



## From bench to bedside - microRNAs for monitoring treatment success and stratification of cancer patients.

**Authors:** J.C. Hahn<sup>1</sup> Co-authors: A. Lampis<sup>1</sup>, M. Ratti<sup>1</sup>, M. Ghilardi<sup>2</sup>, M. Ferraro<sup>3</sup> and M. Viale<sup>1,4</sup>

<sup>1</sup> Department of Molecular Pathology, The Institute of Cancer Research, London and Surrey, United Kingdom <sup>2</sup> Division of Medical Oncology, Fondazione IRCCS Ca' Grande Ospedale Maggiore Pizzardi, Milan, Italy <sup>3</sup> Department of Pathology, University of Padua, Padua, Italy <sup>4</sup> Department of Medicine, The Royal Marsden NHS Trust, London and Surrey, United Kingdom

### Abstract:

The use of molecular biological methods especially droplet-digital PCR and NanoString technology offer several possibilities for translational research and cancer patient stratification. Some examples based on microRNA expression in solid tumours will be discussed.

MicroRNAs are pivotal regulators for RNA silencing and post-transcriptional regulation of gene expression under physiological as well as pathological conditions. MicroRNAs can be detected in tissues and in most biologic fluids including serum, plasma and urines. Secreted microRNAs are either incorporated into micro-vesicles or circulate bound to proteins. In both cases microRNAs are protected from RNase degradation so that they may remain intact for long periods of time. Therefore they might represent potential new biomarkers.

We analysed expression of 800 miRNA's using nCounter NanoString technology in cancer cell lines, formalin fixed paraffin embedded tissues and plasma from cancer patients. Potential clinical applications of microRNA detection for cancer patients' management will be discussed.

### Biography

After studying general chemistry and biochemistry at the Albert-Ludwigs-University Freiburg LBr. (Germany) Jens got the PhD in biochemistry from the same university. During his PhD work Jens was trained in virology, cell- and molecular-biology. During several postdoc positions (Department of Molecular Pathology at the University of Bonn (Germany), Charité Berlin (Germany), Department of Gynaecology and Obstetrics at the University of Würzburg (Germany)) he received a broad training and knowledge in molecular pathology and cancer research. At the moment Jens is working in the Department of Molecular Pathology at the ICR (London, UK).

International Conference on Oncology and Cancer research | Paris, France | March 05-04, 2020

**Citation:** J.C. Hahn, From bench to bedside - microRNAs for monitoring treatment success and stratification of cancer patients. *Oncology 2020* (International Conference on Oncology and Cancer research) Paris, France, June 24-25, 2020.