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## Targeted therapy of the cancer stem cells: A future approach for hepatocellular carcinoma

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Recent evidence of cancer stem cells (CSC) as cancer initiating cells has been recognized in both systemic and solid cancers, including in hepatocellular carcinoma (HCC), one of the most common malignancies in the world. However, compared to other cancers, underlying information of CSC in HCC is still unclear. This limitation is related by the various etiologies and clinical manifestations of the disease. Despite of possible curative treatment for HCC in early stages, targeting the CSC as the main player of the carcinogenesis will be a potent tool for a better eradication of the disease, mainly for advanced HCC. Targeting the CSC in HCC should consider several important biological and clinical components. It is essential to understand how the unique properties of CSC may promote and maintain the cancer. Although CSC and normal stem cells may share markers, it would be ideal to identify a clear phenotype of CSC for a specific targeting while sparing their normal counterparts. The issue of drug resistance must be overcome to increase efficiency and to decrease cytotoxicity using specific inhibitors or substrates. Targeting the deregulated signaling pathway responsible for the stemness and maintenance of CSC can be one of the effective systemic therapies. In addition, the prediction of the response due to genetic variations in different patients with different stages might be also useful for the optimum therapy. The need for better understanding of the pathobiology of CSC in HCC and the use of the information for a more efficient and focused treatment is evident.

### Biography

Caecilia Sukowati was graduated from Department of Biology, Institut Teknologi Bandung Indonesia in 2003. She worked for the Eijkman Institute, Jakarta, with focus on hepatitis and influenza viruses. In 2008, she received research grant from the Italian Minister of Foreign Affairs and completed her PhD from University of Trieste in 2010. Currently she is working as a post-doc researcher at the Italian Liver Foundation, Trieste Italy with main topic liver disease and stem cells. She had contributed her works in several international meetings in Asia, America and Europe with main focus on liver cancer, cancer stem cells and drug resistance.