

DKK-3 and WIF-1: Proteins related to liver cancer development?

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Liver cancer is one of the most fatal human malignancies and the third most frequent cause of tumor-related death, about half a million people globally each year. The current methods used to monitor such high-risk groups include ultrasound scans and a test for the presence of a single protein in the blood called alpha-fetoprotein. It is a good indicator of advanced liver cancer, but less able to detect early disease. So it is the most important thing to find the changes of biomarker combinations in the early period of diseases, control the key gene in the initial stage of disease and reverse the development of disease.

Wnt signal transduction pathway was significantly related to human neoplastic transformation. The Wnt-antagonist genes function as tumor suppressors and contribute to the pathogenesis of several human malignancies. Such as the promoter-hypermethylation and reduced expression of the DKK-3 gene was found in bladder cancer, lung cancer cell lines and tissues, the WIF-1 gene was found in lung cancer cell lines and tissues, malignant pleural mesothelioma cell lines and tissues, and nasopharyngeal cancer cell lines, also.

A research article to be published in the *World Journal of Gastroenterology* addresses this question. The study suggested the proteins transcribed by DKK-3 and WIF-1 can act as cancer-associated proteins related with [liver cancer](#) development, but it isn't the same mechanism with [hepatitis B](#) (HBV) infection reducing the liver cancer development. The author identified that the silence of DKK-3 and WIF-1 gene resulted from the hypermethylation of its promoter maybe

one of carcinogenic factors related to age and apart from HBV infection and the expression of DKK-3 is negatively related to the stage of tumor and cell proliferation. All of this suggested DKK-3 and WIF-1 have great potential to be identified as cancer-associated proteins in the liver [cancer development](#). It may provide a reliable way to improve liver cancer early diagnosis and new therapies by blocking this pathway to treatment of liver cancer through further study.

Source: World Journal of Gastroenterology ([news](#) : [web](#))

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