

Evaluation of a Panel of CirRNAs Expression as a Novel Potential Biomarker in Hepatocellular Carcinoma

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Background: Circular RNAs are a newly validated type of non-coding RNAs recently found to be deregulated in several human cancers. Accurate and specific non-invasive biomarkers are urgently needed for the diagnosis and prognosis of hepatocellular carcinoma (HCC).

Patients and Methods: We performed bioinformatic analysis to retrieve a novel panel of circRNAs potentially relevant in HCC. We examined their expression in the sera of sixty-eight HCC patients, sixty chronic hepatitis C(CHC) patients and 36 healthy controls using RT-qPCR. We examined the performance characteristics of the selected circRNA biomarker panel in comparison to alpha fetoprotein. In addition, we performed cox regression analysis to correlate between their expression levels and patient survival.

Results: The circRNA-based biomarker panel (*hsa_circ_00156*, *hsa_circ -000224* and *hsa_circ -00520*) showed strong biomarker potential with relatively high sensitivities and specificities. The combined panel showed superior performance characteristics to those of AFP.

Conclusion: Through our analysis of this preliminary data, we believe that this novel circRNA-based biomarker panel could potentially be used in the diagnosis and prognosis of HCC.