# 論 文 要 旨

**miR-30 family promotes migratory and invasive abilities in CD133+ pancreatic cancer stem-like cells**

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Pancreatic cancer is a deadly disease with a poor prognosis. Recently, miRNAs have been reported to be abnormally expressed in several cancers and play a role in cancer development and progression. However, the role of miRNA in cancer stem cells remains unclear. Therefore, our aim was to investigate the role of miRNA in the CD133+ pancreatic cancer cell line, Capan-1M9 because CD133 is a putative marker of pancreatic cancer stem cells. Using miRNA microarray, we found that the expression level of the miR-30 family decreased in CD133 genetic knockdown shCD133 Capan-1M9 cells. We focused on miR-30a, -30b, and -30c in the miR-30 family and created pancreatic cancer cell sublines, each transfected with these miRNAs. High expression of miR-30a, -30b, or -30c had no effect on cell proliferation and sphere forming. In contrast, these sublines were resistant to gemcitabine, which is a standard anticancer drug for pancreatic cancer, and in addition, promoted migration and invasion. Moreover, mesenchymal markers were up-regulated by these miRNAs, suggesting that mesenchymal phenotype is associated with an increase in migration and invasion. Thus, our study demonstrated that high expression of the miR-30 family modulated by CD133 promotes migratory and invasive abilities in CD133+ pancreatic cancer cells. These findings suggest that targeted therapies to the miR-30 family contribute to the development of novel therapies for CD133+ pancreatic cancer stem cells.