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MIR196B regulates *HOXA5*, *HOXB6* and GLTP gene levels in colorectal cancer cells

Soo-Cheon Chae, Ji-Su Mo and Young-Ran Park
Wonkwang University, Republic of Korea

MiRNAs are non-coding RNAs that play important roles in the pathogenesis of human diseases by regulating target gene expression in specific cells or tissues. Previously, we identified Colorectal Cancer (CRC) associated *MIR196B*, which was specifically up-regulated in CRC cells and tissue. We also identified 18 putative *MIR196B* target genes by comparing the mRNAs down-regulated in *MIR196B*-overexpressed cells with *MIR196B* target genes predicted by public bioinformatics tools. In this study, we verified the association between *MIR196B* and three genes, *HOXA5*, HOXB6 and GLTP. *HOXA5*, HOXB6 and GLTP transcripts were directly down-regulated by *MIR196B*. The mRNA and proteins levels of *HOXA5*, HOXB6 and GLTP were also down-regulated in CRC cells by the up-regulated *MIR196B*. GLTP protein expression was decreased in CRC tissues compared to adjacent non-tumor tissues. These results suggest that *HOXA5*, HOXB6 and GLTP were direct target genes of *MIR196B* in CRC cells and that the up-regulated *MIR196B* in CRC tissue regulates the expression levels of *HOXA5*, HOXB6, and GLTP during colorectal carcinogenesis. Our results suggest that *MIR196B* may have a therapeutic value in relation to various human cancers.

Biography

Soo-Cheon Chae has completed his B S and M S degree from Chonbuk National University of South Korea and earned a PhD degree in Molecular Biology from Tohoku University of Japan in 1998. He has been trained as a Postdoctoral Fellow at UC San Diego (1998-2001). He is a Professor of School of Medicine at Wonkwang University of the South Korea. He has published more than 90 papers in reputed journals and has been serving as an Editorial Board Member of repute.

soocheon@empal.com

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