The Molecular Mechanism of FGFRs and Its Application for Cancer Therapeutics

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In previous, We have previously demonstrated that the expression of FGFR3 is frequently down-regulated in colorectal carcinoma cells\(^1\). In this study, we have found that FGFR1 is overexpressed in colorectal carcinoma cells and the gene expressions between FGFR1 and FGFR3 are mutually exclusive. Moreover, we have also demonstrated that the disruption of FGFR1 expression by introducing of FGFR1 siRNA was effective in elevating FGFR3 expression and tumor suppressive activities\(^2\). Thus, FGFR1 may confer a selectable advantage on clones of cells in colorectal tumorigenesis, favoring proliferation, whereas FGFR3 may have the effect of an unfavorable negative regulation of progression of the carcinomas to malignancy, promoting differentiation. Our results indicate that the reciprocal relationship in gene expression between FGFR1 and FGFR3 in colorectal tissue plays an important role in the progression of the carcinomas to malignancy.

References