

論 文 要 旨

Impact of Oncogenic Targets Controlled by Tumor-Suppressive miR-30a-5p in Pancreatic Ductal Adenocarcinoma

miR-30a-5p によって制御される癌促進的分子が
膵管腺癌に及ぼす影響

NEPAL PRAMOD

Abstract

Background/Aim: Our recent miRNA analyses have revealed that *miR-30a-5p* has tumor-suppressive activity in pancreatic ductal adenocarcinoma (PDAC). Herein, we sought to identify tumor-suppressive genes controlled by *miR-30a-5p*, emphasizing the genes that are closely involved in the molecular pathogenesis of PDAC. We uncovered several novel findings regarding the pathogenesis of this disease. **Materials and Methods:** *In silico* analyses were used to identify the putative target genes of *miR-30a-5p* and assess their expression levels. Direct regulation of *RRM2* by *miR-30a-5p* and its oncogenic functions were evaluated in PDAC cell lines. The overexpression of *RRM2* was demonstrated in clinical samples. **Results:** A total of 24 putative targets were identified by *in silico* database analysis. High expression of 4 genes (*CBFB*, *RRM2*, *AHNAK*, and *DCBLD1*) was significantly associated with shorter survival of patients with PDAC. Functional assays demonstrated that knockdown of *RRM2* attenuated the malignant phenotype of PDAC cells. **Conclusion:** The *miR-30a-5p/RRM2* axis facilitated the malignant transformation of PDAC cells.