen Lund Sagen, Turid Pedersen

CHIEF ENGINEER:

Vigdis Bjerkeli

POST DOC:

Tuva Børresdatter Dahl PhD, MSc
Sverre Holm PhD, MSc
Filip Segers PhD, MSc

PHD STUDENTS:

Ida Gregersen MSc
Tonje Skarpengland MD
Azhar Abbas MD
Nina Solheim MD
Håvard Lorentzen MD

SENIOR CONSULTANT:

Mona Skjelland Dr. med

MASTER STUDENTS:

Lene Løvda BSc
Andrea Øvergård BSc (nutrition)

RESEARCH PROFILE

Halvorsen's research group studies the inflammatory and molecular mechanisms involved in the development of atherosclerosis and related metabolic disorders. The research has a clear translational approach. The projects range from analyses of blood and tissue samples from patients with cardiovascular disorders or other metabolic disturbances to studies in preclinical models, as gene modified mice, or cell models using advanced cellular and molecular biology. The group consists of people with different educational background like medical doctors, nutritionists, biochemists and engineers. Such multidisciplinary personal composition is one of strength of the research group.



Bente Halvorsen's Research group anno 2014

Upper left: Tonje Skarpengland, Tuva B. Dahl, Sverre Holm, Håvard Lorentzen, Filip Segers. Lower left: Bente Halvorsen, Ellen Lund Sagen, Turid M. Pedersen, Ida Gregersen, Vigdis Bjerkeli. Not present: Azhar Abbas, Mona Skjelland, Nina Solheim, Lene Løvda and Andrea Øvergård.

RESEARCH PROJECTS

- The role of NAMPT/visfatin in atherosclerosis and metabolic disorders
- The role of DNA repair systems in experimental atherosclerosis and metabolic disorders
- The role of chemokines in acute coronary syndromes
- The role of homeostatic chemokines in atherogenesis
- Metabolic effects of IL-10
- Platelet-mediated inflammation
- Inflammatory and metabolic effect of LIGHT
- The role of TNF superfamily related molecules in acute coronary syndromes
- Pain mediated inflammation

SOME IMPORTANT MILESTONES FOR THE GROUP IN 2013

- Filip Segers started in the group. He is a Belgian post doc educated in Prof Erik A Biessen's lab in Maastricht. Filip has a strong portfolio in experimental atherosclerosis
- Linda Smedbakken defended her doctoral thesis entitled: "Homeostatic chemokines and adhesion molecules in atherosclerosis – from bed to bench" May 2013 – Faculty of Medicine, University of Oslo
- Martine Z. Espeland defended her Master Thesis entitled: "Nicotinamide phosphoribosyltransferase in macrophage polarization – A possible role in atherosclerosis" in June 2013, Faculty of Medicine, University of Oslo

Research group

SECTION OF INFLAMMATORY RESEARCH



Immunological and molecular mechanisms in myocardial remodeling and heart failure

GROUP MEMBERS FEBRUARY 2014

GROUP LEADER:

Arne Yndestad MSc. Pharm, PhD

RESEARCHERS:

Alexandra V. Finsen MD, PhD

Trine Ranheim PhD

Leif Erik Vinge MD, PhD

POST DOC:

Mieke Louwe PhD

PHD STUDENTS:

Linn E. Fosshaug MD

Yangchen Dhondup Holmen MD

Ingrid Kristine Ohm MSc.Pharm

Maria Belland Olsen MSc

Bjørn Edvard Seim MD

Marina Sokolova MD

ENGINEERS:

Azita Rashidi BSc

Katrine Alfsnes MSc

MEDICAL STUDENT:

Ståle Haugset Nymo

RESEARCH ASSISTANT:

Jonas Øgaard

ASSOCIATED RESEARCHERS:

Christen P. Dahl MD, PhD

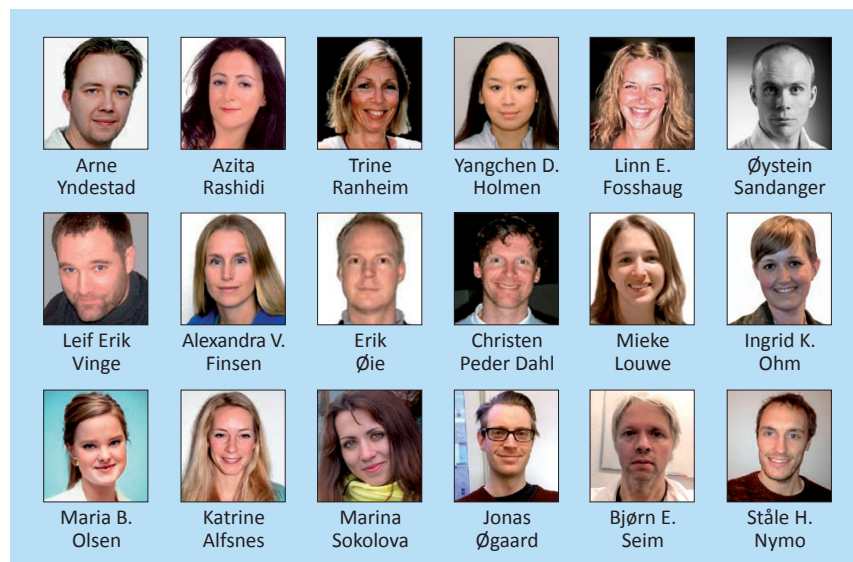
Øystein Sandanger MD, PhD

Erik Øie MD, PhD

RESEARCH PROFILE

Our group works on uncovering novel mechanisms involved in the response to myocardial infarction and the development of heart failure (HF), with the objective to form the basis for new treatment modalities as well as for the identification of new biomarkers in this disorder.

HF is defined as a clinical syndrome characterized by dyspnea and fatigue, at rest or with exertion due to impaired structure and/or function of the heart. HF represents a major cause of cardiovascular and also total



morbidity and mortality in the western hemisphere. The incidence and prevalence of this disorder is rising and it is estimated that HF affects 1–3% of the population. Moreover, the prognosis is poor. Due to the high prevalence and morbidity, HF also represents a major and increasing socioeconomic burden. Thus, there is an obvious need for new treatment options for this patient group.

The development of HF is characterized by several cellular and molecular processes, referred to as remodeling, leading to important changes in myocardial structure and function. These changes include cardiomyocyte hypertrophy, increased ventricular volume due to dilation of the ventricular cavity, regression to a fetal phenotype characterized by expression of fetal genes and proteins, enhanced apoptosis, as well as the development of fibrosis involving changes in the quantity and quality of the extracellular matrix. Initially the ventricular remodeling is thought to be adaptive and accommodates the increased myocardial wall stress. However, over

time, this process turns maladaptive, leading to a progressive decrease in myocardial function.

Our research include experimental in vivo studies in different animal models of HF, in vitro studies in primary isolated cardiac myocytes, fibroblasts and macrophages, as well as clinical studies in well characterized patients with heart failure, examining samples from peripheral blood as well as tissue samples from the failing myocardium.

RESEARCH FOCUS

Currently, our research focus is divided in three:

1. Innate immune responses in cardiac injury and heart failure development
2. Oxidative DNA damage repair and stem/progenitor cell proliferation in the pathogenesis of heart failure
3. Pathogenic role of adipose tissue and fatty acids in heart failure

Research group

SECTION OF INFLAMMATORY RESEARCH



Immunopathogenetic mechanisms in immunodeficiency and infectious disorders

GROUP MEMBERS

GROUP LEADER:

Børre Fevang Ass professor

POST DOC:

Kari Otterdal Researcher

PHD STUDENTS:

Elisabeth Astrup

Jan Cato Holter

Silje Jørgensen

ASSOCIATED MEMBERS:

Stig S Frøland Professor emeritus

Ingvild Nordøy Senior consultant, researcher

Kristine Lillebø Holm PhD student

Eli Taraldsrud PhD student

RESEARCH PROFILE

The research group focus on immunopathogenesis in primary and secondary immunodeficiency such as Common variable immunodeficiency (CVID) and HIV and selected infectious diseases, in particular the study of chronic inflammation characterising these disorders. The aim is to improve the understanding of disease mechanisms and to discover new targets for therapeutic intervention. The group works in a translational setting combining close contact to the clinic, in particular Section of Clinical Immunology and Infectious Diseases at OUS, with access to a wide range of immunological methods through extensive collaboration with other groups.

Chronic inflammation is a common feature of both immunodeficiencies and many infectious disorders. While inflammation is vital to the clearance of both invading microbes and potentially malignant cells a continued or exaggerated response will further compromise the patients health. Identifying the factors leading to



such an exaggerated response will potentially enable clinicians to modify the inflammatory response of the single patient with agents targeting anything from intracellular signalling pathways to intercellular cytokine networks and microbiota.

RESEARCH PROJECTS

The group is currently working with several projects, including:

- Immunopathogenetic mechanisms in infection with Rickettsia species. Infections with the vector borne intracellular bacteria Rickettsia conorii and Orientia tsutsugamishu lead to vasculitis and multi-system disease. The project studies the interplay between host and microbe through the Wnt system and chemokine signalling in collaboration with partners in India, France and USA.
- Community-acquired pneumonia: A prospective observational study to explore etiology, risk factors and potential novel predictors of severe course and mortality. In close cooperation with Vestre Viken HA and Drammen Hospital the project applies new diagnostic methods to assess etiology and risk factors for severe course and mortality of pneumonia.
- Immunopathogenetic mechanisms in CVID – a disease model for auto-

immunity and persistent inflammation. In close collaboration with Johannes Hov's and Espen Melum's groups at our institute this project will use CVID as a model disease to study potentially novel aspects of autoimmune and autoinflammatory disorders in more general terms, in particular for the study of the interaction between gut microbiota and local (intestinal) and systemic inflammation. The project also includes a genome wide association study on CVID through an international network of clinical immunologists.

- The role of vitamin A in regulation of B cell immunology: Implications for patients with CVID. In close collaboration with Heidi Kiil Blomhoff's group at Institute for medical basic science this project aims to look at the modulating effect of vitamin A on TLR9 stimulation of B cells, both in respect to chromosomal instability and proliferation.
- New diagnostic tools to unravel the dysfunctional cell communication in CVID. In close collaboration with Johanna Olweus' group at Institute of Cancer Research this project will strengthen the diagnosis of CVID through shedding light on intracellular signaling pathways of potential importance in B-, T- and dendritic (DC) cells.

Research group

SECTION OF INFLAMMATORY RESEARCH



Inflammatory biomarkers in cardiovascular and metabolic disease



Thor Ueland



Annika Michelsen



Tove Lekva



Aurelija Abraityte



Fizza Kanwal Arain

GROUP MEMBERS

GROUP LEADER:
Thor Ueland Scientist

RESEARCHERS:
Annika Michelsen

POST DOC:
Tove Lekva

PHD STUDENTS:
Aurelija Abraityte

MEDICAL STUDENT:
Fizza Kanwal Arain

RESEARCH PROFILE

Many disease states are associated with low-grade chronic inflammation that may result in detectable changes in inflammatory proteins that can be measured in biological fluid such as serum and plasma, making them valuable biomarkers. Measurement of these biomarkers may be therefore be useful for detecting diseases before they present and/or offer information on the mechanisms of disease, they may represent treatment targets or be helpful in evaluating treatment responses and predicting outcomes.

Our research focuses on measurement and use of inflammatory markers in different populations characterized by low-grade systemic inflammation focusing on cardiovascular disease and risk, neuropsychiatric disorders, and metabolic endocrine disease.

We have a close collaboration with the department of cardiology and analyzing inflammatory markers in blood and tissue in well characterized cross-sectional cohorts and clinical trials in patients with heart failure, acute coronary syndromes and aortic stenosis. In these studies we evaluate biomarkers, reflecting a wide range of inflammatory processes, as predictors of adverse outcome and treatment responses. A focus in these studies is investigating the impact of Wnt signaling and secreted Wnt antagonist in these conditions.

We have a close collaboration with the endocrine unit, analyzing inflammatory markers in patients characterized by growth hormone deficiency (GHD) and excess (acromegaly) as well as glucocorticoid excess (Cushing syndrome). We also have a tight collaboration with the women and

children center evaluating the impact of systemic inflammation in pregnancy on future cardiovascular and metabolic risk. These studies investigate the association between hormones and inflammatory mediators and impact on metabolic disturbances in different target tissues such as adipose tissue and bone with special focus on glucose metabolism.

We have a tight collaboration with the Psychosis Research Centre Thematically Organized Psychosis Research (TOP) group, analyzing inflammatory biomarkers in patients with schizophrenia and bipolar disorder. In these studies we focus on markers in serum/plasma as well as mRNA levels in circulating immune cells that may reflect neuroinflammation and further, investigate associations with immune-related candidate risk genes within the major histocompatibility complex, identified by genome-wide association studies (GWAS).

In addition, we have strong collaborations with other clinical research, national and international.



Research group

SECTION OF MOLECULAR HEPATOLOGY



Genomics and metagenomics in inflammatory disorders



Johannes E.
Roksund Hov



Trine
Folseraas



Sigrid
Næss



Martin
Kummen



Kristian
Holm



Marius
Trøseid

GROUP MEMBERS

GROUP LEADER:

Johannes E. Roksund Hov MD, PhD

PHD STUDENTS:

Trine Folseraas

Sigrid Næss

Martin Kummen

BIOINFORMATICIAN:

Kristian Holm

ASSOCIATED MEMBERS:

Marius Trøseid Postdoc

Silje Jørgensen PhD student

RESEARCH PROFILE:

The projects in the genomics and metagenomics group aim to characterize and understand how alterations in the human genome and the gut microbial flora influence disease, in particular the susceptibility to primary sclerosing cholangitis (PSC) and cholangiocarcinoma, but also to other inflammatory phenotypes. We do this by applying modern genotyping and sequencing technologies in cross-sectional and interventional study design.

Genetic factors play a role in most inflammatory diseases. By studying disease genes and their function, the mechanisms by which PSC develop

and eventually may be treated can be defined. Since many of the patients with PSC have concurrent inflammatory diseases (mainly inflammatory bowel disease, but also prototypical autoimmune diseases like type 1 diabetes and rheumatoid arthritis), these diseases are studied in parallel.

The gut microbiota is an important human organ comprising ten times more cells than the body itself, and likely plays a major role in human disease. Ongoing studies aim to characterize how the gut microbial community composition in patients with PSC or other inflammatory phenotypes interacts with immune regulation, bile acid metabolism and drugs.

An important part of the activities is the standardization of methods related to key challenges in the field; study designs, sample collection and preparation, sequencing technology and bioinformatics.

Lifetime risk of cancer of the bile ducts in patients with PSC is 10–20%. Few inflammatory conditions have an equally high risk of cancer development, and determining the genetic and epigenetic alterations responsible for this is of great importance. In addition to understanding the pathogenesis of cholangiocarcinoma, cancer genetics and epigenetics may serve as diagnostic and prognostic markers.



PHOTO: Øystein H. Høigmo, University of Oslo

Research group

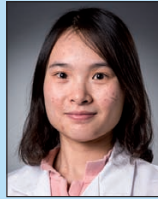
SECTION OF MOLECULAR HEPATOLOGY



The experimental liver research group



Espen Melum



Xiaojun Jiang



Elisabeth Schrumpf



Natalie L. Berntsen



Eva K. K. Henriksen



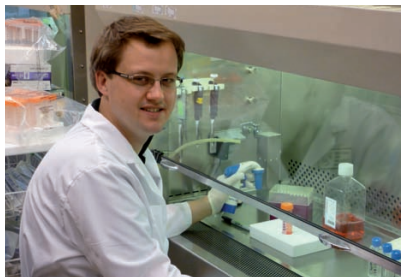
Corey Tan



Jarl A. Anmarkrud



Kristian Alfsnes



GROUP MEMBERS

GROUP LEADER:
Espen Melum MD, PhD

POST DOC:
Xiaojun Jiang PhD

PHD STUDENTS:
Elisabeth Schrumpf MD
Natalie L. Berntsen MD
Eva Kristine Klemsdal Henriksen MSc

RESEARCH ASSISTANT:
Corey Tan BSc

LAB MANAGER:
Jarl Andreas Anmarkrud PhD
(temporary on leave)
Kristian Alfsnes PhD

RESEARCH PROFILE

The experimental liver research group was formed in June 2013 with three members from the Norwegian PSC research center. During of 2013 we have been through a build-up period and have recruited several talented colleagues. Currently the group consists of the group leader, one post-doc, three PhD students, one scientific assistant and a lab manager. The group still remains an integral part of the Norwegian PSC research center, but is a separate group at the Research Institute for Internal medicine.

The main aim of our research is to understand mechanisms regulating cholangitis, which potentially can lead to understanding of the pathology, and identification of novel treatment targets for the chronic bile duct disease primary sclerosing cholangitis (PSC). We do this by using in vivo mouse models of cholangitis development along with genetically modified mice, so called knockout mice that are

missing central molecules involved in the immune response. The mouse models used are immune driven and inspired by the fact that most genes associated with PSC are involved in the immune response. One of our models is a mouse strain that spontaneously develops cholangitis while in another model we induce cholangitis through microsurgery. To specifically address the role of an associated PSC gene we use tissue from knockout mice for expression profiling.

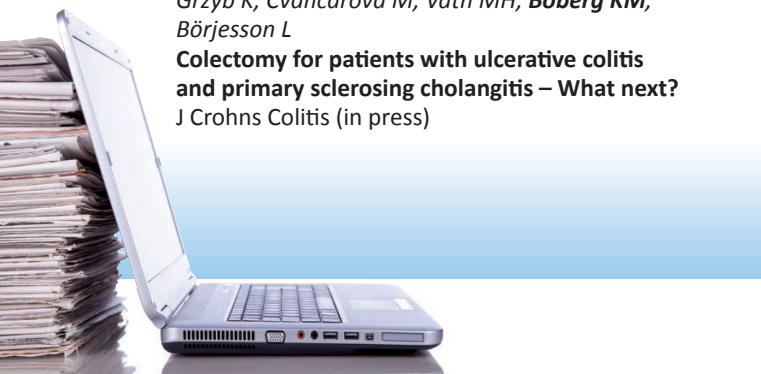
To complement the in vivo studies we are also using selected in vitro cellular models to study the role of various cell types in the liver and bile duct immune responses. A special emphasis in our studies is natural killer T-cells, an abundant population of lymphocytes in the liver with regulatory properties. Several ongoing studies aim to clarify the role of these cells in cholangitis development. Along with the cholangitis-centered studies we perform basic studies related to activation and development of NKT-cells.

Publications

from The Research Institute of Internal Medicine

PUBLICATIONS IN PRESS

1. *Gravning J, Askevold ET, Nymo SH, Ueland T, Wikstrand J, McMurray JJ, Aukrust P, Gullestad L, Kjekshus J*
Prognostic Impact of High-sensitive Troponin T Assessment in Elderly Patients with Chronic Heart Failure: Results from the CORONA Trial
Circ Heart Fail (in press)
2. *Tran HT, Sørensen B, Rea CJ, Bjørnsen S, Ueland T, Pripp AH, Tjønnfjord GE, Holme PA*
Tranexamic acid as adjunct therapy to bypassing agents in haemophilia A patients with inhibitors
Haemophilia (in press)
3. *Nenseter MS, Aukrust P, Ose L, Holven KB*
Low level of inflammatory marker in hyperhomocysteinemic patients on statin therapy
Scand J Clin Lab Invest (in press)
4. *Taraldsrud E, Fevang B, Aukrust P, Beiske KH, Fløisand Y, Frøland S, Rollag H, Olweus J*
Common variable immunodeficiency revisited: normal generation of naturally occurring dendritic cells that respond to toll-like receptors 7 and 9
Clin Exp Immunol (in press)
5. *Manhenke C, Ueland T, Jugdutt BI, Godang K, Aukrust P, Dickstein K, Orn S*
The relationship between markers of extracellular cardiac matrix turnover: infarct healing and left ventricular remodelling following primary PCI in patients with first-time STEMI
Eur Heart J (in press)
6. *Ueland T, Rollag H, Hartmann A, Jardine AG, Humar A, Michelsen AE, Bignamini AA, Asberg A, Aukrust P*
Secreted Wnt Antagonists During Eradication of Cytomegalovirus Infection in Solid Organ Transplant Recipients
Am J Transplant (in press)
7. *Block M, Jørgensen KK, Oresland T, Lindholm E, Grzyb K, Cvanarova M, Vatn MH, Boberg KM, Börjesson L*
Colectomy for patients with ulcerative colitis and primary sclerosing cholangitis – What next?
J Crohns Colitis (in press)
8. *Wium C, Aasheim ET, Ueland T, Michelsen AE, Thorsby PM, Larsen IF, Torjesen PA, Aukrust P, Birkeland KI*
Differences in insulin sensitivity, lipid metabolism and inflammation between young adult Pakistani and Norwegian patients with type 2 diabetes: a cross sectional study
BMC Endocr Disord, 13 (1), 49 (in press)
9. *Loca D, Sevostjanovs E, Makrecka M, Zharkova-Malkova O, Berzina-Cimdina L, Tupureina V, Sokolova M*
Microencapsulation of mildronate in bio-degradable and non-biodegradable polymers
J Microencapsul (in press)
10. *Westberg M, Paus AC, Holme PA, Tjønnfjord GE*
Haemophilic arthropathy: Long-term outcomes in 107 primary total knee arthroplasties
Knee (in press)
11. *Andersen IM, Tengedal G, Lie BA, Boberg KM, Karlsen TH, Hov JR*
Effects of Coffee Consumption, Smoking, and Hormones on Risk for Primary Sclerosing Cholangitis
Clin Gastroenterol Hepatol (in press)
12. *Tran HT, Tjønnfjord GE, Holme PA*
Use of thromboelastography and thrombin generation assay to predict clinical phenotype in patients with severe FVII deficiency
Haemophilia (in press)
13. *Nymo SH, Hulthe J, Ueland T, McMurray J, Wikstrand J, Askevold ET, Yndestad A, Gullestad L, Aukrust P*
Inflammatory cytokines in chronic heart failure: interleukin-8 is associated with adverse outcome. Results from CORONA
Eur J Heart Fail (in press)
14. *Iversen PO, Negaard H, Ostenstad B, Sandset PM, Kolset SO*
Evidence for long-term hypercoagulopathy, but normalization of markers of extracellular matrix turnover, in patients with non-Hodgkin lymphoma
Leuk Lymphoma (in press)
15. *Sahraoui A, Jensen KK, Ueland T, Korsgren O, Foss A, Scholz H*
Anakinra and tocilizumab enhance survival and function of human islets during culture: implications for clinical islet transplantation
Cell Transplant (in press)



PUBLICATIONS 2013

1. *Vik R, Busnelli M, Parolini C, Bjørndal B, Holm S, Bohov P, Halvorsen B, Brattelid T, Manzini S, Ganzetti GS, Delleria F, Nygård OK, Aukrust P, Sirtori CR, Chiesa G, Berge RK (2013) An Immunomodulating Fatty Acid Analogue Targeting Mitochondria Exerts Anti-Atherosclerotic Effect beyond Plasma Cholesterol-Lowering Activity in apoE(-/-) Mice* PLoS One, 8 (12), e81963
2. *Wannhoff A, Hov JR, Folseraas T, Rupp C, Friedrich K, Anmarkrud JA, Weiss KH, Sauer P, Schirmacher P, Boberg KM, Stremmel W, Karlsen TH, Gotthardt DN (2013) FUT2 and FUT3 genotype determines CA19-9 cut-off values for detection of cholangiocarcinoma in patients with primary sclerosing cholangitis* J Hepatol, 59 (6), 1278-84
3. *Holven KB, Retterstøl K, Ueland T, Ulven SM, Nenseter MS, Sandvik M, Narverud I, Berge KE, Ose L, Aukrust P, Halvorsen B (2013) Subjects with Low Plasma HDL Cholesterol Levels Are Characterized by an Inflammatory and Oxidative Phenotype* PLoS One, 8 (11), e78241
4. *Hirschfield GM, Karlsen TH, Lindor KD, Adams DH (2013) Primary sclerosing cholangitis* Lancet, 382 (9904), 1587-99
5. *Nytrøen K, Rustad LA, Erikstad I, Aukrust P, Ueland T, Lekva T, Gude E, Wilhelmsen N, Hervold A, Aakhus S, Gullestad L, Arora S (2013) Effect of high-intensity interval training on progression of cardiac allograft vasculopathy* J Heart Lung Transplant, 32 (11), 1073-80
6. *Holm A, Nilsson BO (2013) Identification and characterization of new mechanisms in vascular oestrogen signalling* Basic Clin Pharmacol Toxicol, 113 (5), 287-93
7. *Holm A, Jæger MM, Karlson KB, Reimer D (2013) Incomplete equalization: The effect of tracking in secondary education on educational inequality* Soc Sci Res, 42 (6), 1431-42
8. *Tuttøren AE, Holm A, Fleckenstein B (2013) Specific biotinylation and sensitive enrichment of citrullinated peptides* Anal Bioanal Chem, 405 (29), 9321-31
9. *Casar-Borota O, Heck A, Schulz S, Nesland JM, Ramm-Petersen J, Lekva T, Alafuzoff I, Bollerslev J (2013) Expression of SSTR2a, but not of SSTRs 1, 3, or 5 in Somatotroph Adenomas Assessed by Monoclonal Antibodies Was Reduced by Octreotide and Correlated With the Acute and Long-Term Effects of Octreotide* J Clin Endocrinol Metab, 98 (11), E1730-9
10. *Janardhanan J, Joseph Martin S, Astrup E, Veeramaniandan R, Aukrust P, Abraham OC, Varghese GM (2013) Single-nucleotide polymorphisms in Toll-like receptor (TLR)-2, TLR4 and heat shock protein 70 genes and susceptibility to scrub typhus* J Hum Genet, 58 (11), 707-10
11. *Gravensteen IK, Helgadóttir LB, Jacobsen EM, Rådestad I, Sandset PM, Ekeberg O (2013) Women's experiences in relation to stillbirth and risk factors for long-term post-traumatic stress symptoms: a retrospective study* BMJ Open, 3 (10), e003323
12. *Sandset PM (2013) Genotype of proband and thrombophilia screening* Blood, 122 (15), 2528-9
13. *Forte A, Grossi M, Turczynska KM, Svedberg K, Rinaldi B, Donniacuo M, Holm A, Baldetorp B, Vicchio M, De Feo M, Santè P, Galderisi U, Berrino L, Rossi F, Hellstrand P, Nilsson BO, Cipollaro M (2013) Local inhibition of ornithine decarboxylase reduces vascular stenosis in a murine model of carotid injury* Int J Cardiol, 168 (4), 3370-80
14. *Dahl CP, Aukrust P, Nymo SH, Kjekshus J, Cleland JG, McMurray JJ, Wikstrand J, Gullestad L, Ueland T (2013) Prognostic value of CXCL16 in patients with left ventricular systolic dysfunction and heart failure* Int J Cardiol, 168 (4), 4427-9
15. *Bobicev V, Sokolova M, El Emam K, Jafer Y, Dewar B, Jonker E, Matwin S (2013) Can anonymous posters on medical forums be reidentified?* J Med Internet Res, 15 (10), e215



PHOTO: Øystein H. Hørgmo, University of Oslo

16. **Holm A, Hellstrand P, Olde B, Svensson D, Leeb-Lundberg LM, Nilsson BO (2013)**
The G protein-coupled estrogen receptor 1 (GPER1/GPR30) agonist G-1 regulates vascular smooth muscle cell Ca²⁺ handling
J Vasc Res, 50 (5), 421-9
17. **Indrevær RL, Holm KL, Aukrust P, Osnes LT, Naderi EH, Fevang B, Blomhoff HK (2013)**
Retinoic acid improves defective TLR9/RP105-induced immune responses in common variable immunodeficiency-derived B cells
J Immunol, 191 (7), 3624-33
18. **Boberg KM, Wisløff T, Kjøllesdal KS, Støvring H, Kristiansen IS (2013)**
Cost and health consequences of treatment of primary biliary cirrhosis with ursodeoxycholic acid
Aliment Pharmacol Ther, 38 (7), 794-803
19. **Cui XY, Skretting G, Jing Y, Sun H, Sandset PM, Sun L (2013)**
Hypoxia influences stem cell-like properties in multi-drug resistant K562 leukemic cells
Blood Cells Mol Dis, 51 (3), 177-84
20. **Mells GF, Kaser A, Karlsen TH (2013)**
Novel insights into autoimmune liver diseases provided by genome-wide association studies
J Autoimmun, 46, 41-54
21. **Ghanima W, Atar D, Sandset PM (2013)**
New oral anticoagulants – a review
Tidsskr Nor Laegeforen, 133 (18), 1940-5
22. **Gullestad L, Orn S, Dickstein K, Eek C, Edvardsen T, Aakhus S, Askevold ET, Michelsen A, Bendz B, Skårdal R, Smith HJ, Yndestad A, Ueland T, Aukrust P (2013)**
Intravenous immunoglobulin does not reduce left ventricular remodeling in patients with myocardial dysfunction during hospitalization after acute myocardial infarction
Int J Cardiol, 168 (1), 212-8
23. **Holmøy T, Løken-Amsrud KI, Bakke SJ, Beiske AG, Bjerve KS, Hovdal H, Lilleås F, Midgard R, Pedersen T, Saltytė Benth J, Torkildsen O, Wergeland S, Myhr KM, Michelsen AE, Aukrust P, Ueland T (2013)**
Inflammation markers in multiple sclerosis: CXCL16 reflects and may also predict disease activity
PLoS One, 8 (9), e75021
24. **Enden T, Kløw NE, Sandset PM (2013)**
Symptom burden and job absenteeism after treatment with additional catheter-directed thrombolysis for deep vein thrombosis
Patient Relat Outcome Meas, 4, 55-9
25. **Dahm A (2013)**
[In Process Citation]
Tidsskr Nor Laegeforen, 133 (16), 1687
26. **Ueland T, Svandal A, Øie E, Askevold ET, Nymoer SH, Bjørndal B, Dahl CP, Gullestad L, Berge RK, Aukrust P (2013)**
Disturbed carnitine regulation in chronic heart failure – increased plasma levels of palmitoyl-carnitine are associated with poor prognosis
Int J Cardiol, 167 (5), 1892-9
27. **Ellinghaus D, Folseraas T, Holm K, Ellinghaus E, Melum E, Balschun T, Laerdahl JK, Shiryayev A, Gotthardt DN, Weismüller TJ, Schramm C, Wittig M, Bergquist A, Björnsson E, Marschall HU, Vatn M, Teufel A, Rust C, Gieger C, Wichmann HE, Runz H, Sterneck M, Rupp C, Braun F, Weersma RK et al. (2013)**
Genome-wide association analysis in Primary sclerosing cholangitis and ulcerative colitis identifies risk loci at GPR35 and TCF4
Hepatology, 58 (3), 1074-83
28. **Almaas VM, Haugaa KH, Strøm EH, Scott H, Dahl CP, Leren TP, Geiran OR, Endresen K, Edvardsen T, Aakhus S, Amlie JP (2013)**
Increased amount of interstitial fibrosis predicts ventricular arrhythmias, and is associated with reduced myocardial septal function in patients with obstructive hypertrophic cardiomyopathy
Europace, 15 (9), 1319-27
29. **Gregersen S, Holm AM, Fevang B, Ueland T, Sikkeland LI, Aaløkken TM, Mynarek G, Kongerud J, Aukrust P, Johansen B, Frøland SS (2013)**
Lung disease, T-cells and inflammation in common variable immunodeficiency disorders
Scand J Clin Lab Invest, 73 (6), 514-22
30. **Hollan I, Nebuloni M, Bottazzi B, Mikkelsen K, Førre OT, Almdahl SM, Mantovani A, Fagerland MW, Aukrust P, Meroni PL, Feiring Heart Biopsy Study Group (2013)**
Pentraxin 3, a novel cardiovascular biomarker, is expressed in aortic specimens of patients with coronary artery disease with and without rheumatoid arthritis
Cardiovasc Pathol, 22 (5), 324-31
31. **Lekva T, Berg JP, Lyle R, Heck A, Ringstad G, Olstad OK, Michelsen AE, Casar-Borota O, Bollerslev J, Ueland T (2013)**
Epithelial splicing regulator protein 1 and alternative splicing in somatotroph adenomas
Endocrinology, 154 (9), 3331-43
32. **Karlsen TH, Boberg KM (2013)**
Update on primary sclerosing cholangitis
J Hepatol, 59 (3), 571-82
33. **Ofstad AP, Gullestad L, Orvik E, Aakhus S, Endresen K, Ueland T, Aukrust P, Fagerland MW, Birkeland KI, Johansen OE (2013)**
Interleukin-6 and activin A are independently associated with cardiovascular events and mortality in type 2 diabetes: the prospective Asker and Bærum Cardiovascular Diabetes (ABCD) cohort study
Cardiovasc Diabetol, 12 (1), 126

34. **Enden T, Wik HS, Kvam AK, Haig Y, Kløw NE, Sandset PM (2013)**
Health-related quality of life after catheter-directed thrombolysis for deep vein thrombosis: secondary outcomes of the randomised, non-blinded, parallel-group CaVenT study
BMJ Open, 3 (8), e002984
35. **Gregersen I, Skjelland M, Holm S, Holven KB, Krogh-Sørensen K, Russell D, Askevold ET, Dahl CP, Ørn S, Gullestad L, Mollnes TE, Ueland T, Aukrust P, Halvorsen B (2013)**
Increased systemic and local interleukin 9 levels in patients with carotid and coronary atherosclerosis
PLoS One, 8 (8), e72769
36. **Aamodt AH, Sandset PM, Atar D, Tveit A, Russell D (2013)**
[Atrial fibrillation and stroke]
Tidsskr Nor Laegeforen, 133 (14), 1453-7
37. **Ellinghaus D, Zhang H, Zeissig S, Lipinski S, Till A, Jiang T, Stade B, Bromberg Y, Ellinghaus E, Keller A, Rivas MA, Skieceviciene J, Doncheva NT, Liu X, Liu Q, Jiang F, Forster M, Mayr G, Albrecht M, Häsler R, Boehm BO, Goodall J, Berzuini CR, Lee J, Andersen V et al. (2013)**
Association between variants of PRDM1 and NDP52 and Crohn's disease, based on exome sequencing and functional studies
Gastroenterology, 145 (2), 339-47
38. **Kummen M, Schruppf E, Boberg KM (2013)**
Liver abnormalities in bowel diseases
Best Pract Res Clin Gastroenterol, 27 (4), 531-42
39. **Sandanger Ø, Ranheim T, Vinge LE, Bliksøen M, Alfnes K, Finsen AV, Dahl CP, Askevold ET, Florholmen G, Christensen G, Fitzgerald KA, Lien E, Valen G, Espevik T, Aukrust P, Yndestad A (2013)**
The NLRP3 inflammasome is up-regulated in cardiac fibroblasts and mediates myocardial ischaemia-reperfusion injury
Cardiovasc Res, 99 (1), 164-74
40. **Telle-Hansen VH, Halvorsen B, Dalen KT, Narverud I, Wesseltoft-Rao N, Granlund L, Ulven SM, Holven KB (2013)**
Altered expression of genes involved in lipid metabolism in obese subjects with unfavourable phenotype
Genes Nutr, 8 (4), 425-34
41. **Lindström L, Hultcrantz R, Boberg KM, Friis-Liby I, Bergquist A (2013)**
Association between reduced levels of alkaline phosphatase and survival times of patients with primary sclerosing cholangitis
Clin Gastroenterol Hepatol, 11 (7), 841-6
42. **Manhenke C, Ørn S, von Haehling S, Wollert KC, Ueland T, Aukrust P, Voors AA, Squire I, Zannad F, Anker SD, Dickstein K (2013)**
Clustering of 37 circulating biomarkers by exploratory factor analysis in patients following complicated acute myocardial infarction
Int J Cardiol, 166 (3), 729-35
43. **Ueland T, Nymo SH, Latini R, McMurray JJ, Kjekshus J, Yndestad A, Fucili A, Grosu A, Masson S, Maggioni AP, Gullestad L, Aukrust P, Investigators of the Controlled Rosuvastatin Multinational Study in Heart Failure (CORONA) trial, Investigators of the GISSI-Heart Failure (GISSI-HF) trial (2013)**
CCL21 is associated with fatal outcomes in chronic heart failure: data from CORONA and GISSI-HF trials
Eur J Heart Fail, 15 (7), 747-55
44. **Sandanger Ø, Ranheim T, Vinge LE, Bliksøen M, Valen G, Aukrust P, Yndestad A (2013)**
A role for NLRP3 inflammasome in acute myocardial ischaemia-reperfusion injury? Reply
Cardiovasc Res, 99 (1), 226-7
45. **Lekva T, Berg JP, Heck A, Lyngvi Fougner S, Olstad OK, Ringstad G, Bollerslev J, Ueland T (2013)**
Attenuated RORC expression in the presence of EMT progression in somatotroph adenomas following treatment with somatostatin analogs is associated with poor clinical recovery
PLoS One, 8 (6), e66927
46. **Dahm AE (2013)**
[Estrogen supplements and research paradigms]
Tidsskr Nor Laegeforen, 133 (11), 1210-2
47. **Wik HS, Jacobsen AF, Fagerland MW, Sandvik L, Sandset PM (2013)**
Long-term mortality and incidence of cancer after pregnancy-related venous thrombosis: results of a population-based cohort study
Thromb Res, 131 (6), 497-501
48. **Larsen AI, Lindal S, Myreng K, Ogne C, Kvaløy JT, Munk PS, Aukrust P, Yndestad A, Dickstein K, Nilsen DW (2013)**
Cardiac resynchronization therapy improves minute ventilation/carbon dioxide production slope and skeletal muscle capillary density without reversal of skeletal muscle pathology or inflammation
Europace, 15 (6), 857-64
49. **Liu JZ, Hov JR, Folseraas T, Ellinghaus E, Rushbrook SM, Doncheva NT, Andreassen OA, Weersma RK, Weismüller TJ, Eksteen B, Invernizzi P, Hirschfield GM, Gotthardt DN, Pares A, Ellinghaus D, Shah T, Juran BD, Milkiewicz P, Rust C, Schramm C, Müller T, Srivastava B, Dalekos G, Nöthen MM, Herms S et al. (2013)**
Dense genotyping of immune-related disease regions identifies nine new risk loci for primary sclerosing cholangitis
Nat Genet, 45 (6), 670-5
50. **Hirschfield GM, Chapman RW, Karlsten TH, Lammert F, Lazaridis KN, Mason AL (2013)**
The genetics of complex cholestatic disorders
Gastroenterology, 144 (7), 1357-74

51. *Wangensteen T, Retterstøl L, Rødningen OK, Hjelmessaeth J, Aukrust P, Halvorsen B (2013)*
De novo 19p13.2 microdeletion encompassing the insulin receptor and resistin genes in a patient with obesity and learning disability
Am J Med Genet A, 161 (6), 1480-6
52. *Lekva T, Bollerslev J, Sahraoui A, Scholz H, Bøyum H, Evang JA, Godang K, Aukrust P, Ueland T (2013)*
Thioredoxin interacting protein is a potential regulator of glucose and energy homeostasis in endogenous Cushing's syndrome
PLoS One, 8 (5), e64247
53. *Jørgensen KK, Lindström L, Cvancharova M, Karlsen TH, Castedal M, Friman S, Schrupf E, Foss A, Isoniemi H, Nordin A, Holte K, Rasmussen A, Bergquist A, Vatn MH, Boberg KM (2013)*
Immunosuppression after liver transplantation for primary sclerosing cholangitis influences activity of inflammatory bowel disease
Clin Gastroenterol Hepatol, 11 (5), 517-23
54. *Nebel D, Arvidsson J, Lillqvist J, Holm A, Nilsson BO (2013)*
Differential effects of LPS from Escherichia coli and Porphyromonas gingivalis on IL-6 production in human periodontal ligament cells
Acta Odontol Scand, 71 (3-4), 892-8
55. *Hamre H, Zeller B, Kanellopoulos A, Ruud E, Fosså SD, Loge JH, Aukrust P, Halvorsen B, Mollnes TE, Kiserud CE (2013)*
Serum cytokines and chronic fatigue in adults surviving after childhood leukemia and lymphoma
Brain Behav Immun, 30, 80-7
56. *Engebreetsen KV, Lunde IG, Strand ME, Waehre A, Sjaastad I, Marstein HS, Skrbic B, Dahl CP, Askevold ET, Christensen G, Bjørnstad JL, Tønnessen T (2013)*
Lumican is increased in experimental and clinical heart failure, and its production by cardiac fibroblasts is induced by mechanical and proinflammatory stimuli
FEBS J, 280 (10), 2382-98
57. *Brottveit M, Beitnes AC, Tollefsen S, Bratlie JE, Jahnsen FL, Johansen FE, Sollid LM, Lundin KE (2013)*
Mucosal cytokine response after short-term gluten challenge in celiac disease and non-celiac gluten sensitivity
Am J Gastroenterol, 108 (5), 842-50
58. *Hagness M, Foss A, Line PD, Scholz T, Jørgensen PF, Fosby B, Boberg KM, Mathisen O, Gladhaug IP, Egge TS, Solberg S, Hausken J, Dueland S (2013)*
Liver transplantation for nonresectable liver metastases from colorectal cancer
Ann Surg, 257 (5), 800-6
59. *Strand ME, Herum KM, Rana ZA, Skrbic B, Askevold ET, Dahl CP, Vistnes M, Hasic A, Kvaløy H, Sjaastad I, Carlson CR, Tønnessen T, Gullestad L, Christensen G, Lunde IG (2013)*
Innate immune signaling induces expression and shedding of the heparan sulfate proteoglycan syndecan-4 in cardiac fibroblasts and myocytes, affecting inflammation in the pressure-overloaded heart
FEBS J, 280 (10), 2228-47
60. *Prohászka Z, Munthe-Fog L, Ueland T, Gombos T, Yndestad A, Föhrhéc Z, Skjoedt MO, Pozsonyi Z, Gustavsen A, Jánoskúti L, Karádi I, Gullestad L, Dahl CP, Askevold ET, Füst G, Aukrust P, Mollnes TE, Garred P (2013)*
Association of ficolin-3 with severity and outcome of chronic heart failure
PLoS One, 8 (4), e60976
61. *Rollag H, Ueland T, Asberg A, Hartmann A, Jardine AG, Humar A, Pescovitz MD, Bignamini AA, Aukrust P (2013)*
Characterization of cytomegalovirus disease in solid organ transplant recipients by markers of inflammation in plasma
PLoS One, 8 (4), e60767
62. *Hope S, Ueland T, Steen NE, Dieset I, Lorentzen S, Berg AO, Agartz I, Aukrust P, Andreassen OA (2013)*
Interleukin 1 receptor antagonist and soluble tumor necrosis factor receptor 1 are associated with general severity and psychotic symptoms in schizophrenia and bipolar disorder
Schizophr Res, 145 (1-3), 36-42
63. *Engebreetsen KV, Waehre A, Bjørnstad JL, Skrbic B, Sjaastad I, Behmen D, Marstein HS, Yndestad A, Aukrust P, Christensen G, Tønnessen T (2013)*
Decorin, lumican, and their GAG chain-synthesizing enzymes are regulated in myocardial remodeling and reverse remodeling in the mouse
J Appl Physiol (1985), 114 (8), 988-97
64. *Friedrich K, Rupp C, Hov JR, Steinebrunner N, Weiss KH, Stiehl A, Brune M, Schaefer PK, Schemmer P, Sauer P, Schirmacher P, Runz H, Karlsen TH, Stremmel W, Gotthardt DN (2013)*
A frequent PNPLA3 variant is a sex specific disease modifier in PSC patients with bile duct stenosis
PLoS One, 8 (3), e58734
65. *van der Velde AR, Gullestad L, Ueland T, Aukrust P, Guo Y, Adourian A, Muntendam P, van Veldhuisen DJ, de Boer RA (2013)*
Prognostic value of changes in galectin-3 levels over time in patients with heart failure: data from CORONA and COACH
Circ Heart Fail, 6 (2), 219-26
66. *Nenseter MS, Narverud I, Græsdal A, Bogsrud MP, Aukrust P, Retterstøl K, Ose L, Halvorsen B, Holven KB (2013)*
Cholesterol efflux mediators in homozygous familial hypercholesterolemia patients on low-density lipoprotein apheresis
J Clin Lipidol, 7 (2), 109-16

67. Shi JH, Liu SZ, Wierød L, Scholz H, **Anmarkrud JA**, Huitfeldt HS, Zhang SJ, Line PD (2013)
RAF-targeted therapy for hepatocellular carcinoma in the regenerating liver
J Surg Oncol, 107 (4), 393-401
68. Säll J, Carlsson M, Gidlöf O, **Holm A**, Humlén J, Ohman J, Svensson D, Nilsson BO, Jönsson D (2013)
The antimicrobial peptide LL-37 alters human osteoblast Ca²⁺ handling and induces Ca²⁺-independent apoptosis
J Innate Immun, 5 (3), 290-300
69. Narverud I, Iversen PO, **Aukrust P**, **Halvorsen B**, **Ueland T**, Johansen SG, **Nenseter MS**, **Sandset PM**, Ulven SM, Ose L, Retterstøl K, Holven KB (2013)
Maternal familial hypercholesterolaemia (FH) confers altered haemostatic profile in offspring with and without FH
Thromb Res, 131 (2), 178-82
70. Øie E, Berge RK, **Ueland T**, **Dahl CP**, Edvardsen T, Beitnes JO, Bohov P, **Aukrust P**, **Yndestad A** (2013)
Tetradecylthioacetic acid increases fat metabolism and improves cardiac function in experimental heart failure
Lipids, 48 (2), 139-54
71. Barrett OP, **Yndestad A**, Marshall AK, Sugden PH, Clerk A (2013)
The early transcriptomic response to interleukin 1 β and interleukin 33 in rat neonatal cardiomyocytes
Cytokine, 61 (2), 340-4
72. Zeissig S, Olszak T, **Melum E**, Blumberg RS (2013)
Analyzing antigen recognition by Natural Killer T cells
Methods Mol Biol, 960, 557-72
73. **Stavik B**, **Tinholt M**, Sletten M, **Skretting G**, **Sandset PM**, Iversen N (2013)
TFPI α and TFPI β are expressed at the surface of breast cancer cells and inhibit TF-FVIIa activity
J Hematol Oncol, 6, 5
74. Forster M, Forster P, Elsharawy A, Hemmrich G, Kreck B, Wittig M, Thomsen I, Stade B, Barann M, Ellinghaus D, Petersen BS, May S, **Melum E**, Schilhabel MB, Keller A, Schreiber S, Rosenstiel P, Franke A (2013)
From next-generation sequencing alignments to accurate comparison and validation of single-nucleotide variants: the pibase software
Nucleic Acids Res, 41 (1), e16
75. Friis CM, Paasche Roland MC, Godang K, **Ueland T**, Tanbo T, Bollerslev J, Henriksen T (2013)
Adiposity-related inflammation: effects of pregnancy
Obesity (Silver Spring), 21 (1), E124-30
76. Narverud I, **Halvorsen B**, **Nenseter MS**, Retterstøl K, **Yndestad A**, **Dahl TB**, Ulven SM, Olstad OK, Ose L, Holven KB, **Aukrust P** (2013)
Oxidized LDL level is related to gene expression of tumour necrosis factor super family members in children and young adults with familial hypercholesterolaemia
J Intern Med, 273 (1), 69-78
77. **Sandset PM** (2013)
Mechanisms of hormonal therapy related thrombosis
Thromb Res, 131 Suppl 1, S4-7
78. Metzger J, Negm AA, Plentz RR, Weismüller TJ, Wedemeyer J, **Karlsen TH**, Dakna M, Mullen W, Mischak H, Manns MP, Lankisch TO (2013)
Urine proteomic analysis differentiates cholangiocarcinoma from primary sclerosing cholangitis and other benign biliary disorders
Gut, 62 (1), 122-30
79. Haig Y, Enden T, Slagsvold CE, Sandvik L, **Sandset PM**, Kløw NE (2013)
Determinants of early and long-term efficacy of catheter-directed thrombolysis in proximal deep vein thrombosis
J Vasc Interv Radiol, 24 (1), 17-24; quiz 26
80. **Nenseter MS**, Narverud I, Græsdal A, Bogsrud MP, Halvorsen B, Ose L, Aukrust P, Holven KB (2013)
Elevated serum MMP-9/TIMP-1 ratio in patients with homozygous familial hypercholesterolemia: effects of LDL-apheresis
Cytokine, 61 (1), 194-8
81. **Askevold ET**, Nymo S, Ueland T, Gravning J, Wergeland R, Kjekshus J, Yndestad A, Cleland JG, McMurray JJ, Aukrust P, Gullestad L (2013)
Soluble glycoprotein 130 predicts fatal outcomes in chronic heart failure: analysis from the Controlled Rosuvastatin Multinational Trial in Heart Failure (CORONA)
Circ Heart Fail, 6 (1), 91-8



PUBLICATIONS 2012

1. **Askevold ET, Gullestad L, Aakhus S, Ranheim T, Tønnessen T, Solberg OG, Aukrust P, Ueland T (2012)**
Secreted Wnt modulators in symptomatic aortic stenosis
J Am Heart Assoc, 1 (6), e002261
2. **Smerud KT, Dolgos S, Olsen IC, Åsberg A, Sagedal S, Reisæter AV, Midtvedt K, Pfeffer P, Ueland T, Godang K, Bollerslev J, Hartmann A (2012)**
A 1-year randomized, double-blind, placebo-controlled study of intravenous ibandronate on bone loss following renal transplantation
Am J Transplant, 12 (12), 3316-25
3. **Dieset I, Djurovic S, Tesli M, Hope S, Matningsdal M, Michelsen A, Joa I, Larsen TK, Agartz I, Melle I, Røssberg JI, Aukrust P, Andreassen OA, Ueland T (2012)**
Up-regulation of NOTCH4 gene expression in bipolar disorder
Am J Psychiatry, 169 (12), 1292-300
4. **Bergrem A, Dahm AE, Jacobsen AF, Sandvik L, Sandset PM (2012)**
Differential haemostatic risk factors for pregnancy-related deep-vein thrombosis and pulmonary embolism: a population-based case-control study
Thromb Haemost, 108 (6), 1165-71
5. **Høgelund J, Holm A, Eplov LF (2012)**
The effect of part-time sick leave for employees with mental disorders
J Ment Health Policy Econ, 15 (4), 157-70
6. **Skretting G, Iversen N, Myklebust CF, Dahm AE, Sandset PM (2012)**
Overexpression of tissue factor pathway inhibitor in CHO-K1 cells results in increased activation of NF-κB and apoptosis mediated by a caspase-3 independent pathway
Mol Biol Rep, 39 (12), 10089-96
7. **Jansson AM, Hartford M, Omland T, Karlsson T, Lindmarker P, Herlitz J, Ueland T, Aukrust P, Caidahl K (2012)**
Multimarker risk assessment including osteoprotegerin and CXCL16 in acute coronary syndromes
Arterioscler Thromb Vasc Biol, 32 (12), 3041-9
8. **Dahl TB, Bermudez B, Ranheim T, Otterdal K, Holm S, Biessen EAL, Halvorsen B, Aukrust P (2012)**
Unraveling the role of nicotinamide phosphoribosyl-transferase on lipids in atherosclerosis
Clin. Lipidol., 7 (6), 697-707
9. **Gullestad L, Ueland T, Kjekshus J, Nymo SH, Hulthe J, Muntendam P, McMurray JJ, Wikstrand J, Aukrust P (2012)**
The predictive value of galectin-3 for mortality and cardiovascular events in the Controlled Rosuvastatin Multinational Trial in Heart Failure (CORONA)
Am Heart J, 164 (6), 878-83
10. **Haugaa H, Thorgersen EB, Pharo A, Boberg KM, Foss A, Line PD, Sanengen T, Almaas R, Grindheim G, Waelgaard L, Pischke SE, Mollnes TE, Inge Tønnessen T (2012)**
Inflammatory markers sampled by microdialysis catheters distinguish rejection from ischemia in liver grafts
Liver Transpl, 18 (12), 1421-9
11. **Rollag H, Asberg A, Ueland T, Hartmann A, Jardine AG, Humar A, Pescovitz MD, Bignamini AA, Aukrust P (2012)**
Treatment of cytomegalovirus disease in solid organ transplant recipients: markers of inflammation as predictors of outcome
Transplantation, 94 (10), 1060-5
12. **Wik HS, Jacobsen AF, Sandvik L, Sandset PM (2012)**
Long-term impact of pregnancy-related venous thrombosis on quality-of-life, general health and functioning: results of a cross-sectional, case-control study
BMJ Open, 2 (6)
13. **Nytrøen K, Rustad LA, Aukrust P, Ueland T, Hallén J, Holm I, Rolid K, Lekva T, Fiane AE, Amlie JP, Aakhus S, Gullestad L (2012)**
High-intensity interval training improves peak oxygen uptake and muscular exercise capacity in heart transplant recipients
Am J Transplant, 12 (11), 3134-42
14. **Jostins L, Ripke S, Weersma RK, Duerr RH, McGovern DP, Hui KY, Lee JC, Schumm LP, Sharma Y, Anderson CA, Essers J, Mitrovic M, Ning K, Cleynen I, Theatre E, Spain SL, Raychaudhuri S, Goyette P, Wei Z, Abraham C, Achkar JP, Ahmad T, Amininejad L, Ananthakrishnan AN, Andersen V et al. (2012)**
Host-microbe interactions have shaped the genetic architecture of inflammatory bowel disease
Nature, 491 (7422), 119-24
15. **Andresen K, Boberg KM, Vedeld HM, Honne H, Hektoen M, Wadsworth CA, Clausen OP, Karlsen TH, Foss A, Mathisen O, Schrumpf E, Lothe RA, Lind GE (2012)**
Novel target genes and a valid biomarker panel identified for cholangiocarcinoma
Epigenetics, 7 (11), 1249-57
16. **Nenseter MS, Bogsrud MP, Græsdal A, Narverud I, Halvorsen B, Ose L, Aukrust P, Holven KB (2012)**
LDL-apheresis affects markers of endothelial function in patients with homozygous familial hypercholesterolemia
Thromb Res, 130 (5), 823-5
17. **Karlsen TH (2012)**
A lecture on the genetics of primary sclerosing cholangitis
Dig Dis, 30 Suppl 1, 32-8

18. Stavik B, Skretting G, Olstad OK, Sletten M, Dehli Vigeland M, Sandset PM, Iversen N (2012)
TFPI alpha and beta regulate mRNAs and microRNAs involved in cancer biology and in the immune system in breast cancer cells
PLoS One, 7 (10), e47184
19. Arora S, Erikstad I, Ueland T, Sigurdardottir V, Ekmehag B, Jansson K, Eiskjaer H, Bøtker HE, Mortensen SA, Saunamaki K, Gude E, Ragnarsson A, Solbu D, Aukrust P, Gullestad L (2012)
Virtual histology assessment of cardiac allograft vasculopathy following introduction of everolimus – results of a multicenter trial
Am J Transplant, 12 (10), 2700-9
20. Solberg OG, Ueland T, Wergeland R, Dahl CP, Aakhus S, Aukrust P, Gullestad L (2012)
High-sensitive troponin T and N-terminal-brain-natriuretic-peptide predict outcome in symptomatic aortic stenosis
Scand Cardiovasc J, 46 (5), 278-85
21. Astrup E, Lekva T, Davi G, Otterdal K, Santilli F, Oie E, Halvorsen B, Damås JK, Raoult D, Vitale G, Olano JP, Ueland T, Aukrust P (2012)
A complex interaction between Rickettsia conorii and Dickkopf-1 – potential role in immune evasion mechanisms in endothelial cells
PLoS One, 7 (9), e43638
22. Harboe E, Damås JK, Omdal R, Frøland SS, Sjørusen H (2012)
[Risk of infection through use of selective immunomodulating drugs for rheumatoid arthritis]
Tidsskr Nor Laegeforen, 132 (16), 1867-71
23. Ørn S, Ueland T, Manhenke C, Sandanger Ø, Godang K, Yndestad A, Mollnes TE, Dickstein K, Aukrust P (2012)
Increased interleukin-1 β levels are associated with left ventricular hypertrophy and remodelling following acute ST segment elevation myocardial infarction treated by primary percutaneous coronary intervention
J Intern Med, 272 (3), 267-76
24. Smedbakken LM, Halvorsen B, Daissormont I, Ranheim T, Michelsen AE, Skjelland M, Sagen EL, Folkersen L, Krohg-Sørensen K, Russell D, Holm S, Ueland T, Fevang B, Hedin U, Yndestad A, Gullestad L, Hansson GK, Biessen EA, Aukrust P (2012)
Increased levels of the homeostatic chemokine CXCL13 in human atherosclerosis – Potential role in plaque stabilization
Atherosclerosis, 224 (1), 266-73
25. Batorova A, Holme P, Gringeri A, Richards M, Hermans C, Altisent C, Lopez-Fernández M, Fijnvandraat K, European Haemophilia Treatment Standardisation Board (2012)
Continuous infusion in haemophilia: current practice in Europe
Haemophilia, 18 (5), 753-9
26. Latini R, Gullestad L, Masson S, Nymo SH, Ueland T, Cuccovillo I, Vårdal M, Bottazzi B, Mantovani A, Lucci D, Masuda N, Sudo Y, Wikstrand J, Tognoni G, Aukrust P, Tavazzi L, Investigators of the Controlled Rosuvastatin Multinational Trial in Heart Failure (CORONA) and GISSI-Heart Failure (GISSI-HF) trials (2012)
Pentraxin-3 in chronic heart failure: the CORONA and GISSI-HF trials
Eur J Heart Fail, 14 (9), 992-9
27. Dieset I, Hope S, Ueland T, Bjella T, Agartz I, Melle I, Aukrust P, Røssberg JJ, Andreassen OA (2012)
Cardiovascular risk factors during second generation antipsychotic treatment are associated with increased C-reactive protein
Schizophr Res, 140 (1-3), 169-74
28. Jørgensen KK, Lindström L, Cvancarova M, Castedal M, Friman S, Schrumphf E, Foss A, Isoniemi H, Nordin A, Holte K, Rasmussen A, Bergquist A, Vatn MH, Boberg KM (2012)
Colorectal neoplasia in patients with primary sclerosing cholangitis undergoing liver transplantation: a Nordic multicenter study
Scand J Gastroenterol, 47 (8-9), 1021-9
29. Gullestad L, Ueland T, Kjekshus J, Nymo SH, Hulthe J, Muntendam P, Adourian A, Böhm M, van Veldhuisen DJ, Komajda M, Cleland JG, Wikstrand J, McMurray JJ, Aukrust P, CORONA Study Group (2012)
Galectin-3 predicts response to statin therapy in the Controlled Rosuvastatin Multinational Trial in Heart Failure (CORONA)
Eur Heart J, 33 (18), 2290-6
30. Arora S, Aarones M, Aakhus S, Skaardal R, Aass H, Aukrust P, Kongsgaard E, Gullestad L (2012)
Peak oxygen uptake during cardiopulmonary exercise testing determines response to cardiac resynchronization therapy
J Cardiol, 60 (3), 228-35
31. Halvorsen B, Dahl TB, Aukrust P (2012)
Visfatin/NAMPT - a hot spot in thrombosis?
Thromb Res, 130 (3), 289-90
32. Dahl TB, Holm S, Aukrust P, Halvorsen B (2012)
Visfatin/NAMPT: a multifaceted molecule with diverse roles in physiology and pathophysiology
Annu Rev Nutr, 32, 229-43
33. Næss S, Shiryayev A, Hov JR, Franke A, Karlsen TH (2012)
Genetics in primary sclerosing cholangitis
Clin Res Hepatol Gastroenterol, 36 (4), 325-33
34. Orn S, Aukrust P (2012)
The prediction of adverse cardiac remodelling following myocardial infarction: defining the need for a dynamic multimarker approach
Heart, 98 (15), 1112-3

35. Eskesen AN, **Melum E, Moghaddam A, Bjørø K, Verbaan H, Ring-Larsen H, Dalgard O (2012)**
Genetic variants at the ITPA locus protect against ribavirin-induced hemolytic anemia and dose reduction in an HCV G2/G3 cohort
Eur J Gastroenterol Hepatol, 24 (8), 890-6
36. **Folseraas T, Melum E, Rausch P, Juran BD, Ellinghaus E, Shiryayev A, Laerdahl JK, Ellinghaus D, Schramm C, Weismüller TJ, Gotthardt DN, Hov JR, Clausen OP, Weersma RK, Janse M, Boberg KM, Björnsson E, Marschall HU, Cleynen I, Rosenstiel P, Holm K, Teufel A, Rust C, Gieger C, Wichmann HE et al. (2012)**
Extended analysis of a genome-wide association study in primary sclerosing cholangitis detects multiple novel risk loci
J Hepatol, 57 (2), 366-75
37. **Lekva T, Berg JP, Fougner SL, Olstad OK, Ueland T, Bollerslev J (2012)**
Gene expression profiling identifies ESRP1 as a potential regulator of epithelial mesenchymal transition in somatotroph adenomas from a large cohort of patients with acromegaly
J Clin Endocrinol Metab, 97 (8), E1506-14
38. **Broch K, Ueland T, Yndestad A, Aukrust P, Gullestad L (2012)**
Heart failure biomarkers: focus on interleukin-1 receptor-like 1-based blood tests
Drugs Today (Barc), 48 (7), 479-91
39. **Græsdal A, Bogsrud MP, Holven KB, Nenseter MS, Narverud I, Langslet G, Brekke M, Retterstøl K, Arnesen KE, Ose L (2012)**
Apheresis in homozygous familial hypercholesterolemia: the results of a follow-up of all Norwegian patients with homozygous familial hypercholesterolemia
J Clin Lipidol, 6 (4), 331-9
40. **Hol J, Otterdal K, Breland UM, Stang E, Pedersen TM, Hagelsteen K, Ranheim T, Kasprzycka M, Halvorsen B, Haraldsen G, Aukrust P (2012)**
Statins affect the presentation of endothelial chemokines by targeting to multivesicular bodies
PLoS One, 7 (7), e40673
41. **Holmström M, Tran HT, Holme PA (2012)**
Combined treatment with APCC (FEIBA®) and tranexamic acid in patients with haemophilia A with inhibitors and in patients with acquired haemophilia A – a two-centre experience
Haemophilia, 18 (4), 544-9
42. **Srivastava B, Mells GF, Cordell HJ, Muriithi A, Brown M, Ellinghaus E, Franke A, Consortium UP, Karlsten TH, Sandford RN, Alexander GJ, Chapman RW, Rushbrook SM, Melum E (2012)**
Fine mapping and replication of genetic risk loci in primary sclerosing cholangitis
Scand J Gastroenterol, 47 (7), 820-6
43. **Dahm AE, Eilertsen AL, Goeman J, Olstad OK, Ovstebø R, Kierulf P, Mowinckel MC, Skretting G, Sandset PM (2012)**
A microarray study on the effect of four hormone therapy regimens on gene transcription in whole blood from healthy postmenopausal women
Thromb Res, 130 (1), 45-51
44. **Meen O, Brosstad F, Liestøl K, Kunszt G, Bendz B, Wettergreen M, Schjelderup NM, Andreassen T, Erikssen G (2012)**
Sequential ADP-stimulated light transmission and multiple electrode aggregometry in patients taking aspirin and clopidogrel after non ST-elevation myocardial infarction
Scand J Clin Lab Invest, 72 (4), 318-25
45. **Ueland T, Aukrust P, Aakhus S, Smith C, Endresen K, Birkeland KI, Gullestad L, Johansen OE (2012)**
Activin A and cardiovascular disease in type 2 diabetes mellitus
Diab Vasc Dis Res, 9 (3), 234-7
46. **Bliksøen M, Mariero LH, Ohm IK, Haugen F, Yndestad A, Solheim S, Seljeflot I, Ranheim T, Andersen GØ, Aukrust P, Valen G, Vinge LE (2012)**
Increased circulating mitochondrial DNA after myocardial infarction
Int J Cardiol, 158 (1), 132-4
47. **Rødland EK, Ueland T, Bjørnsen S, Sagen EL, Dahl CP, Naalsund A, Mollnes TE, Brosstad FR, Müller F, Aukrust P, Frøland SS (2012)**
Systemic biomarkers of inflammation and haemostasis in patients with chronic necrotizing pulmonary aspergillosis
BMC Infect Dis, 12, 144
48. **Gullestad L, Ueland T, Vinge LE, Finsen A, Yndestad A, Aukrust P (2012)**
Inflammatory cytokines in heart failure: mediators and markers
Cardiology, 122 (1), 23-35
49. **Holm A, Wu W, Lund-Johansen F (2012)**
Antibody array analysis of labelled proteomes: how should we control specificity?
N Biotechnol, 29 (5), 578-85
50. **Lekva T, Ueland T, Bøyum H, Evang JA, Godang K, Bollerslev J (2012)**
TXNIP is highly regulated in bone biopsies from patients with endogenous Cushing's syndrome and related to bone turnover
Eur J Endocrinol, 166 (6), 1039-48
51. **Vetlesen A, Holme PA, Lyberg T, Kjeldsen-Kragh J (2012)**
Recovery, survival, and function of transfused platelets and detection of platelet engraftment after allogeneic stem cell transplantation
Transfusion, 52 (6), 1321-32

52. Waatevik M, Johannessen A, Hardie JA, Bjordal JM, Aukrust P, Bakke PS, Eagan TM (2012)
Different COPD disease characteristics are related to different outcomes in the 6-minute walk test
COPD, 9 (3), 227-34
53. Ueland T, Yndestad A, Dahl CP, Gullestad L, Aukrust P (2012)
TNF revisited: osteoprotegerin and TNF-related molecules in heart failure
Curr Heart Fail Rep, 9 (2), 92-100
54. Vandvik PO, Sandset PM (2012)
[Confusion regarding evidence-based advice]
Tidsskr Nor Laegeforen, 132 (10), 1204
55. Enden T, Sandset PM, Kløw NE (2012)
Evidence-based practice for patients with severe venous thrombosis
Tidsskr Nor Laegeforen, 132 (10), 1215-6
56. Røsjø H, Stridsberg M, Florholmen G, Stensløkken KO, Ottesen AH, Sjaastad I, Husberg C, Dahl MB, Øie E, Louch WE, Omland T, Christensen G (2012)
Secretogranin II; a protein increased in the myocardium and circulation in heart failure with cardioprotective properties
PLoS One, 7 (5), e37401
57. Sikkeland LI, Dahl CP, Ueland T, Andreassen AK, Gude E, Edvardsen T, Holm T, Yndestad A, Gullestad L, Kongerud J, Aukrust P, Øie E (2012)
Increased levels of inflammatory cytokines and endothelin-1 in alveolar macrophages from patients with chronic heart failure
PLoS One, 7 (5), e36815
58. Enden T, Kløw NE, Sandset PM (2012)
Catheter-directed thrombolysis for acute deep vein thrombosis Reply
Lancet, 379 (9828), 1786-1787
59. Nymo SH, Ueland T, Askevold ET, Flo TH, Kjekshus J, Hulthe J, Wikstrand J, McMurray J, Van Veldhuisen DJ, Gullestad L, Aukrust P, Yndestad A (2012)
The association between neutrophil gelatinase-associated lipocalin and clinical outcome in chronic heart failure: results from CORONA*
J Intern Med, 271 (5), 436-43
60. Abbas A, Aukrust P, Dahl TB, Bjerkeli V, Sagen EB, Michelsen A, Russell D, Krohg-Sørensen K, Holm S, Skjelland M, Halvorsen B (2012)
High levels of S100A12 are associated with recent plaque symptomatology in patients with carotid atherosclerosis
Stroke, 43 (5), 1347-53
61. Wik HS, Jacobsen AF, Sandvik L, Sandset PM (2012)
Prevalence and predictors for post-thrombotic syndrome 3 to 16 years after pregnancy-related venous thrombosis: a population-based, cross-sectional, case-control study
J Thromb Haemost, 10 (5), 840-7
62. Liani R, Halvorsen B, Sestili S, Handberg A, Santilli F, Vazzana N, Formoso G, Aukrust P, Davì G (2012)
Plasma levels of soluble CD36, platelet activation, inflammation, and oxidative stress are increased in type 2 diabetic patients
Free Radic Biol Med, 52 (8), 1318-24
63. Sandset PM (2012)
CXCL4-platelet factor 4, heparin-induced thrombocytopenia and cancer
Thromb Res, 129 Suppl 1, S97-100
64. Grub C, Brunborg C, Hasseltvedt V, Aukrust P, Førre O, Almdahl SM, Hollan I (2012)
Antibodies to common infectious agents in coronary artery disease patients with and without rheumatic conditions
Rheumatology (Oxford), 51 (4), 679-85
65. Broch K, Eek C, Wergeland R, Ueland T, Skårdal R, Aukrust P, Skulstad H, Gullestad L (2012)
NT-proBNP predicts myocardial recovery after non-ST-elevation acute coronary syndrome
Scand Cardiovasc J, 46 (2), 65-71
66. Rossouw JE, Johnson KC, Pettinger M, Cushman M, Sandset PM, Kuller L, Rosendaal F, Rosing J, Wasserthal-Smoller S, Martin LW, Manson JE, Lakshminarayan K, Merino JG, Lynch J (2012)
Tissue factor pathway inhibitor, activated protein C resistance, and risk of ischemic stroke due to post-menopausal hormone therapy
Stroke, 43 (4), 952-7
67. Saure EW, Eagan TM, Jensen RL, Voll-Aanerud M, Aukrust P, Bakke PS, Hardie JA (2012)
Explained variance for blood gases in a population with COPD
Clin Respir J, 6 (2), 72-80
68. Olarescu NC, Ueland T, Lekva T, Dahl TB, Halvorsen B, Aukrust P, Bollerslev J (2012)
Adipocytes as a source of increased circulating levels of nicotinamide phosphoribosyltransferase/visfatin in active acromegaly
J Clin Endocrinol Metab, 97 (4), 1355-62
69. Waehre A, Vistnes M, Sjaastad I, Nygård S, Husberg C, Lunde IG, Aukrust P, Yndestad A, Vinge LE, Behmen D, Neukamm C, Brun H, Thaulow E, Christensen G (2012)
Chemokines regulate small leucine-rich proteoglycans in the extracellular matrix of the pressure-overloaded right ventricle
J Appl Physiol (1985), 112 (8), 1372-82
70. Otto Beitnes J, Øie E, Shahdadfar A, Karlsen T, Müller RM, Aakhus S, Reinholt FP, Brinchmann JE (2012)
Intramyocardial injections of human mesenchymal stem cells following acute myocardial infarction modulate scar formation and improve left ventricular function
Cell Transplant, 21 (8), 1697-709

71. **Yndestad A, Finsen AV, Ueland T, Husberg C, Dahl CP, Øie E, Vinge LE, Sjaastad I, Sandanger Ø, Ranheim T, Dickstein K, Kjekshus J, Damås JK, Fiane AE, Hilfiker-Kleiner D, Lipp M, Gullestad L, Christensen G, Aukrust P (2012)**
The homeostatic chemokine CCL21 predicts mortality and may play a pathogenic role in heart failure
PLoS One, 7 (3), e33038
72. **Arora S, Gude E, Sigurdardottir V, Mortensen SA, Eiskjær H, Riise G, Mared L, Bjørtuft O, Ekmechag B, Jansson K, Simonsen S, Aukrust P, Solbu D, Iversen M, Gullestad L (2012)**
Improvement in renal function after everolimus introduction and calcineurin inhibitor reduction in maintenance thoracic transplant recipients: the significance of baseline glomerular filtration rate
J Heart Lung Transplant, 31 (3), 259-65
73. **Damås JK, Øktedalen O, Ueland T, Landrø L, Barstad J, Müller F, Frøland SS, Flo TH, Aukrust P (2012)**
Enhanced levels of CCL19 in patients with advanced acquired immune deficiency syndrome (AIDS)
Clin Exp Immunol, 167 (3), 492-8
74. **Broch K, Ueland T, Nymo SH, Kjekshus J, Hulthe J, Muntendam P, McMurray JJ, Wikstrand J, Cleland JG, Aukrust P, Gullestad L (2012)**
Soluble ST2 is associated with adverse outcome in patients with heart failure of ischaemic aetiology
Eur J Heart Fail, 14 (3), 268-77
75. **Jørgensen KK, Grzyb K, Lundin KE, Clausen OP, Aamodt G, Schruppf E, Vatn MH, Boberg KM (2012)**
Inflammatory bowel disease in patients with primary sclerosing cholangitis: clinical characterization in liver transplanted and nontransplanted patients
Inflamm Bowel Dis, 18 (3), 536-45
76. **Gjerde B, Bakke PS, Ueland T, Hardie JA, Eagan TM (2012)**
The prevalence of undiagnosed renal failure in a cohort of COPD patients in western Norway
Respir Med, 106 (3), 361-6
77. **Haukeland JW, Dahl TB, Yndestad A, Gladhaug IP, Løberg EM, Haaland T, Konopski Z, Wium C, Aasheim ET, Johansen OE, Aukrust P, Halvorsen B, Birkeland KI (2012)**
Fetuin A in nonalcoholic fatty liver disease: in vivo and in vitro studies
Eur J Endocrinol, 166 (3), 503-10
78. **Jenssen EK, Brosstad F, Pedersen T, Bjørnsen S, Jørgensen JJ, Sandbæk G (2012)**
Thrombin generation and platelet activation related to subintimal percutaneous transluminal angioplasty
Scand J Clin Lab Invest, 72 (1), 23-8
79. **Lindström L, Boberg KM, Wikman O, Friis-Liby I, Hultcrantz R, Prytz H, Sandberg-Gertzén H, Sangfelt P, Rydning A, Folvik G, Gangsøy-Kristiansen M, Danielsson A, Bergquist A (2012)**
High dose ursodeoxycholic acid in primary sclerosing cholangitis does not prevent colorectal neoplasia
Aliment Pharmacol Ther, 35 (4), 451-7
80. **Fosby B, Karlsen TH, Melum E (2012)**
Recurrence and rejection in liver transplantation for primary sclerosing cholangitis
World J Gastroenterol, 18 (1), 1-15
81. **Ueland T, Smedbakken LM, Hallén J, Atar D, Januzzi JL, Halvorsen B, Jensen JK, Aukrust P (2012)**
Soluble CXCL16 and long-term outcome in acute ischemic stroke
Atherosclerosis, 220 (1), 244-9

PUBLICATIONS 2011

- Fosshaug LE, Berge RK, Beitnes JO, Berge K, Vik H, Aukrust P, Gullestad L, Vinge LE, Øie E (2011)**
Krill oil attenuates left ventricular dilatation after myocardial infarction in rats
Lipids Health Dis, 10, 245
- Holm S, Ueland T, Dahl TB, Michelsen AE, Skjelland M, Russell D, Nymo SH, Krohg-Sørensen K, Clausen OP, Atar D, Januzzi JL, Aukrust P, Jensen JK, Halvorsen B (2011)**
Fatty Acid binding protein 4 is associated with carotid atherosclerosis and outcome in patients with acute ischemic stroke
PLoS One, 6 (12), e28785
- Daissormont IT, Christ A, Temmerman L, Sampedro Millares S, Seijkens T, Manca M, Rousch M, Poggi M, Boon L, van der Loos C, Daemen M, Lutgens E, Halvorsen B, Aukrust P, Janssen E, Biessen EA (2011)**
Plasmacytoid dendritic cells protect against atherosclerosis by tuning T-cell proliferation and activity
Circ Res, 109 (12), 1387-95
- Finsen AV, Lunde IG, Sjaastad I, Østli EK, Lyngra M, Jarstadmarken HO, Hasic A, Nygård S, Wilcox-Adelman SA, Goetinck PF, Lyberg T, Skrbic B, Florholmen G, Tønnessen T, Louch WE, Djurovic S, Carlson CR, Christensen G (2011)**
Syndecan-4 is essential for development of concentric myocardial hypertrophy via stretch-induced activation of the calcineurin-NFAT pathway
PLoS One, 6 (12), e28302
- Wiencke K, Boberg KM (2011)**
Current consensus on the management of primary sclerosing cholangitis
Clin Res Hepatol Gastroenterol, 35 (12), 786-91
- Munk PS, Breland UM, Aukrust P, Ueland T, Kvaløy JT, Larsen AI (2011)**
High intensity interval training reduces systemic inflammation in post-PCI patients
Eur J Cardiovasc Prev Rehabil, 18 (6), 850-7
- Elvsåshagen T, Vera E, Bøen E, Bratlie J, Andreassen OA, Josefsen D, Malt UF, Blasco MA, Boye B (2011)**
The load of short telomeres is increased and associated with lifetime number of depressive episodes in bipolar II disorder
J Affect Disord, 135 (1-3), 43-50

8. **Folseraas T, Melum E, Franke A, Karlsen TH (2011)**
Genetics in primary sclerosing cholangitis
Best Pract Res Clin Gastroenterol, 25 (6), 713-26
9. **Boberg KM, Lind GE (2011)**
Primary sclerosing cholangitis and malignancy
Best Pract Res Clin Gastroenterol, 25 (6), 753-64
10. **Myhrstad MC, Narverud I, Telle-Hansen VH, Karhu T, Lund DB, Herzig KH, Makinen M, Halvorsen B, Retterstøl K, Kirkhus B, Granlund L, Holven KB, Ulven SM (2011)**
Effect of the fat composition of a single high-fat meal on inflammatory markers in healthy young women
Br J Nutr, 106 (12), 1826-35
11. **Hope S, Dieset I, Agartz I, Steen NE, Ueland T, Melle I, Aukrust P, Andreassen OA (2011)**
Affective symptoms are associated with markers of inflammation and immune activation in bipolar disorders but not in schizophrenia
J Psychiatr Res, 45 (12), 1608-16
12. **Ueland T, Aukrust P, Dahl CP, Husebye T, Solberg OG, Tønnessen T, Aakhus S, Gullestad L (2011)**
Osteoprotegerin levels predict mortality in patients with symptomatic aortic stenosis
J Intern Med, 270 (5), 452-60
13. **Dahl T, Ranheim T, Holm S, Berge R, Aukrust P, Halvorsen B (2011)**
Nicotinamide phosphoribosyltransferase and lipid accumulation in macrophages
Eur J Clin Invest, 41 (10), 1098-104
14. **Berdal JE, Mollnes TE, Wæhre T, Olstad OK, Halvorsen B, Ueland T, Laake JH, Furuseth MT, Maagaard A, Kjekshus H, Aukrust P, Jonassen CM (2011)**
Excessive innate immune response and mutant D222G/N in severe A (H1N1) pandemic influenza
J Infect, 63 (4), 308-16
15. **Heier I, Søyland E, Krogstad AL, Rodríguez-Gallego C, Nenseter MS, Jahnsen FL (2011)**
Sun exposure rapidly reduces plasmacytoid dendritic cells and inflammatory dermal dendritic cells in psoriatic skin
Br J Dermatol, 165 (4), 792-801
16. **Ueland T, Aukrust P, Omdal TR, Damås JK, Endresen K, Ren F, Hysing J (2011)**
Effect of eptifibatid on platelet-mediated inflammation in acute coronary syndromes
Int J Cardiol, 151 (3), 385-7
17. **Naalsund A, Lund MB, Mynarek G, Aakhus S, Boberg KM, Nordøy I (2011)**
[A man in his 60s with severe respiratory failure]
Tidsskr Nor Laegeforen, 131 (17), 1654-7
18. **Øie E, Ueland T, Dahl CP, Bohov P, Berge C, Yndestad A, Gullestad L, Aukrust P, Berge RK (2011)**
Fatty acid composition in chronic heart failure: low circulating levels of eicosatetraenoic acid and high levels of vaccenic acid are associated with disease severity and mortality
J Intern Med, 270 (3), 263-72
19. **Smedbakken L, Jensen JK, Hallén J, Atar D, Januzzi JL, Halvorsen B, Aukrust P, Ueland T (2011)**
Activated leukocyte cell adhesion molecule and prognosis in acute ischemic stroke
Stroke, 42 (9), 2453-8
20. **Orre IJ, Reinertsen KV, Aukrust P, Dahl AA, Fosså SD, Ueland T, Murison R (2011)**
Higher levels of fatigue are associated with higher CRP levels in disease-free breast cancer survivors
J Psychosom Res, 71 (3), 136-41
21. **Ueland T, Lekva T, Otterdal K, Dahl TB, Olarescu NC, Jørgensen AP, Fougner KJ, Brixen K, Aukrust P, Bollerslev J (2011)**
Increased serum and bone matrix levels of transforming growth factor {beta}1 in patients with GH deficiency in response to GH treatment
Eur J Endocrinol, 165 (3), 393-400
22. **Ueland T, Dahl CP, Gullestad L, Aakhus S, Broch K, Skårdal R, Vermeer C, Aukrust P, Schurgers LJ (2011)**
Circulating levels of non-phosphorylated under-carboxylated matrix Gla protein are associated with disease severity in patients with chronic heart failure
Clin Sci (Lond), 121 (3), 119-27
23. **Arora S, Ueland T, Wennerblom B, Sigurdadottir V, Eiskjær H, Bøtker HE, Ekmehag B, Jansson K, Mortensen SA, Saunamaki K, Simonsen S, Gude E, Bendz B, Solbu D, Aukrust P, Gullestad L (2011)**
Effect of everolimus introduction on cardiac allograft vasculopathy – results of a randomized, multicenter trial
Transplantation, 92 (2), 235-43
24. **Brun H, Ueland T, Thaulow E, Damas JK, Yndestad A, Aukrust P, Holmstrøm H (2011)**
No inflammatory response related to pulmonary hemodynamics in children with systemic to pulmonary shunts
Congenit Heart Dis, 6 (4), 338-46
25. **Larsen KO, Yndestad A, Sjaastad I, Løberg EM, Goverud IL, Halvorsen B, Jia J, Andreassen AK, Husberg C, Jonasson S, Lipp M, Christensen G, Aukrust P, Skjønberg OH (2011)**
Lack of CCR7 induces pulmonary hypertension involving perivascular leukocyte infiltration and inflammation
Am J Physiol Lung Cell Mol Physiol, 301 (1), L50-9
26. **Folseraas T, Karlsen TH (2011)**
To MMP or not to MMP: a role for matrix metalloproteinase 3 in primary sclerosing cholangitis?
Liver Int, 31 (6), 751-4

27. *Morken T, Bohov P, Skorve J, Ulvik R, Aukrust P, Berge RK, Livden JK (2011)*
Anti-inflammatory and hypolipidemic effects of the modified fatty acid tetradecylthioacetic acid in psoriasis – a pilot study
Scand J Clin Lab Invest, 71 (4), 269-73
28. *Andreassen AK, Gude E, Solberg OG, Ueland T (2011)*
[Treatment of idiopathic pulmonary arterial hypertension]
Tidsskr Nor Laegeforen, 131 (13-14), 1285-8
29. *Hov JR, Keitel V, Schruppf E, Häussinger D, Karlsen TH (2011)*
TGR5 sequence variation in primary sclerosing cholangitis
Dig Dis, 29 (1), 78-84
30. *Sagedal S, Witczak BJ, Osnes K, Hartmann A, Os I, Eikvar L, Klingenberg O, Brosstad F (2011)*
A heparin-coated dialysis filter (AN69 ST) does not reduce clotting during hemodialysis when compared to a conventional polysulfone filter (F×8)
Blood Purif, 32 (3), 151-5
31. *Aarones M, Gullestad L, Aakhus S, Ueland T, Skaardal R, Aass H, Wergeland R, Smith HJ, Aukrust P, Kongsgaard E (2011)*
Prognostic value of cardiac troponin T in patients with moderate to severe heart failure scheduled for cardiac resynchronization therapy
Am Heart J, 161 (6), 1031-7
32. *Nenseter MS, Lindvig HW, Ueland T, Langslet G, Ose L, Holven KB, Retterstøl K (2011)*
Lipoprotein(a) levels in coronary heart disease-susceptible and -resistant patients with familial hypercholesterolemia
Atherosclerosis, 216 (2), 426-32
33. *Hov JR, Kosmoliaptis V, Traherne JA, Olsson M, Boberg KM, Bergquist A, Schruppf E, Bradley JA, Taylor CJ, Lie BA, Trowsdale J, Karlsen TH (2011)*
Electrostatic modifications of the human leukocyte antigen-DR P9 peptide-binding pocket and susceptibility to primary sclerosing cholangitis
Hepatology, 53 (6), 1967-76
34. *Janse M, Lamberts LE, Franke L, Raychaudhuri S, Ellinghaus E, Muri Boberg K, Melum E, Folseraas T, Schruppf E, Bergquist A, Björnsson E, Fu J, Jan Westra H, Groen HJ, Fehrmann RS, Smolonska J, van den Berg LH, Ophoff RA, Porte RJ, Weismüller TJ, Wedemeyer J, Schramm C, Sterneck M, Günther R, Braun F et al. (2011)*
Three ulcerative colitis susceptibility loci are associated with primary sclerosing cholangitis and indicate a role for IL2, REL, and CARD9
Hepatology, 53 (6), 1977-85
35. *Karlsen TH, Kaser A (2011)*
Deciphering the genetic predisposition to primary sclerosing cholangitis
Semin Liver Dis, 31 (2), 188-207
36. *Karlsen TH, Lazaridis KN (2011)*
At the end of the beginning. Foreword
Semin Liver Dis, 31 (2), 111-3
37. *Grimstad Ø, Sandanger Ø, Ryan L, Otterdal K, Damaas JK, Pukstad B, Espevik T (2011)*
Cellular sources and inducers of cytokines present in acute wound fluid
Wound Repair Regen, 19 (3), 337-47
38. *Landrø L, Ueland T, Otterdal K, Frøland SS, Aukrust P (2011)*
Persistently raised plasma levels of platelet-derived inflammatory mediators in HIV-infected patients during highly active anti-retroviral therapy
J Thromb Haemost, 9 (5), 1075-7
39. *Rødland EK, Ager-Wick E, Halvorsen B, Müller F, Frøland SS (2011)*
Toll like receptor 5 (TLR5) may be involved in the immunological response to Aspergillus fumigatus in vitro
Med Mycol, 49 (4), 375-9
40. *Andersen GØ, Ueland T, Knudsen EC, Scholz H, Yndestad A, Sahraoui A, Smith C, Lekva T, Otterdal K, Halvorsen B, Seljeflot I, Aukrust P (2011)*
Activin A levels are associated with abnormal glucose regulation in patients with myocardial infarction: potential counteracting effects of activin A on inflammation
Diabetes, 60 (5), 1544-51
41. *Waehre A, Halvorsen B, Yndestad A, Husberg C, Sjaastad I, Nygård S, Dahl CP, Ahmed MS, Finsen AV, Reims H, Louch WE, Hilfiker-Kleiner D, Vinge LE, Roald B, Attramadal H, Lipp M, Gullestad L, Aukrust P, Christensen G (2011)*
Lack of chemokine signaling through CXCR5 causes increased mortality, ventricular dilatation and deranged matrix during cardiac pressure overload
PLoS One, 6 (4), e18668
42. *Jørgensen AP, Fougner KJ, Ueland T, Gudmundsen O, Burman P, Schreiner T, Bollerslev J (2011)*
Favorable long-term effects of growth hormone replacement therapy on quality of life, bone metabolism, body composition and lipid levels in patients with adult-onset growth hormone deficiency
Growth Horm IGF Res, 21 (2), 69-75
43. *Myhrstad MC, Retterstøl K, Telle-Hansen VH, Ottestad I, Halvorsen B, Holven KB, Ulven SM (2011)*
Effect of marine n-3 fatty acids on circulating inflammatory markers in healthy subjects and subjects with cardiovascular risk factors
Inflamm Res, 60 (4), 309-19
44. *Moghaddam A, Melum E, Reinton N, Ring-Larsen H, Verbaan H, Bjørø K, Dalgard O (2011)*
IL28B genetic variation and treatment response in patients with hepatitis C virus genotype 3 infection
Hepatology, 53 (3), 746-54

45. **Aukrust P, Sandberg WJ, Otterdal K, Vinge LE, Gullestad L, Yndestad A, Halvorsen B, Ueland T (2011)**
Tumor necrosis factor superfamily molecules in acute coronary syndromes
Ann Med, 43 (2), 90-103
46. **Ueland T, Dahl CP, Kjekshus J, Hulthe J, Böhm M, Mach F, Goudev A, Lindberg M, Wikstrand J, Aukrust P, Gullestad L (2011)**
Osteoprotegerin predicts progression of chronic heart failure: results from CORONA
Circ Heart Fail, 4 (2), 145-52
47. **Anderson CA, Boucher G, Lees CW, Franke A, D'Amato M, Taylor KD, Lee JC, Goyette P, Imielinski M, Latiano A, Lagacé C, Scott R, Amininejad L, Bumpstead S, Baidoo L, Baldassano RN, Barclay M, Bayless TM, Brand S, Büning C, Colombel JF, Denson LA, De Vos M, Dubinsky M, Edwards C et al. (2011)**
Meta-analysis identifies 29 additional ulcerative colitis risk loci, increasing the number of confirmed associations to 47
Nat Genet, 43 (3), 246-52
48. **Andersen GØ, Knudsen EC, Aukrust P, Yndestad A, Oie E, Müller C, Seljeflot I, Ueland T (2011)**
Elevated serum osteoprotegerin levels measured early after acute ST-elevation myocardial infarction predict final infarct size
Heart, 97 (6), 460-5
49. **Yndestad A, Haukeland JW, Dahl TB, Halvorsen B, Aukrust P (2011)**
Activin A in nonalcoholic fatty liver disease
Vitam Horm, 85, 323-42
50. **Friman S, Foss A, Isoniemi H, Olausson M, Höckerstedt K, Yamamoto S, Karlsen TH, Rizell M, Ericzon BG (2011)**
Liver transplantation for cholangiocarcinoma: selection is essential for acceptable results
Scand J Gastroenterol, 46 (3), 370-5
51. **Boberg KM, Chapman RW, Hirschfield GM, Lohse AW, Manns MP, Schrupf E, International Autoimmune Hepatitis Group (2011)**
Overlap syndromes: the International Autoimmune Hepatitis Group (IAIHG) position statement on a controversial issue
J Hepatol, 54 (2), 374-85
52. **Hofsø D, Jenssen T, Bollerslev J, Ueland T, Godang K, Stumvoll M, Sandbu R, Røislien J, Hjelmæsæth J (2011)**
Beta cell function after weight loss: a clinical trial comparing gastric bypass surgery and intensive lifestyle intervention
Eur J Endocrinol, 164 (2), 231-8
53. **Søyland E, Heier I, Rodríguez-Gallego C, Mollnes TE, Johansen FE, Holven KB, Halvorsen B, Aukrust P, Jahnsen FL, de la Rosa Carrillo D, Krogstad AL, Nenseter MS (2011)**
Sun exposure induces rapid immunological changes in skin and peripheral blood in patients with psoriasis
Br J Dermatol, 164 (2), 344-55
54. **Ueland T, Jørgensen AP, Godang K, Fougner KJ, Aukrust P, Burman P, Bollerslev J (2011)**
Interleukin 1 receptor antagonist is associated with changes in body composition during physiological GH substitution in patients with adult-onset growth hormone deficiency
Clin Endocrinol (Oxf), 74 (1), 60-6
55. **Munk PS, Breland UM, Aukrust P, Skadberg O, Ueland T, Larsen AI (2011)**
Inflammatory response to percutaneous coronary intervention in stable coronary artery disease
J Thromb Thrombolysis, 31 (1), 92-8
56. **Narverud I, Ueland T, Nenseter MS, Retterstøl K, Telle-Hansen VH, Halvorsen B, Ose L, Aukrust P, Holven KB (2011)**
Children with familial hypercholesterolemia are characterized by an inflammatory imbalance between the tumor necrosis factor α system and interleukin-10
Atherosclerosis, 214 (1), 163-8
57. **Melum E, Franke A, Schramm C, Weismüller TJ, Gotthardt DN, Offner FA, Juran BD, Laerdahl JK, Labi V, Björnsson E, Weersma RK, Henckaerts L, Teufel A, Rust C, Ellinghaus E, Balschun T, Boberg KM, Ellinghaus D, Bergquist A, Sauer P, Ryu E, Hov JR, Wedemeyer J, Lindkvist B, Wittig M et al. (2011)**
Genome-wide association analysis in primary sclerosing cholangitis identifies two non-HLA susceptibility loci
Nat Genet, 43 (1), 17-9
58. **Gran JT, Midtvedt Ø, Haug S, Aukrust P (2011)**
Treatment of Schnitzler's syndrome with anakinra: report of three cases and review of the literature
Scand J Rheumatol, 40 (1), 74-9



Doctoral theses

The Research Institute of Internal Medicine (RIIM)

PhD 2010

Arora S	Immunological and non-immunological markers of cardiac allograft vasculopathy amongst heart transplant recipients
Breland UM	The pathogenic role of chemokines in atherosclerotic disorders: clinical and experimental studies
Dahl CP	Inflammatory cytokines in heart failure: potential role as mediators and biomarkers
Dahl TB	Nicotinamide phosphoribosyltransferase: role in atherosclerosis and nonalcoholic fatty liver disease
Fevang B	Profound perturbation: immunopathological mechanisms in common variable immunodeficiency
Fougner S	Molecular biological examination of somatotroph pituitary adenomas related to clonical data from patients with acromegaly
Holm S	Liver X receptor: physiological regulation at the crossroads of glucose and lipid metabolism
Melum E	From single markers to genome-wide association: a study of primary sclerosing cholangitis genetics



PHOTO: Øystein H. Hørgmo, University of Oslo

PhD 2011

Hov JER	Functional genetics in primary sclerosing cholangitis: studies of the bile acid receptor TGR5 and genes in the HLA complex
Michelsen AE	Platelet-derived microparticles and biomarkers in atherosclerosis and inflammation
Rødland E	Immunopathogenesis of infections with aspergillus fumigatus

PhD 2012

Tjeldhorn L	Protein C deficiency-molecular and functional studies on the protein C A267T mutation
Sandanger Ø	The innate immune system – A paradoxical mediator of host defense, tissue repair and collateral damage

PhD 2013

Andresen K	Novel epi-markers in cholangiocarcinoma and their clinical potential
Askevold ET	The Wnt signaling pathway and soluble glycoprotein 130 in heart failure and aortic stenosis. Novel markers and mediators of cardiac disease
Bergrem A	Hemostatic risk factors for pregnancy-related venous thrombosis
Jørgensen KK	Inflammatory Bowel Disease in Primary Sclerosing Cholangitis: Clinical Characteristics in Liver Transplanted and Non-Transplanted Patients
Lekva T	Epithelial Mesenchymal Transition in Somatotroph Pituitary adenomas
Smedbakken LM	Homeostatic chemokines and adhesion molecules in atherosclerosis – from bed to bench

Awards

The Research Institute of Internal Medicine (RIIM)

2010

Johannes Espolin Roksund Hov. Helge Bell's award for excellent research in hepatology 2010.

"Mutational Characterization of the Bile Acid Receptor TGR5 in Primary Sclerosing Cholangitis".

2011

Espen Melum. Excellent original article Oslo University Hospital. First half 2011.

Melum E, Franke A, Schramm C, Weismüller TJ, Gotthardt DN, Offner FA, Juran BD, Laerdahl JK, Labi V, Björnsson E, Weersma RK, Henckaerts L, Teufel A, Rust C, Ellinghaus E, Balschun T, Boberg KM, Ellinghaus D, Bergquist A, Sauer P, Ryu E, Hov JR, Wedemeyer J, Lindkvist B, Wittig M, Porte RJ, Holm K, Gieger C, Wichmann HE, Stokkers P, Ponsioen CY, Runz H, Stiehl A, Wijmenga C, Sterneck M, Vermeire S, Beuers U, Villunger A, Schrumpf E, Lazaridis KN, Manns MP, Schreiber S, Karlsen TH.

"Genome-wide association analysis in primary sclerosing cholangitis identifies two non-HLA susceptibility loci".

Nat Genet. 2011;43:17-9.

2012

Trine Folseraas. Excellent original article Oslo University Hospital. Second half 2012.

Folseraas T, Melum E, Rausch P, Juran BD, Ellinghaus E, Shiryayev A, Laerdahl JK, Ellinghaus D, Schramm C, Weismüller TJ, Gotthardt DN, Hov JR, Clausen OP, Weersma RK, Janse M, Boberg KM, Björnsson E, Marschall HU, Cleyngen I, Rosenstiel P, Holm K, Teufel A, Rust C, Gieger C, Wichmann HE, Bergquist A, Ryu E, Ponsioen CY, Runz H, Sterneck M, Vermeire S, Beuers U, Wijmenga C, Schrumpf E, Manns MP, Lazaridis KN, Schreiber S, Baines JF, Franke A, Karlsen TH.

"Extended analysis of a genome-wide association study in primary sclerosing cholangitis detects multiple novel risk loci".

J Hepatol. 2012;57:366-75.



PHOTO: Øystein H. Hørgmo, University of Oslo

Thor Ueland. Excellent original article Oslo University Hospital. Second half 2012.

Dieset I, Djurovic S, Tesli M, Hope S, Mattingsdal M, Michelsen AE, Joa I, Larsen TK, Agartz I, Melle I, Røssberg JI, Aukrust P, Andreassen OA, Ueland T.
"Up-regulation of Notch4 gene expression in bipolar disorder". *Am J Psychiatry* 2012;169:1292-1300.

2013

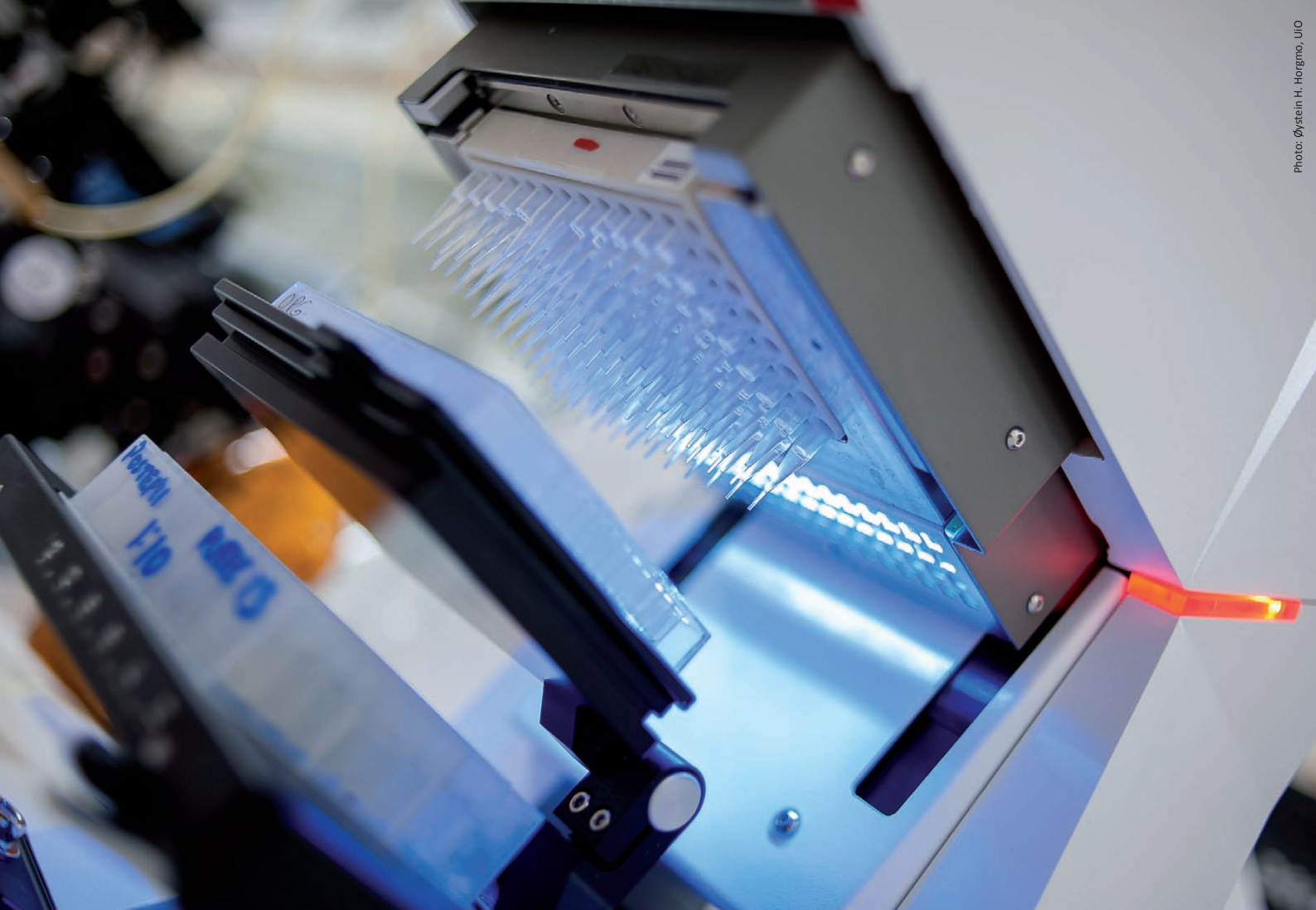
Øystein Sandanger. Excellent original article Oslo University Hospital. First half 2013.

Sandanger Ø, Ranheim T, Vinge LE, Bliksøen M, Alfsnes K, Finsen AV, Dahl CP, Askevold ET, Florholmen G, Christensen G, Fitzgerald KA, Lien E, Valen G, Espevik T, Aukrust P, Yndestad A.
"The NLRP3 inflammasome is up-regulated in cardiac fibroblasts and mediates myocardial ischaemia-reperfusion injury".
Cardiovasc Res 2013;99:164-74.

Pål Aukrust. The research award for University of Oslo 2013.

Tom Hemming Karlsen. Oslo University Hospital's Early Career Award 2013.

Tom Hemming Karlsen. Researcher of the Month, South-Eastern Norway Regional Health Authority, November 2013.



The Research Institute of Internal Medicine

Oslo University Hospital, Rikshospitalet
P.O. Box 4950 Nydalen, 0424 Oslo, Norway

Tel: +47 23 07 00 00
Email: riim@ous-hf.no

<http://ous-research.no/riim/>

UiO : **University of Oslo**



www.oslo-universitetssykehus.no

Oslo University Hospital is Norway's largest hospital, and conducts a major portion of medical research and education of medical personnel in Norway. Post: Oslo University Hospital, P O Box 4950 Nydalen, NO-0420 Oslo, Norway.

Switchboard: +47 91 50 27 70