EGFR essential for the development of pancreatic cancer

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The epidermal growth factor receptor (EGFR) gene is essential for KRAS-driven pancreatic cancer development, according to study results presented at the Second AACR International Conference on Frontiers in Basic Cancer Research, held here Sept. 14-18, 2011.

The mutation of the KRAS gene has been found to be an important component in the development of many cancers, including pancreatic cancer. However, Barbara M. Gruener, researcher at the Technical University in Munich, Germany, said that despite the presence of KRAS, the development of preneoplastic precursor lesions and pancreatic ductal adenocarcinoma is blocked without the EGF receptor.

"These results revealed an unappreciated central role of EGFR very early in the carcinogenic process," said Gruener, who is a doctoral student at the university.

Gruener and colleagues compared more than 40 mice with the pancreas-specific deletion of EGFR with the KRAS mouse model for pancreatic cancer.

"Contrary to current opinion, we showed that lack of EGFR blocks the development of pancreatic cancer," she said. "Originally, we wanted to characterize the known role of EGFR in pancreatic cancer to a higher extent so that EGFR targeted therapy could be more individualized."

Gruener said the results were not what researchers had expected and

were surprising.

"With oncogenic active KRAS, you would expect that the lack of a receptor that is upstream of the KRAS signaling pathway does not impair the carcinogenic effects of KRAS almost completely," she said.

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