



Conference Proceeding

Novel Targeting Peptide for the Detection of Hepatocellular Carcinoma

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Abstract

Hepatocellular carcinoma (HCC) is a devastating disease with high incidence and there is no effective treatment available in clinic. Surgery is one of the most promising approaches for treating early-stage HCC, but the early diagnosis and tumor edge detection are challenging. Therefore it is urgent to develop more specific and sensitive tools for detecting early-stage HCC. In our previous work, we have successfully established the live slice platform for liver and HCC tissues and performed phage display screening with human HCC live slices. Further evaluation in subcutaneous, orthotopic and primary HCC mouse models revealed the specific tumor-targeting property of the P47 peptide. It was demonstrated that micronodules (0.03 cm in diameter) in liver and lung can be distinguished from normal tissue with fluorescence-labeled P47 peptide in HCC mice. Moreover, P47 could differentiate HCC from abnormal liver tissues such as fibrosis, regenerative nodules, and ballooning degeneration nodules. Such results could open clinical possibilities for early detection and precise surgery of HCC. These works were published in *Hepatology* and highlighted by Timothy M. Pawlik.

Keywords: Tumor-targeting peptide; Living slide; Molecular imaging; Detection of early-stage HCC; Peptide-aided HCC surgery

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