

7<sup>th</sup> International Conference and Expo on

# Molecular & Cancer Biomarkers

September 15-16, 2016 Berlin, Germany

## MicroRNA-122 and lactate dehydrogenase (LDH) as response and prognostic markers in hepatocellular carcinoma (HCC)

A Makol, R Dhiman, Y Chawla, N Kalra, D Banerjee and A Chakraborti  
Postgraduate Institute of Medical Education & Research, India

Serum biomarkers are the non invasive tools to screen cancer in terms of detection, progression, and therapeutic response. These biomarkers may include biomolecules such as microRNAs and enzymes including lactate dehydrogenase (LDH). Their role as a probable diagnostic biomarker has been well defined in several cancers including hepatocellular carcinoma (HCC). HCC is the primary malignancy of the liver which may result in the deregulation of microRNAs (miRNAs). MicroRNA-122(miR-122) is the predominant liver specific miRNA which is known to be down-regulated in HCC. Thus, we have looked into its potential as a prognostic and response biomarker against sorafenib. We observed a significant elevation ( $p<0.05$ ) of miR-122 in the serum of HCC patients ( $n=70$ ) as compared to healthy control ( $n=15$ ) which is in agreement with the literature. Moreover, the expression of miR-122 was found to be significantly up-regulated ( $p<0.05$ ) in metastatic serum samples vs. non metastatic. Furthermore, the serum level of miR-122 was evaluated to be significantly enhanced in sorafenib resistant patients ( $p<0.05$ ) as compared to sensitive ones. Similarly, the serum LDH also showed an increased level in resistant patients which was further confirmed *in vitro*. Additionally, ROC curve analysis of miR-122 and LDH unveiled a high sensitivity and specificity of the assay. Further, miR-122 showed a positive correlation with LDH in serum. Hence, this study has highlighted the biomarker potential of miR-122 and LDH to investigate the prognosis of HCC and response towards sorafenib.

### Biography

A Makol has completed her Master's specializing in Microbiology from Guru Nanak Dev University, Amritsar, India. Post that, she did a research project on Biodiversity in IHBT, CSIR Palampur, India that spanned over fifteen months time period. Presently, over the last three and a half years, she is pursuing her PhD programme from the premier medical institute PGIMER, Chandigarh, India. Her research interest lies in the of usage of microRNAs as biomarkers in Hepatocellular carcinoma (HCC). During the duration of her PhD, she attended an international conference and a national workshop to get well acquainted and aligned to her area of interest.

ankita\_november8@yahoo.co.in

### Notes: