



Principal Investigators: Charlotte Thålin, Danderyds sjukhus, Karolinska Institutet (KIDS)

Program research area: Biobanks for COVID-19 research/etc.

Collaborators: Sophia Hober (KTH), Peter Nilsson (SciLifeLab), Mia Phillipson (SciLifeLab/Uppsala Universitet), Jacob Odeberg (SciLifeLab/KTH) and others

Aim of project and impact on society
(Goals/Objectives, project plan)

Determine blood biomarkers which are prognostic (short-term and long-term) in patients infected with SARS-CoV-2

Determine associations between seroprevalence of SARS-CoV-2 antibodies, symptoms and virus exposure among hospital workers

Investigate the immune response over time by repeated blood sampling of patients and hospital workers over a 1-year period

Results and conclusions if any already
(preferably as figures, charts, tables....)

19.1% of 2149 hospital workers had developed SARS-CoV-2 IgG antibodies in end April/beginning May 2020

9% of seropositive individuals had no prior symptoms, and 78% had only mild prior symptoms. The symptom with the strongest association to seropositivity was anosmia

Seropositivity was associated to patient-near work with both known covid-19 patients and patients without confirmed covid-19

Short about method if applicable
(preferably as a figure)



Principal Investigators: Michael Hultström, Robert Frithiof, Miklos Lipcsey (All at Department of Surgical Sciences, Uppsala University)

May 2020

Program research area: Biobanks for COVID-19 research/etc.

Collaborators: Anders Larson (Clinical Chemistry, Uppsala University), Anders Bergkvist (Virology, Uppsala University),

Aim

We have established a biobank of blood, plasma and urine from COVID-19 patients in intensive care with the aim of identifying pathways of distal organ failure.

Results

Many patients have pronounced hyperreninemia that appears coupled to acute kidney injury (Hultström et al, J Hypertension, 2020).

Patienter med blodgrupp A eller AB ser ut att ha större risk att behöva intensivvård eller dö.

<https://ccforum.biomedcentral.com/articles/10.1186/s13054-020-03223-8>

Aktivering av mannos-bindande lektin kan vara en alternativ väg som orsakar blodproppar vid COVID-19.

<https://www.thieme-connect.com/products/ejournals/html/10.1055/s-0040-1715835>

Methods

Clinical information is saved during intensive care and coupled to analyses of biobanked blood and urine. Patients will also be followed after intensive care to determine long-term outcome from COVID-19.



Principal Investigators: Michael Hultström, Robert Frithiof, Miklos Lipcsey (All at Department of Surgical Sciences, Uppsala University)

May 2020

Program research area: Biobanks for COVID-19 research/etc.

Collaborators: Anders Larson (Clinical Chemistry, Uppsala University), Anders Bergkvist (Virology, Uppsala University),

- The present project will establish a biobank of plasma, urine and sputum from COVID-19 patients in intensive care with the aim of identifying pathways of distal organ failure.
- Many patients have pronounced hyperreninemia that appears coupled to acute kidney injury (Hultström et al, J Hypertension, 2020).
- Clinical information is saved during intensive care and coupled to analyses of biobanked blood and urine. Patients will also be followed after intensive care to determine long-term outcome from COVID-19.

Assessment of SARS-CoV-2 specific antibodies in adults, building a repository of samples from seroconverted asymptomatic adults



Principal Investigators: Åsa Torinsson Naluai (Gothenburg University)

Program research area: Biobanks for COVID-19 research/etc.

Collaborators: Linda Paulson, Elisabet Carlsohn, Ali Harandi, Ronald Sjöberg

May 2020

The main objectives of this proposal include:

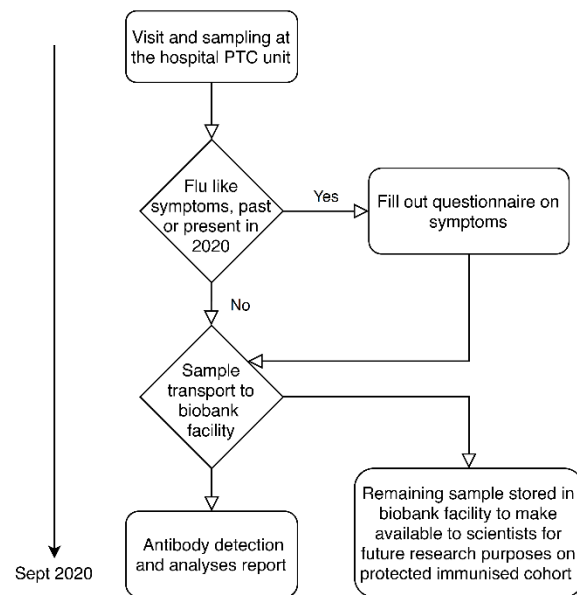
- 1) Assessment of SARS-CoV-2 specific antibodies in sera of adults
- 2) Build a repository of serum and saliva samples from asymptomatic SARS-CoV-2 seroconverted adults
- 3) Set up a workflow and integrate the biobank and sample collection units at Sahlgrenska University

hospital for emergency up-scaled sample handling

By collecting samples from asymptomatic covid-19 infected individuals, this study will be able to contribute to better understanding why some are at greater risk than others to develop severe symptoms.

Results and conclusions if any already (preferably as figures, charts, tables....)

Short about method if applicable (preferably as a figure)



Assessment of SARS-CoV-2 specific antibodies in adults, building a repository of samples from seroconverted asymptomatic adults



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By collecting samples from asymptomatic covid-19 infected individuals, this study will be able to contribute to better understanding why some are at greater risk than others to develop severe symptoms.

We currently collaborate with the project run by Magnus Gisslén and with biobank Sweden.

We hope to be able to combine registry data for our cohort and hope that there can be a joint application for registry data for covid-19 cohorts

Building Capacity – the Sahlgrenska Covid-19 Biobank



Principal Investigators: Magnus Gisslén (Sahlgrenska Academy at University of Gothenburg)

Program research area: Biobanks for COVID-19 research/etc.

Collaborators:

May 2020

Aim of project and impact on society

Building a COVID-19 biobank that can be used for a variety of research projects

Results and conclusions if any already

Serum, plasma, cells, faeces, urine and cerebrospinal fluid from patients with COVID-19 with different degree of severity together and from controls are aliquoted and stored in -80°C.

Several studies using the biobank are ongoing.

Short about method if applicable (preferably as a figure)

Project title



May 2020

Principal Investigators: Patrik Medstrand (Lund University)

Program research area: Biobanks for COVID-19 research.

Collaborators: Karin Behrens, Blenda Böttiger, Ingvar Eliasson, Thoas Fioretos, Ola Forslund, Marianne Jansson, Anna Nilsson, Mats Ohlin, Magnus Rasmussen, Kristian Riesbeck, Anna Söderlund Strand, Lisa Wasserstrom, Anders Widell

Aim of project

1. establish a biobank of clinical specimens
2. study viral evolution, viral population structure and diversity during infection using SciLifeLab infrastructure
3. investigate how SARS-Cov2 evolution is coupled to disease severity and inflammatory responses, including cytokine and inflammation marker profiles
4. evaluate to what extent bacterial and other viral superinfections contribute to the severity of disease
5. measure protective immunity in individuals who have recovered from SARS Cov-2 infection
6. study the development of immunity in the population of Skåne County

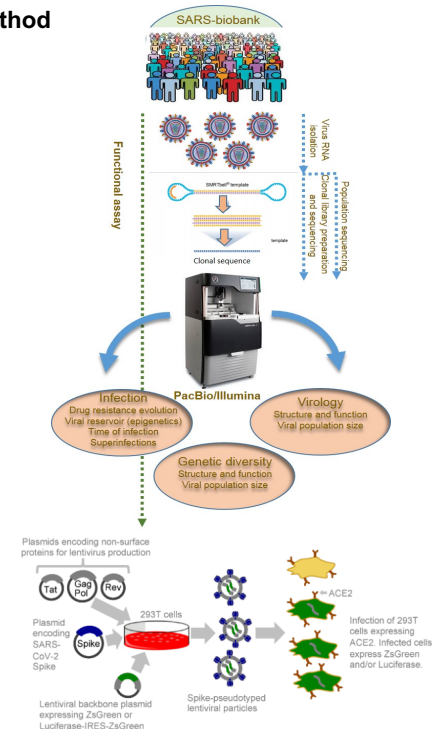
Significance

We will specifically investigate how the SARS-CoV-2 virus changes and adopts genetically and how these variables are linked to disease severity, inflammation, and antibody function in relation to the clinical course. The results are of significant basic and clinical research relevance that will contribute to our understanding of SARS-CoV infection and disease.

Results

1. Plasma/serum samples (>20000) in biobank
2. Nasopharynx samples (>50000) in biobank (All from Skåne, march – current)
3. Ethics approved for use of the biobank material to address the research aims
4. Laboratory infrastructure is, to some extent, established
5. Cross sectional population sequencing, and clonal/longitudinal viral evolution sequencing underway
6. Functional assay under development

Method





Principal Investigators: Toralph Ruge, Lunds University
Program research area: Biobanks for COVID-19 research/etc.
Collaborators: Hans Friberg, Olle Melander, Anna Nilsson, Ulf Ekelund

May 2020

Aim of project and impact on society

We aim to establish a biobank with blood samples from patients seeking care for suspected COVID-19 infection at the emergency departments in Malmö, Lund and Helsingborg, Region Skåne. We will perform targeted analyses of inflammatory biomarkers suggested for risk screening in severe infections and evaluate to what extent these biomarkers improve risk stratification for hospitalization, intensive care and/or mortality beyond clinical factors. In the current COVID-19 crisis, we need new tools to rapidly identify high-risk patients likely to require intensive care. This is urgently needed to inform the allocation of healthcare resources and public health policies.

Results and conclusions if any already
NA

Short about method if applicable
(preferably as a figure)