

Expression of RON in colorectal cancer and its relationships with tumor cell behavior and prognosis

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ABSTRACT

Aims and background. The aims of the current study were to evaluate whether receptor d'origine nantis (RON) affects tumor cell behavior and oncogenic signaling pathways in colorectal cancer, and to examine the relationship of its expression with various clinicopathological parameters and patient survival.

Methods. Immunohistochemistry, Western blot and RT-PCR were used to detect the expression of the RON gene in human colorectal cancer tissue. To study the biological role of RON in tumor cell behavior and cellular signaling pathways, we used small interfering RNA (siRNA) to knock down RON gene expression in human colorectal cancer cell lines.

Results. Knockdown of RON inhibited the induction of the invasive growth phenotype and the activation of oncogenic signaling pathways including Akt, MAPK and β -catenin. RON overexpression was associated with tumor size, lymphovascular invasion, depth of invasion, lymph node metastasis, distant metastasis, tumor stage and poor survival.

Conclusions. These results suggest that RON overexpression may help in predicting poor clinical outcomes in colorectal cancer.

Key words: tyrosine kinase receptor, oncogenic phenotype, oncogenic signaling, colorectal neoplasm, prognosis.

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