Thomas Brefort, J Cancer Sci Ther 2014, 6:10
http://dx.doi.org/10.4172/1948-5956.S1.033

OMICS Group Conferences
Accelerating Scientific Discovery

4th World Congress on
Cancer Science & Therapy
October 20-22, 2014 DoubleTree by Hilton Hotel Chicago-North Shore Conference Center, USA

MicroRNA biomarkers for non-invasive diagnosis in oncology

Thomas Brefort
Comprehensive Biomarker Center GmbH, Germany

MicroRNAs represent a group of short, non-coding RNAs that were shown to govern numerous physiological processes by post transcriptional interference with cellular mRNA transcripts. Originally discovered on tissue and cell culture samples, changes in the expression level of microRNAs were pinned to numerous pathological mechanism in an ever growing number of diseases including different cancers. More recently, it became evident that microRNA levels detected from a broad range of body fluids, blood, plasma/serum, CSF, urine also reflect patho-physiological conditions of patients. We exploit microRNAs from body fluids as novel non-invasive biomarkers to enable molecular diagnostic testing. Focussing on blood as our primary source, we teamed up with leading clinicians in the fields of cancer, and other diseases, and performed discovery projects on whole blood derived microRNA profiles. We successfully identified high performance diagnostic and monitoring microRNA biomarker signatures. Currently, we validate these findings and in parallel complement them by profiling cell-free nucleic acids from serum/plasma samples as liquid biopsies. Case studies will be presented to demonstrate the potential of microRNA biomarkers for use in non-invasive diagnosis of Lung Cancer and Prostate Cancer.

Biography

Thomas Brefort, Vice President Biomarker Development & Services is heading his multi-disciplinary team. He is responsible for the discovery, development and validation of novel non-invasive biomarkers includes scouting, validation and implementation of relevant innovative technologies. He established standardized SOP based processing and ensures comprehensive bioinformatic analyses of the different projects. Furthermore, he provides his scientific expertise in consultations on study design and results to CBC´s global Pharmaceutical Industry and Academic Customers and Partners. He joined the company in 2009 as Director Application Development (R&D), heading a cross-functional team on the Integration of Key Molecular Profiling Applications on the proprietary Geniom® platform. Adding the wealth of scientific expertises from his career at the Max Planck Institute for Terrestrial Microbiology and his work at the Institute for Transplantation Diagnostics and Cell Therapeutics in Düsseldorf he steadily gained responsibilities culminating in his current position as CBC´s Vice President Biomarker Development and Services. A molecular biologist by training, he received his Diploma from the Department of Microbiology at the University of Marburg and his PhD in Cell Signaling and Functional Phytopathology and Secretomics at the Max Planck Institute for Terrestrial Microbiology. His broad and profound scientific expertise and hands-on experience and enthusiasm for (molecular) biology is reflected in numerous scientific publications in Science, Nature and others.

Thomas.Brefort@cbioc.com