Understanding and disrupting tumor cell communication in liver cancer

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Abstract

Tumor cells create an environment that fosters growth by communicating with surrounding tumor and non-tumor cells. Understanding and ultimately disrupting this communication is the goal of many emerging anticancer strategies. A recent study recently examined how the oncogene YAP orchestrates cellular communication during the formation of liver tumors. Researchers identified several secreted factors that are induced by YAP to adjust cell-cell communication in support of tumor growth. One of these, a protein known as PAI-1, regulates the expression of factors associated with cellular senescence and was found to be linked to poor clinical outcomes in patients with liver cancer. Experiments showed that YAP, with the help of a separate protein (TEAD4), controls PAI-1 expression and secretion ultimately generating a tumor-supportive microenvironment. This form of molecular communication could serve as an entry point for disrupting signaling that promotes tumor growth and thereby lead to more effective therapies against liver cancer.