New study offers novel treatment strategy for patients with colon cancer

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Colorectal cancer is the fourth leading cause of cancer-related deaths worldwide.

In a new study, researchers demonstrate for the first time that a previously uncharacterized protein is increased in colon cancer. The protein is immunoglobulin containing proline rich receptor-1 (IGPR-1) which was recently identified in the same laboratory as a cell adhesion molecule.

The new findings, reported online in *Oncogenesis*, shed light on how IGPR-1 contribute to colon tumor growth and drug resistance.

To grow and survive, normal cells needs to attach to extracellular matrix (ECM). However, cancerous cells, often bypass this requirement and instead they rely on cell-cell adhesion for survival and growth. By manipulating IGPR-1 expression in colon cancer tumor, the scientists revealed that IGPR-1 by promoting tumor cell-cell adhesion plays a critical role in colon cancer. The researchers hope to propose a new treatment strategy for patients with colon cancer.

"We demonstrate that IGPR-1 by promoting tumor cell-cell adhesion stimulates tumor growth in cell culture and in an experimental model. Blocking IGPR-1 by a specific blocking antibody and shRNA inhibited tumor growth, suggesting a significant therapeutic potential for targeting IGPR-1 in colorectal cancer " explained corresponding author Nader Rahimi, PhD, associate professor of pathology & laboratory Medicine at

Boston University School of Medicine.

The researchers also demonstrated that IGPR-1 determines the sensitivity of tumor cells to chemotherapeutic agent, doxorubicin/Adriamycin and identified the mechanism by which IGPR-1 contributes to drug resistance in colon cancer, a major challenge associated with the treatment of this cancer.

Provided by Boston University School of Medicine

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