

New cancer gene found

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Researchers at the OU Cancer Institute have identified a new gene that causes cancer. The ground-breaking research appears in Nature's cancer journal *Oncogene*.

The gene and its protein, both called RBM3, are vital for cell division in normal cells. In cancers, low oxygen levels in the tumors cause the amount of this protein to go up dramatically. This causes cancer cells to divide uncontrollably, leading to increased tumor formation.

Researchers used new powerful technology to genetically "silence" the protein and reduce the level of RBM3 in cancerous cells. The approach stopped cancer from growing and led to cell death. The new technique has been tested successfully on several types of cancers – breast, pancreas, colon, lung, ovarian and prostate.

"We are excited about this discovery because most cancers are thought to come from mutations in genes, and our studies, for the first time, have shown that too much of this type of protein actually causes normal cells to turn into cancer cells," said Shrikant Anant, Ph.D., a cancer biologist at the OU Cancer Institute and principal investigator on the project.

Anant said they found RBM3 protein in every stage of many cancers, and the amount of protein increased as the cancer grew. The protein helped the cancer grow faster, avoid cell death and was part of the process that formed new blood vessels to feed the tumor.

"This process, called angiogenesis, is essential for tumor growth and

suggests that targeting RBM3 may be an extremely powerful tool against many and perhaps all solid tumors,” Anant said.

Source: University of Oklahoma

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