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Scientists link a protein to initial tumor growth in several cancers

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A team led by scientists from The Scripps Research Institute (TSRI) have shown that a protein once thought to inhibit the growth of tumors is instead required for initial tumor growth. The findings could point to a new approach to cancer treatment.

The study was published this week as the cover article of the journal *Science Signaling*.

The focus of the study was angiomotin, a protein that coordinates cell migration, especially during the start of new blood vessel growth and proliferation of other cell types.

"We were the first to describe angiomotin's involvement in cancer," said Joseph Kissil, a TSRI associate professor who led the studies. " And while some following studies found it to be inhibiting, we wanted to clarify its role by using both cell studies and animal models. As a result, we have now found that it is not an inhibitor at all, but instead is required for Yap to produce new tumor growth."

Yap (Yes-associated-Protein) is a potent oncogene that is over-expressed in several types of tumors.

In addition to identifying angiomotin's critical role in tumor formation, Kissil and his colleagues found the protein is active within the cell nucleus. Earlier cell studies focused on the function of the protein at the cell membrane.

"This pathway, which was discovered less than a decade ago, appears to regulate processes that are closely linked to cancer," Kissil said. "The more we study it, the more we see its involvement."

More information: "The p130 Isoform of Angiomotin Is Required for Yap-Mediated Hepatic Epithelial Cell Proliferation and Tumorigenesis," stke.sciencemag.org/cgi/conten … /sigtrans;6/291/ra77

Provided by The Scripps Research Institute