HELSE BERGEN
Haukeland universitetssjukehus

Personalized cancer therapy – biomarkers in clinical trials

Biomarkers in liquid biopsies

Funding provided by Helse Vest Strategic Program

2015 Annual report

The initial year for this project has seen the identification the needs and requirements for successful delivery of this project. Individual work groups have put procedures in place and have made critical progress on method development.

Biobank and sample preparation:

Sample and tissue collection, processing and storage are very important for the delivery of this project. Time has been taken to develop the correct processes to ensure samples will be taken and processed in a consistent fashion without causing additional discomfort to patients. We are confidence we have procedures that will allow this. For new clinical studies coming on line we have established procedures for bio-banking patient material. We have set up an interim system for labelling, storage and recording of samples for use in this project. SOPs have been prepared to ensure regulatory compliance and consistency across site and teams. This interim system will be superseded by the Haukeland Biobank (being led by the Research and Development department) when it comes online. To ensure a successful transition we have been working closely with the implementation team. For established studies we are transferring them to the new system for example CircSarc, Basket and Mo29518. The REC application for the biobank has been completed and should be approved shortly.

We are fortunate to have access to sample material from ongoing or closed studies and therefore have the possibility to address many of the steps independently. Grouped by cancer types we have started different projects on pancreatic cancer, lung cancer, acute myeloid leukemia and endometrial cancer. Throughout 2016 work will begin on melanoma. This work has been completed with our collaborating groups at SUS (Nordgård and Gilja), Bergen (Hovland together with Gjertsen, Molven, Salvesen, Bjørge, Straume dependent on the study) and Trondheim.

Establishing procedures for collection and purification of circulating DNA from plasma has been completed in close collaboration with Leonardo Meza-Zapedas group (OUS) using blood from healthy blood donors (yield).

Excellent progress has been made on the identification of cancer-specific circulating endothelial cells. The CyTOF arrived in Bergen in October and has since been set up, staff trained and work has begun on designing panels for future analysis. This will be a focus of 2016 with the appointment of key staff to develop this technology.

CHIPs have been designed successfully for the identification and study of circulating tumour cells. Testing will begin in the first half of 2016. The establishment of novel tests for immune-monitoring, testing of procedures to improve immunity of dendritic cells, activity to establish autologous dendritic cell production will continue.

The project Bioinformatician has spent time collaborating and testing sequence analysis software is being tested and optimized. Discussions with PubGene are ongoing for the development and modification of the system to produce a graphical user face for entering and analyzing material.

Finally, 2015 saw the establishment of the Project Board with the first meeting happening after a successful project kick off meeting in September 2015. Regular meetings will continue to steer the direction of the project.

January 2015

Approved by the project team and scientific board.